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Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

भारत के उन्नीसवें विद्युत शक्ति सर्वेक्षण की रिपोर्ट

Report on NINETEENTH ELECTRIC POWER SURVEY OF INDIA

(भाग–एक)

(Volume-I)

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(Brought out in fulfilment of CEA's obligation under Section 73 (a) of the Electricity Act 2003)

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January - 2017

Ravindra Kumar Verma
Chairperson (I/C)
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19th Electric Power Survey Committee

FOREWORD

Electrical energy is a vital input for the economic development of any country. To plan for adequate generation capacity and commensurate transmission and distribution infrastructure, projection of electricity demand is essential. Central Electricity Authority periodically carries out forecast of electricity demand for the States/UT's /Regions and for the country through the Electric Power Survey Committee. The last Electric Power Survey was the 18th Electric Power Survey and the Report of 18th Electric Power Survey Committee was brought out in December, 2011.

The 19th Electric Power Survey Committee (EPSC) was constituted in June, 2015 under the Chairmanship of Chairperson, CEA with Members from various Ministries, Transco's & Electricity Departments of States/UT's, CMD's of NTPC, NHPC, REC, DVC, Power Grid; Director General, BEE; representatives from TERI, IPP's and industry bodies. The mandate of the Committee was to forecast year-wise electricity demand for all the States/UT's/Regions and for the country for the years 2016-17 to 2026-27 and perspective electricity demand projections for the years 2031-32 and 2036-37.

Partial-End Use Method has been adopted for the electricity demand forecast of States/UT's and the Distribution Companies (Discoms). The load forecast exercise has been carried out in association with Discom's/ Transco's/ Electricity Departments of States/UT's. Several rounds of discussions were held with officers of Discom's/Transco's/Electricity Departments to discuss the likely impact of various policies and programs of Government of India/State Governments like Power for All initiative, Make in India Programme, DSM, energy conservation and efficiency improvement measures, AT&C loss reduction etc. on the electricity demand forecast. DSM, energy conservation and efficiency improvement measures as well as the Government's initiative of UDAY and vigorous AT&C loss reduction would lead to more energy being available for ultimate consumption and would lead to less electricity demand.

I express my sincere thanks to the all Members of the 19th Electric Power Survey Committee and eminent experts who gave their whole hearted support and valuable suggestions during deliberations of the committee. I am sure that the electricity demand forecast of the 19th EPS would prove to be helpful and facilitate the State Governments, Utilities and all stakeholders to formulate strategies for planned power procurement to drive the growth of the country forward.

January, 2017

(Ravindra Kumar Verma)

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PREFACE

India is one of the fastest growing economies in the world. To sustain the growth of economy, growth of power sector is very important. The availability of adequate electricity at affordable price to various categories of consumers is a key ingredient for economic growth and improvement in quality of life. Forecast of electricity demand is an important exercise for power procurement planning and investment in the power sector.

Central Electricity Authority (CEA) periodically carries out Electric Power Survey for estimating the electricity demand of all the States/UT's, regions and for the country. The exercise is carried out in association with States/UT's. The 18th Electric Power Survey (EPS) Report, the latest in the series of EPS, was published in December, 2011. The 18th Electric Power Survey (EPS) Report covered year-wise electricity demand forecast for the years 2009-10 to 2021-22. It also covered long term electricity demand forecast for the year 2026-27 and for the year 2031-32. This 19th Electric Power Survey (EPS) covers the electricity demand projection for each State/ UT, Region and for the country for the years 2016-17 to 2026-27 and the perspective electricity demand projection for the years 2031-32 and 2036-37 for each state/ UT, Region and for the country. The 19th EPS also covers Discom-wise electricity demand projection.

With the objective of deliberating on various aspects of electricity demand forecast such as methodology to be adopted, scope of EPS, strategy for carrying out the forecast and other aspects in this regard, a brain storming session was convened by Central Electricity Authority in May, 2015 at New Delhi. Eminent experts/representatives from Regulatory Commissions, Ministries and Utilities participated in the Brain Storming Session. Experts, inter-alia, suggested that in addition to the partial-end use method of electricity demand forecast being adopted by CEA, which is a "bottom-up" approach focussing on end user to find energy needs of different category of consumers, electricity demand forecast by econometric method or a better method being adopted world-wide for electricity demand forecast should also be used for forecasting the electricity demand of the country.

The 19th Electric Power Survey Committee (EPSC) was constituted by CEA in June, 2015. The first meeting of 19th Electric Power Survey Committee was held in July, 2015, which was attended by the members of the Committee and officials of State Utilities. The

19th EPS Committee decided to undertake the electricity demand forecast of Distribution Companies, Mega Cities and National Capital Region and also the electricity demand forecast by Econometric Method as suggested by the experts in the Brainstorming Session.

This Report, which is Volume-I of the 19th Electric Power Survey Report, covers the electricity demand forecast of Discom's/States/UTs/Regions and for the country. Electricity demand forecast of National Capital Region, mega cities and electricity demand forecast by econometric method would be brought out in subsequent volumes. It is seen that the peak electricity demand on all-India basis works out to be 226 GW for the year 2021-22 and 299 GW for the year 2026-27. The energy requirement and electricity demand for electric vehicles according to the National Electric Mobility Mission has also been considered which does not increase the peak demand since the charging of vehicles is envisaged to be carried out either during night off-peak hours in the house or from external chargers during the day.

I wish to express my profound gratitude to all the Members of the 19th Electric Power Survey Committee and eminent experts for their active participation and valuable suggestions during the Brainstorming Session and deliberations of the Committee. I would also like to place on record the valuable support and co-operation extended by the nodal officers of Transco's, Discom's and Electricity Departments of States/UT's in coordinating the voluminous input data and in preparation of the Report. I would specially like to place on record the contribution of Smt. Anjuli Chandra, Chief Engineer, PS&LF, CEA, who has given the conceptual guidance and coordinated the efforts of the utilities and officers of CEA in formulating the entire Report. I would also like to acknowledge the contribution of officers and staff of Power Survey & Load Forecasting Division, CEA, for their dedicated effort in bringing out the Report.

I am grateful to Shri Major Singh, the then Chairperson (I/C), CEA, under whose guidance the work of 19th EPS was taken up. I also take this opportunity to thank Shri S. D. Dubey, Chairperson, CEA and Chairman of 19th Electric Power Survey Committee for his valuable suggestions and guidance in finalizing the Report.

P. Batra

(Pankaj Batra)
Member (Planning) &
Member of 19th EPS Committee

January, 2017

Anjuli Chandra
Chief Engineer(PS&LF) &
Member Secretary of
19th EPS Committee
Central Electricity Authority

ACKNOWLEDGEMENT

The report of 19th EPS has been brought out in fulfilment of CEA's obligation under Section 73(A) of the Electricity Act 2003.

The 1st Meeting of the 19th EPS Committee was held in July, 2015 to discuss the methodology for the electricity demand projections for the State/UT's, Regions and the all-India demand forecast. It was decided that the projections need to be made Discom- wise in addition to the State/UT/ Region wise and all India projections. Many rounds of meetings/discussions have been held with the utilities and Distribution Companies. Studies and analysis have been undertaken of the various Government of India programmes providing impetus to growth of consumption viz. Power for All (PFA) initiative, Make in India programme, dedicated freight corridor, electric vehicles etc. Measures for improvement of efficiency, Demand Side Management and energy conservation, Aggregate Technical & Commercial loss reduction as per UDAY programme, installation of solar pumps and rooftop solar plants, which would reduce the demand on the utilities, have also been taken into account for the projections. The projections have been prepared after in depth consultation with the State Utilities. The 19th Electric Power Survey Committee approved the draft projections in the second meeting held in December, 2016 at New Delhi.

Considering the above projections of 19th EPSC, the electrical energy requirement on all-India basis is likely to increase to 1566 BU in 2021-22 and 2047 BU in 2026-27 from 1091 BU during 2015-16. The growth of electrical energy requirement on all-India basis works out to 6.42 % during the year 2016-17 and the CAGR of electrical energy requirement on all-India basis during the period 2016-17 to 2021-22 works out to 6.18 % and from 2022-23 to 2026-27 a CAGR of 5.51%, against a CAGR of electrical energy requirement on all-India from 2010-11 to 2015-16 of 5.28%.

This Report covers the electricity demand projection for 66 Discom's, 36 States/UTs, 5 Regions and for the country. The projections for the Distribution Companies have been made for the first time. Electricity demand forecast of National Capital Region, Mega cities and electricity demand forecast by econometric method would be brought out in subsequent volumes.

I would like to place on record my sincere thanks to all the eminent members of 19th EPS Committee, officers of Discom's/ Transco's of the States and Electricity Departments for their active participation and valuable suggestions during meetings of the EPS Committee and subsequent meetings/consultations for finalization of the Report. The guidance provided by the earlier Chairperson Shri Major Singh and Shri S.D. Dubey, the then Member (Planning), Shri T.K Barai helped greatly in preparation of the report. I am thankful to the present Chairperson (I/C), CEA, Shri

R.K. Verma, and present Member (Planning), CEA, Shri Pankaj Batra, for their valuable guidance in finalisation of this Report.

The in depth deliberation was made possible by the base work done by Power Survey and Load Forecasting Division. Vigorous efforts have been made by the officers and staff of PS&LF Division, CEA and Regional Power Survey Offices in collecting the requisite data from various State utilities/ Distribution Companies.

The specific contribution made by the following officers & staff of PS&LF division CEA is well appreciated and acknowledged with thanks:

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Regional Power Survey Office, Mumbai

Sh. Sumeet Kumar	Deputy Director
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& Member Secretary of 19th EPS Committee

January, 2017

NINETEENTH ELECTRIC POWER SURVEY OF INDIA

GENERAL INDEX

VOLUME - I	19th Electric Power Survey of India (Discom-wise, State/UT-wise, Region-wise and All-India Electricity Demand Projection)
VOLUME - II	19th Electric Power Survey of India (Electricity Demand Projection of National Capital Region)
VOLUME - III	19th Electric Power Survey of India (Electricity Demand Projection of Mega Cities)
VOLUME - IV	19th Electric Power Survey of India (Econometric Method)

CONTENTS

Title		Page No.
Foreword		i
Preface		ii
Acknowledgement		iv
Executive Summary		1
Chapter 1:	**Introduction and Methodology**	**17**
1.0	General	17
1.1	Background	18
1.2	Consultations with Discoms/Electricity Departments/ State Utilities	20
1.3	Methodology adopted for treatment of Open Access consumers including Railways	20
1.4	Power Procurement by Discom	21
1.5	Policy Initiatives of Government affecting electricity demand	21
1.6	Data Furnished	23
1.7	Aims and Objectives	23
1.8	Methodology	24
1.9	Assumptions	30
Chapter 2:	**All-India, State/UT, Distribution Company wise electricity demand projection for the years 2016-17 to 2026-27**	**35**
2.0	Introduction	35
2.1	Actual Electricity demand in the past	35
2.2	Electricity demand projection on all-India basis from 2016-17 to 2026-27	35
2.3	Region - wise electricity demand projection from 2016-17 to 2026-27	37
2.4	State/UT - wise electricity demand projection from 2016-17 to 2026-27	39
2.5	Discom - wise electricity demand projection from 2016-17 to 2026-27	50
Table 2.1	Electrical energy requirement, peak demand, electrical energy availability and peak met for the years 2010-11 to 2015-16	35
Table 2.2	Electrical energy consumption, electrical energy requirement, peak electricity demand, T&D losses and derived load factor on all-India basis (2016-17 to 2026-27)	36
Table 2.3	CAGR of electrical energy consumption, electrical energy requirement and peak electricity demand	36
Table 2.4	Region-wise electrical energy requirement at power station bus bars (2016-17 to 2026-27)	37

CONTENTS

Title		Page No.
Table 2.5	Region-wise peak electricity demand at power station bus bars (2016-17 to 2026-27)	38
Table 2.6	State/UT - wise Electrical Energy Consumption (2016-17 to 2026-27)	40
Table 2.7	State/UT-wise T&D losses (2016-17 to 2026-27)	42
Table 2.8	State/UT-wise Electrical Energy Requirement at power station bus bars (2016-17 to 2026-27)	44
Table 2.9	State/UT - wise Load Factor (2016-17 to 2026-27)	46
Table 2.10	State/UT-wise Peak Electricity Demand at power station bus bars (2016-17 to 2026-27)	48
Table 2.11	Distribution Company wise Electrical Energy Consumption (2016-17 to 2026-27)	51
Table 2.12	Distribution Company wise T&D loss (2016-17 to 2026-27)	57
Table 2.13	Distribution Company wise Electrical Energy Requirement (2016-17 to 2026-27)	63
Table 2.14	Distribution Company wise Peak Electricity Demand (2016-17 to 2026-27)	69
Chapter 3:	**Review of 18th EPS projections vis-à-vis actual achievement and comparison of 19th EPS projections with 18th EPS projections**	**77**
3.0	Introduction	77
3.1	Electricity demand projection as per 18th Electric Power Survey Report	77
3.2	Comparison of 18th EPS projections with actual electrical energy requirement and peak electricity demand	77
3.3	Projections of electrical energy requirement and peak electricity demand as per 19th Electric Power Survey	79
3.4	Comparison of 19th EPS projections with 18th EPS projections	80
Table 3.1	Electrical Energy Requirement & Peak electricity demand as per 18th EPS Report on all-India basis	77
Table 3.2	Comparison of projected electrical energy requirement as per 18th EPS vs actual on all-India basis	78
Table 3.3	Comparison of projected peak electricity demand as per 18th EPS vs actual on all-India basis	78
Table 3.4	Growth of actual electrical energy requirement from 2011-12 to 2015-16	79
Table 3.5	Electrical Energy Requirement and Peak electricity demand on all-India basis as per 19th EPS	80
Table 3.6	Comparison between 18th EPS Projections, actual demand and 19th EPS Projections-Electrical energy requirement	80
Table 3.7	Comparison between 18th EPS Projections, actual demand and 19th EPS Projections-Peak Electricity Demand	81

CONTENTS

Title		Page No.
Chapter 4:	**Category wise projection of electricity demand on All-India and Regional basis for the years 2016-17 to 2026-27**	**85**
4.0	Introduction	85
4.1	Methodology	85
4.2	Category-wise projection of electricity demand on all-India basis for the years 2016-17 to 2026-27	86
4.3	Category-wise projection of electricity demand for regions for the years 2016-17 to 2026-27	86
4.4	Category-wise projection of electrical energy consumption for States/UTs for the years 2016-17 to 2026-27	86
Table 4.1	Category-wise electrical energy consumption, T&D losses, Electrical energy requirement and peak electricity demand on all-India basis till the year 2026-27	88
Category-wise electrical energy consumption, T&D losses, Electrical energy requirement and peak electricity demand for Regions till the year 2026-27		
Table 4.2	Northern Region	90
Table 4.3	Western Region	92
Table 4.4	Southern Region	94
Table 4.5	Eastern Region	96
Table 4.6	North-Eastern Region	98
All-India, State/UT wise electrical energy consumption in different consumption categories till the year 2026-27		
Table 4.7	Domestic	100
Table 4.8	Commercial	102
Table 4.9	Public Lighting	104
Table 4.10	Public Water Works	106
Table 4.11	Irrigation	108
Table 4.12	LT Industries	110
Table 4.13	HT Industries	112
Table 4.14	Railway Traction	114
Table 4.15	Bulk Supply	116
Table 4.16	Total electrical energy consumption for States/UTs, All-India	118
Chapter 5:	**Category wise projection of electricity demand for Distribution Companies, States and UTs for the years 2016-17 to 2026-27**	**123**
5.0	Introduction	123
5.1	Methodology	123
5.2	Category-wise projection of electricity demand for Distribution Companies, States and UT's	123

CONTENTS

Title		Page No.
Projection of Category wise Electrical Energy Consumption, T & D losses, Electrical Energy Requirement and Peak Electricity Demand for Dicoms, States and UT's till the year 2026-27		
Table 5.1	Delhi - NDMC	124
Table 5.2	Delhi - BYPL	126
Table 5.3	Delhi - BRPL	128
Table 5.4	Delhi - TPDDL	130
Table 5.5	Delhi - MES	132
Table 5.6	Delhi	134
Table 5.7	Haryana-DHBVN	136
Table 5.8	Haryana-UHBVN	138
Table 5.9	Haryana	140
Table 5.10	Himachal Pradesh	142
Table 5.11	Jammu & Kashmir	144
Table 5.12	Punjab	146
Table 5.13	Rajasthan-AVVNL	148
Table 5.14	Rajasthan-JdVVNL	150
Table 5.15	Rajasthan-JVVNL	152
Table 5.16	Rajasthan	154
Table 5.17	Uttar Pradesh - MVVNL	156
Table 5.18	Uttar Pradesh - PUVVNL	158
Table 5.19	Uttar Pradesh - PVVNL	160
Table 5.20	Uttar Pradesh - DVVNL	162
Table 5.21	Uttar Pradesh - NPC	164
Table 5.22	Uttar Pradesh	166
Table 5.23	Uttarakhand	168
Table 5.24	Chandigarh	170
Table 5.25	Goa	172
Table 5.26	Gujarat-MGVCL	174
Table 5.27	Gujarat-DGVCL	176
Table 5.28	Gujarat-UGVCL	178
Table 5.29	Gujarat-PGVCL	180
Table 5.30	Gujarat-TORRENT	182
Table 5.31	Gujarat	184
Table 5.32	Chhattisgarh	186
Table 5.33	Madhya Pradesh - CENTRAL DISCOM	188
Table 5.34	Madhya Pradesh - EASTERN DISCOM	190
Table 5.35	Madhya Pradesh - WESTERN DISCOM	192
Table 5.36	Madhya Pradesh	194
Table 5.37	Maharashtra - BEST	196
Table 5.38	Maharashtra - TATA	198
Table 5.39	Maharashtra - RELIANCE	200

CONTENTS

Title		Page No.
Projection of Category wise Electrical Energy Consumption, T & D losses, Electrical Energy Requirement and Peak Electricity Demand for Dicoms, States and UT's till the year 2026-27		
Table 5.40	Maharashtra - MSEDCL	202
Table 5.41	Maharashtra	204
Table 5.42	D. & N. Haveli	206
Table 5.43	DAMAN & DIU	208
Table 5.44	Andhra Pradesh - EPDCL	210
Table 5.45	Andhra Pradesh - SPDCL	212
Table 5.46	Andhra Pradesh	214
Table 5.47	Telangana - NPDCL	216
Table 5.48	Telangana - SPDCL	218
Table 5.49	Telangana	220
Table 5.50	Karnataka - BESCOM	222
Table 5.51	Karnataka - CESCOM	224
Table 5.52	Karnataka - GESCOM	226
Table 5.53	Karnataka - HESCOM	228
Table 5.54	Karnataka - MESCOM	230
Table 5.55	Karnataka	232
Table 5.56	Kerala	234
Table 5.57	Tamil Nadu	236
Table 5.58	Puducherry	238
Table 5.59	Bihar -SBPDCL	240
Table 5.60	Bihar -NBPDCL	242
Table 5.61	Bihar	244
Table 5.62	Jharkhand - DVC	246
Table 5.63	Jharkhand- TATA STEEL	248
Table 5.64	Jharkhand- JBVNL	250
Table 5.65	Jharkhand	252
Table 5.66	Odisha - CESU	254
Table 5.67	Odisha - SOUTHCO	256
Table 5.68	Odisha - WESCO	258
Table 5.69	Odisha - NESCO	260
Table 5.70	Odisha	262
Table 5.71	West Bengal - CESC	264
Table 5.72	West Bengal - DPL	266
Table 5.73	West Bengal - IPCL	268
Table 5.74	West Bengal - WBSEDCL	270
Table 5.75	West Bengal - DVC	272
Table 5.76	West Bengal	274
Table 5.77	Sikkim	276
Table 5.78	Assam	278
Table 5.79	Manipur	280

CONTENTS

Title		Page No.
Projection of Category wise Electrical Energy Consumption, T & D losses, Electrical Energy Requirement and Peak Electricity Demand for Dicoms, States and UT's till the year 2026-27		
Table 5.80	Meghalaya	282
Table 5.81	Nagaland	284
Table 5.82	Tripura	286
Table 5.83	Arunachal Pradesh	288
Table 5.84	Mizoram	290
Table 5.85	Andaman & Nicobar Islands	292
Table 5.86	Lakshadweep	294
Table 5.87	DVC	296
Chapter 6:	**Perspective electricity demand projection for the years 2031-32 and 2036-37**	**301**
6.0	Introduction	301
6.1	Projection of electricity demand for the years 2031-32 and 2036-37 on all-India basis	301
6.2	Region-wise projection of electricity demand for the years 2031-32 and 2036-37	302
6.3	State/UT-wise projection of electricity demand for the years 2031-32 and 2036-37	302
Table 6.1	Electricity energy consumption, T&D losses, peak electricity demand and load factor for the years 2031-32 and 2036-37 on all-India basis	301
Table 6.2	CAGR of electrical energy consumption, electrical energy requirement and peak electricity demand on all-India basis	302
Table 6.3	Summary of region-wise electrical energy requirement and peak electricity demand for the years 2031-32 and 2036-37	302
Table 6.4	State-wise/UT-wise electrical energy consumption	303
Table 6.5	State/UT-wise T&D losses	304
Table 6.6	State/UT-wise electrical energy requirement at power station bus bars	305
Table 6.7	State/UT-wise Load Factor	306
Table 6.8	State/UT-wise peak electricity demand at power station bus bars	307
Chapter 7:	**Electricity Generation from Captive Power Plants**	**311**
7.0	Introduction	311
7.1	Enabling framework for Captive Power Plants	311
7.2	Installed Capacity of Captive Power Plants and electricity generation	314
Table 7.1	Mode wise installed capacity and electricity generation from captive power plants	314
Table 7.2	Installed capacity of captive power plants and electricity fed into the grid	315
Table 7.3	Forecast of electricity consumption (self-use) from CPP generation	316
Table 7.4	Forecast of Electrical Energy Requirement considering transfer of Electricity consumed by Industries from captive power plants to grid supply	316
Appendix I:	**Office order regarding constitution of 19th Electric Power Survey Committee**	**319**

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

i. Introduction

Periodic Electric Power Survey (EPS) of the country is conducted by Central Electricity Authority (CEA) to assess the State wise/Union Territory wise/Region wise and all-India electricity demand on medium and long term basis. Projection of electricity demand is a prerequisite for power sector planning. So far, eighteen Electric Power Surveys have been conducted. The 18th Electric Power Survey (EPS) report, the latest in the series of EPS, was published in December, 2011. It covered the year-wise electricity demand projection for each State/ UT/ Region and the all-India electricity demand projection in detail for the years 2009-10 to 2021-22 as well as the perspective electricity demand projection for the terminal years of 14th Five Year Plan (2026-27) and 15th Five Year Plan (2031-32).

In order to elicit views of various stakeholders and experts in the power sector in connection with carrying out the 19th Electric Power Survey (EPS) exercise, a Brain Storming Session was convened by CEA in May, 2015 at New Delhi. It was inter-alia brought out in the Brainstorming Session that, in addition to the partial-end use method of electricity demand projection being adopted by CEA, electricity demand projection also needs to be carried out using advanced techniques like econometric method.

The 19th Electric Power Survey Committee (EPSC) was constituted by Central Electricity Authority in June, 2015, with the following terms of reference:

- To forecast the year wise electricity demand for each State, Union Territory, Region and all- India in detail up to the end of 13th Plan i.e. for the years 2016 -17 to 2021 - 22.
- To project the perspective year wise electricity demand for 14th plan i.e. from 2021-22 to 2026-27 and the terminal years of 15th & 16th five year plans i.e. year 2031-32 & 2036-37.

The 1st Meeting of the 19th Electric Power Survey Committee (EPSC) was held in July, 2015. It was decided in the meeting that electricity demand projection at Distribution Companies (Discoms) level would also be carried out, in addition to the electricity demand projection of States/UT's/Regions and the all-India electricity demand projection as was being done previously. It was also decided in the meeting that the 19th EPS would cover the electricity demand projection of Mega Cities and National Capital Region (NCR) as also the electricity demand projection of States/UT's/all-India by econometric method, as brought out in the Brainstorming Session.

The 19th Electric Power Survey Committee decided that the report of 19th EPS would be brought out in four volumes as detailed below:

Volume I: Discom-wise, State/UT-wise, Region-wise and All-India Electricity Demand Projection

Volume II: Electric Power Survey of National Capital Region (NCR).

Volume III: Electric Power Survey of Mega Cities.

Volume IV: Electricity Demand projection by Econometric Method.

To discuss and approve the draft report of 19th Electric Power Survey (Volume-I) covering electricity demand projection of Discoms, States, UT's, Regions and the all-India electricity demand projection, the 2nd meeting of 19th Electric Power Survey Committee was held on 15th December, 2016 at New Delhi. After deliberations, the Committee approved the draft report of EPS (Volume I) and suggested that the same may be finalised after taking into account minor changes/modifications as suggested by some States/UT's.

The Electric Power Survey Report covers electricity demand projection only for the utility system. The projections do not include the portion of electricity demand of Industries and other consumers that would be met from captive power plants.

The exercise for preparation of other three reports (Volume II- IV) has already been taken up. Volume IV of the report would cover the relationship between electricity demand and economic factors like the Gross Domestic Production (GDP).

ii. Consultation with States/UT's

The electricity demand projection exercise has been carried out in consultation with Distribution Companies (Discoms), Electricity Departments of States/UTs, Transmission Companies (Transcos) of States/UT's. In order to obtain the data required for the electricity demand projections and to discuss the methodology for electricity demand projections, regional level meetings were held with the officers of Discoms, Electricity Departments, Transcos etc. at New Delhi, Kolkata, Bengaluru, Mumbai and Cherrapunjee.

iii. Methodology

Partial End Use Methodology (PEUM), which is a combination of time series analysis and End Use Method, has been used for earlier Electric Power Surveys by CEA. In line with directions of 19th EPSC, PEUM has been adopted to forecast electricity demand for 19th EPS as well. Partial End Use Method is a "bottom-up" approach focusing on end-uses or final energy needs of different categories of consumers like domestic, commercial, irrigation, industries, railway traction etc. Various initiatives of Government of India/ State Governments like Power for All (PFA), Demand Side Management (DSM), energy conservation and efficiency improvement measures, Make in India, penetration of roof-top solar, electric vehicles etc. have been broadly factored in the electricity demand projection.

Year-wise electricity demand projection has been carried out for the years 2016-17 to 2026-27 with the year 2015-16 being taken as the base year. Perspective electricity

demand projection has been done for the years 2031-32 and 2036-37. The medium/long term projection of electricity demand has been done for 66 Discoms, 36 States/UT's, 5 Regions and for the country. Since some of the small distribution licensees (eg. KESCO, JUSCO etc.) did not furnish data separately, they have been considered as bulk supply load of the main Distribution Licensee.

iv. Overview of Electricity demand projection

- **Electricity demand projections from 2016-17 to 2026-27 on all-India basis**

The electricity consumption on all-India basis during the year 2016-17, 2021-22 and 2026-27 has been assessed as 921 BU, 1300 BU and 1743 BU respectively. The electrical energy requirement on all-India basis during the year 2016-17, 2021-22 and 2026-27 has been assessed as 1160 BU, 1566 BU and 2047 BU respectively. The peak electricity demand has been estimated as 162 GW during the year 2016-17; 226 GW during 2021-22 and 299 GW during the year 2026-27. The electrical energy consumption, T&D losses, electrical energy requirement, peak electricity demand and derived load factor for the years 2016-17, 2021-22 and 2026-27 is summarized in Table 1.

Table 1

Electrical energy consumption, T&D losses, electrical energy requirement and peak electricity demand for the years 2016-17, 2021-22 & 2026-27 on all-India basis

	Year			CAGR (%)		
	2016-17	2021-22	2026-27	2015-16 to 2016-17	2016-17 to 2021-22	2021-22 to 2026-27
Electrical energy consumption (MU)	920,837	1300,486	1743,036	8.00	7.15	6.03
T&D losses (MU)	239,592	265,537	304,398			
T&D losses (%)	20.65	16.96	14.87			
Electrical energy requirement (MU)	1160,429	1566,023	2047,434	6.42	6.18	5.51
Peak electricity demand (MW)	161,834	225,751	298,774	9.32	6.88	5.77
Derived load factor (%)	81.85	79.18	78.23			

As evident from Table 1, CAGR of electrical energy consumption from 2016-17 to 2021-22 works out to 7.15 % and the CAGR of electrical energy consumption from 2021-22 to 2026-27 works out to 6.03 %.

CAGR of electrical energy requirement from 2016-17 to 2021-22 works out to 6.18 % and the CAGR of electrical energy requirement from 2021-22 to 2026-27 works out to 5.51 %. The CAGR of electrical energy requirement in the country from the year 2010-11 to 2015-16 has been 5.28 %.

The percentage increase in electrical energy requirement is less than the increase in electricity consumption on account of reduction in T&D losses. CAGR of electrical energy consumption, electrical energy requirement and peak electricity demand on all-India basis is summarized in Table 2.

Table 2
CAGR of electrical energy consumption, electrical energy requirement and peak electricity demand on all-India basis

	CAGR (%)		
	2015-16 to 2016-17	2016-17 to 2021-22	2021-22 to 2026-27
Electrical energy consumption	8.00	7.15	6.03
Electrical energy requirement	6.42	6.18	5.51
Peak electricity demand	9.32	6.88	5.77

- **Derived load factor**

Derived load factor (%) on all-India basis is summarized in Table 3.

Table 3
Load Factor (%) on all-India basis

	2015-16	2016-17	2021-22	2026-27
Derived Load Factor (%)	84.08	81.85	79.18	78.23

It is seen that load factor continues to reduce over the years, indicating a peakier electricity demand in future. However if the differential tariff between peak and off peak is implemented as mandated in revised tariff policy notified on 28.01.2016, the load factor may not reduce or reduce to that extent.

- **Diversity factor**

Electrical energy requirement for the country has been worked out by aggregating the electrical energy requirement of all the States/UT's. Peak electricity demand on all-India basis has been calculated by taking diversity among regions into account. Diversity Factor assumed for the forecast period, as per year-wise trend analysis, is given in Table 4.

Table 4
Diversity Factor considered for the forecast period

Region	Northern	Western	Southern	Eastern	North -Eastern	All- India
Diversity factor	1.125	1.08	1.07	1.08	1.08	1.065

- **Region-wise electricity demand projection for the years 2016-17, 2021-22 & 2026-27**

The region-wise summary of electrical energy requirement and peak electricity demand for the years 2016-17, 2021-22 and 2026-27 is given in Table 5.

Table 5
Summary of region-wise electrical energy requirement & peak electricity demand for the years 2016-17, 2021-22 & 2026-27

Region	Electrical Energy Requirement (MU)			Peak Electricity Demand (MW)		
	2016-17	2021-22	2026-27	2016-17	2021-22	2026-27
Northern	356,521	468,196	616,345	55,596	73,770	97,182
Western	352,304	481,501	627,624	50,141	71,020	94,825
Southern	307,047	420,753	550,992	44,782	62,975	83652
Eastern	128,300	171,228	217,468	20,883	28,046	35,674
North - Eastern	15,876	23,809	34,301	2,810	4,499	6,710
Sub-total (Regions)	1160,048	1565,487	2046,730	161,757	225,643	298,632
A&N Islands	329	475	632	67	97	129
Lakshadweep	52	62	73	10	11	13
All-India	1160,429	1566,023	2047,434	161,834	225,751	298,774

- **Transmission & Distribution (T&D) losses**

The losses for Distribution Companies (Discoms) have been taken as per the trajectory of loss reduction given by the respective Discoms. Generally, the losses in sub-transmission and distribution system is attributable to the Discoms. However, as per the data received from Discoms, most of the Discoms were not able to segregate the transmission losses from the sub-transmission and distribution losses. Hence, to maintain uniformity, losses considered for each Discom also includes the intra-state transmission losses in the ratio of their energy requirement. T&D loss of a state would be equal to the summation of T&D loss of Discoms in the State. The inter-state transmission losses have been added to the T&D loss of a State to arrive at the overall T&D loss attributable to the State. T&D losses on all-India basis works out to 20.65 % in the year 2016-17; 16.96 % in the year 2021-22 and 14.87 % in the year 2026-27 as given in Table 6.

Table 6
Transmission & Distribution Losses on all-India basis

	2016-17	2021-22	2026-27
T&D losses (ex-bus) (%)	20.65	16.96	14.87

- **Long term electricity demand projection for the years 2031-32 & 2036-37**

Electricity demand projection has also been done for the next ten years beyond the year 2026-27 i.e. for the years 2031-32 and 2036-37 by extrapolating the figures of electricity consumption of States/UT's with the application of suitable growth rate. The electrical energy requirement was worked out by adding suitable T&D losses. Peak electricity demand of each State/UT was derived by assuming suitable load factor. Peak electricity demand of regions and the all-India peak electricity demand was derived using the diversity factors given in Table 4. Long term electricity demand projection for the years 2026-27, 2031-32 and 2036-37 is given in Table 7.

Table 7

Long term electricity demand projection for the years 2026-27, 2031-32 & 2036-37 on all-India basis

	Year			CAGR (%)	
	2026-27	2031-32	2036-37	2026-27 to 2031-32	2031-32 to 2036-37
Electrical energy consumption (MU)	1743,036	2192,305	2672,302	4.69	4.04
T&D losses (MU)	304,398	338,226	377,177		
T&D losses (%)	14.87	13.37	12.37		
Electrical energy requirement (MU)	2047,434	2530,531	3049,478	4.33	3.80
Peak electricity demand (MW)	298,774	370,462	447,702	4.40	3.86
Derived Load factor (%)	78.23	77.98	77.76		

Region-wise electricity demand projection for the years 2026-27, 2031-32 and 2036-37 is summarized in Table 8.

Table 8

Summary of region-wise electrical energy requirement & peak electricity demand for the years 2026-27, 2031-32 & 2036-37

Region	Electrical Energy Requirement (MU)			Peak Electricity Demand (MW)		
	2026-27	2031-32	2036-37	2026-27	2031-32	2036-37
Northern	616,345	758,701	917,617	97,182	118,844	144,161
Western	627,624	782,039	932,817	94,825	119,277	142,355
Southern	550,992	680,149	824,657	83,652	104,900	128,655
Eastern	217,468	263,665	317,567	35,674	42,968	51,420
North -Eastern	34,301	45,114	55,787	6,710	8,373	10,007

Region	Electrical Energy Requirement (MU)			Peak Electricity Demand (MW)		
	2026-27	2031-32	2036-37	2026-27	2031-32	2036-37
Sub-total (Regions)	2046,730	2529,668	3048,445	298,632	370,294	447,507
A&N Islands	632	777	932	129	153	177
Lakshadweep	73	86	101	13	15	18
All-India	2047,434	2530,531	3049,478	298,774	370,462	447,702

T&D losses and load factor for the years 2026-27, 2031-32 and 2036-37 on all-India basis is summarised in Table 9 and Table 10 respectively.

Table 9
Transmission & Distribution losses (%) on all - India basis

	2026-27	2031-32	2036-37
T&D losses (ex-bus) (%)	14.87	13.37	12.37

Table 10
Load Factor (%) on all - India basis

	2026-27	2031-32	2036-37
Load Factor (%)	78.23	77.98	77.76

- **Summary of electricity demand projection**

Electrical energy requirement and peak electricity demand for the year 2015-16, 2016-17, 2021-22, 2026-27, 2031-32 and 2036-37 is summarized in Table 11. CAGR of electrical energy requirement and peak electricity demand is summarized in Table 12.

Table 11
Electrical Energy Requirement and Peak Electricity Demand for the year 2015-16 to 2036-37 on all-India basis

Year	Electrical Energy Requirement (BU)	Peak Electricity Demand (GW)
2015-16*	1091	148
2016-17	1160	162
2021-22	1566	226
2026-27	2047	299
2031-32	2530	370
2036-37	3049	448

*actual energy availability and peak demand met figures for the year 2015-16

Table 12

CAGR of Electrical Energy Requirement and Peak Electricity Demand from the year 2015-16 to 2036-37 on all-India basis

Year	Growth in Electrical Energy Requirement (BU)	CAGR of Electrical Energy Requirement (%)	Growth in Peak Electricity Demand (GW)	CAGR of Peak Electricity Demand (%)
2015-16 to 2016-17	70	6.42	14	9.32
2016-17 to 2021-22	406	6.18	64	6.88
2021-22 to 2026-27	481	5.51	73	5.77
2026-27 to 2031-32	483	4.33	72	4.40
2031-32 to 2036-37	519	3.80	77	3.86

State/UT-wise details of electrical energy requirement and peak electricity demand at power station bus-bars for the years 2016-17, 2021-22, 2026-27, 2031-32 and 2036-37 is given at Annexure-I and Annexure-II respectively.

Peak electricity demand of a state/UT has been obtained by applying suitable diversity factor to the peak electricity demand of Discoms. In states where peak electricity demand of individual Discoms was not available, suitable assumptions have been made for load factor and diversity in demand amongst the Discoms.

(v) Electricity generation by Captive Power Plants

A number of industries have set up their captive power plants. With improvement in grid supply, the industries may shift to grid supply rather than consuming electricity from captive power plants. If 15% and 25% of the energy consumed by industries from captive power plants is transferred to the utility grid in the year 2021-22 and 2026-27 respectively, it is estimated that additional electrical energy of about 41 BU in the year 2021-22 and 97 BU in the year 2026-27 would be required by the industries from the utility grid.

However, since the electricity tariff for industrial and commercial consumers are high at present as these are cross-subsidizing small consumers, it may be cheaper for industrial and commercial consumers to take power from their own captive power plants. Indeed, there has been increasing interest to set up or take equity in captive power plants, signifying a shift away from grid supply. Therefore, the above is not considered as a likely scenario in electricity demand projections.

(vi) Review of 18th EPS projections vis-à-vis actual achievement and comparison of 19th EPS projections with 18th EPS projections

Comparison has been made between the projections of 18th EPS and actual electrical energy requirement and peak electricity demand incident on the system. The actual values were close to the projections in the initial years with wider deviation being experienced in the later years. CAGR of projected electrical energy requirement, as per 18th EPS, for the period 2010-11 to 2015-16 was 7.62 % whereas the CAGR of actual electrical energy requirement for the period 2010-11 to 2015-16 has been 5.28 %.

CAGR of projected peak electricity demand, as per 18th EPS, for the period 2010-11 to 2015-16 was 8.50%, whereas the CAGR of actual peak electricity demand for the period 2010-11 to 2015-16 has been 4.63 %.

The projections of 19th EPS have been made considering the year 2015-16 as the base year. Projections of 19th EPS are lower than the projections of 18th EPS on account of reduced demand in the base year itself, as compared to the 18th EPS projections. Comparison between actual electrical energy requirement on all-India basis with the projections of 18th EPS and comparison between electrical energy requirement as per 18th EPS and 19th EPS, on all-India basis, is given in Table 13. Comparison between actual peak electricity demand on all-India basis with the projections of 18th EPS and comparison between peak electricity demand as per 18th EPS and 19th EPS, on all-India basis, is given in Table 14.

Table 13

Comparison between actual electrical energy requirement, 18th EPS projections and 19th EPS Projections on all-India basis

Year	Electrical Energy Requirement				
	Actual electrical energy requirement (MU)	18th EPS Projections (MU)	Difference between actual and 18th EPS projection (%)	19th EPS Projections (MU)	Difference between 19th EPS & 18th EPS Projections (%)
2010-11	861,591	870,831	-1.06		
2011-12	937,199	936,589	0.07		
2012-13	995,557	1007,694	-1.20		
2013-14	1002,257	1084,610	-7.59		
2014-15	1068,943	1167,731	-8.46		
2015-16	1114,408	1257,589	-11.39		
2016-17		1354,874		1160,429	-14.35
2021-22		1904,861		1566,023	-17.79
2026-27		2710,058		2047,434	-24.45

Table 14

Comparison between actual peak electricity demand, 18th EPS projections and 19th EPS Projections on all-India basis

Year	Peak Electricity Demand				
	Actual peak electricity demand (MW)	18th EPS Projections (MW)	Difference between actual and 18th EPS projection (%)	19th EPS Projections (MW)	Difference between 19th EPS & 18th EPS Projections (%)
2010-11	1,22,287	1,22,287	0		
2011-12	1,30,006	1,32,685	-2.02		
2012-13	1,35,453	1,43,967	-5.91		
2013-14	1,35,918	1,56,208	-12.99		
2014-15	1,48,166	1,69,491	-12.58		
2015-16	1,53,366	1,83,902	-16.60		
2016-17		1,99,540		1,61,834	-18.90
2021-22		2,83,470		2,25,751	-20.36
2026-27		4,00,705		2,98,774	-25.44

The detailed analysis of review of 18th EPS projections vis-à-vis actual figures of electrical energy requirement and peak electricity demand and the difference in projections between the 18th EPS and 19th EPS has been done.

(vii) Review of electricity demand projection

In the 2nd meeting of 19th EPSC, it was decided that the electricity demand projection would be reviewed after every two years.

The Report contains seven Chapters as below:

Chapter 1 covers the constitution of 19th Electric Power Survey Committee, consumption categories considered for the forecast, methodology adopted for electricity demand forecast, policy initiatives of Government affecting electricity demand etc.

Chapter 2 covers the all-India, State/UT/Distribution Company- wise electricity demand projection for the years 2016-17 to 2026-27.

Chapter 3 covers the review of 18th EPS projections vis-à-vis the actual electrical energy requirement and peak electricity demand. It also covers the comparison between 19th EPS projections and 18th EPS projections.

Chapter 4 covers the category wise (domestic, commercial, public lighting etc.) projection of electrical energy requirement and peak electricity demand for the years 2016-17 to 2026-27 on all-India and Regional basis.

Chapter 5 covers the category wise projection of electrical energy requirement and peak electricity demand for Distribution Companies, States and UTs for the years 2016-17 to 2026-27.

Chapter 6 covers the perspective electricity demand projection for the States/UT's, Regions and for the country for the years 2031-32 and 2036-37.

Chapter 7 covers the electrical energy generated by Captive Power Plants in the past, projections of electrical energy generation in future and a scenario analysis considering the additional electrical energy requirement from utility grid if the industries transfer part of their electricity demand from captive power plants to the utility grid.

Annexure-I

State-wise/UT-wise Electrical Energy Requirement at power station bus bars (Utilities)

(MU)

State/UTs	2016-17	2021-22	2026-27	2031-32	2036-37
Delhi	31937	37778	44267	51850	61085
Haryana	48991	63618	85743	105853	126074
Himachal Pradesh	9726	11866	14576	17752	21745
Jammu & Kashmir	14871	18819	25254	32445	38941
Punjab	54118	72392	95658	119111	143104
Rajasthan	73222	91216	126290	161606	199552
Uttar Pradesh	108070	150797	195323	234290	284645
Uttarakhand	13712	19406	26480	32487	38451
Chandigarh	1876	2304	2756	3309	4020
Northern Region	**356521**	**468196**	**616345**	**758701**	**917617**
Goa	4236	5593	6932	8170	9630
Gujarat	98376	136159	178693	226797	274401
Chhattisgarh	27167	37840	51088	63714	76664
Madhya Pradesh	68588	99871	125394	154559	183762
Maharashtra	145396	189983	249628	308842	364213
D. & N. Haveli	6550	9343	12373	15627	18813
Daman & Diu	1991	2712	3517	4331	5334
Western Region	**352304**	**481501**	**627624**	**782039**	**932817**
Andhra Pradesh	54673	78540	111485	145148	180190
Telangana	52695	84603	104345	128412	158055
Karnataka	66146	85932	110368	136480	161798
Kerala	24622	31371	39357	46788	55630
Tamil Nadu	105923	136643	180989	217952	262507
Puducherry	2990	3664	4448	5368	6479
Southern Region	**307047**	**420753**	**550992**	**680149**	**824657**
Bihar	21599	38416	54363	68374	82978
Jharkhand	22847	30649	39252	47714	58001
Odisha	26028	32164	37453	42903	49786
West Bengal	57342	69361	85590	103722	125708
Sikkim	484	638	810	952	1095
Eastern Region	**128300**	**171228**	**217468**	**263665**	**317567**
Assam	8997	14051	20462	26882	32906
Manipur	1240	2103	3300	4513	5773
Meghalaya	2094	2566	3177	3654	4218
Nagaland	815	1129	1524	1802	2086
Tripura	1265	1595	1930	2301	2779
Arunachal Pradesh	886	1498	2601	4202	5814
Mizoram	580	866	1307	1760	2210
North- Eastern Region	**15876**	**23809**	**34301**	**45114**	**55787**
Andaman & Nicobar Islands	**329**	**475**	**632**	**777**	**932**
Lakshadweep	**52**	**62**	**73**	**86**	**101**
All- India (Electrical Energy Requirement)	**1160,429**	**1566,023**	**2047,434**	**2530,531**	**3049,478**

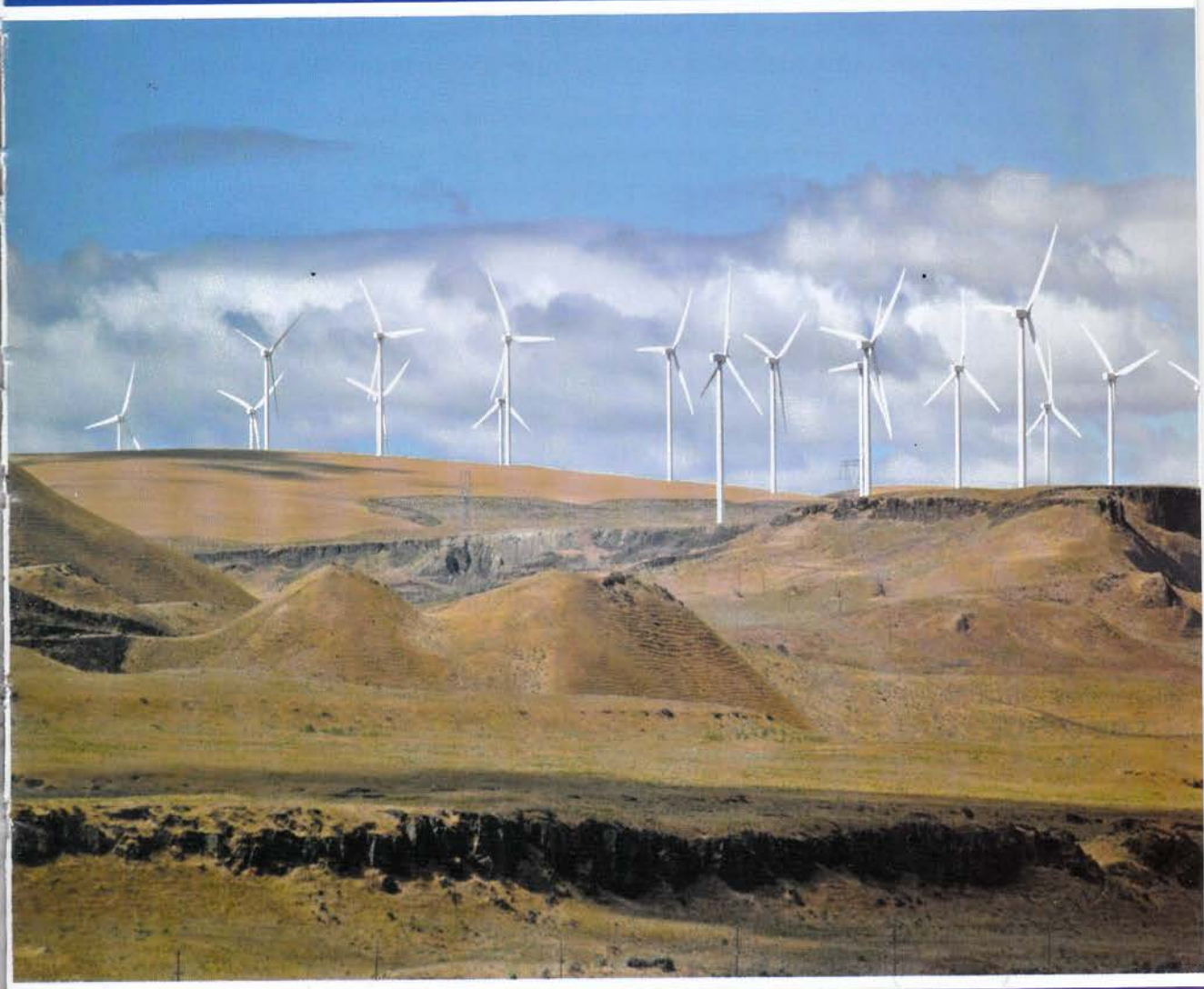
Annexure-II

State-wise/UT-wise Peak Electricity Demand at power station bus bars (Utilities)

(MW)

State/UTs	2016-17	2021-22	2026-27	2031-32	2036-37
Delhi	6318	7471	8751	10139	11549
Haryana	9428	12222	16451	20046	23486
Himachal Pradesh	1555	1898	2331	2895	3546
Jammu & Kashmir	2278	3095	4482	5787	6839
Punjab	11551	14886	18809	23003	26732
Rajasthan	11535	14435	20131	26575	34000
Uttar Pradesh	16067	23664	31064	38885	48498
Uttarakhand	2153	3180	4538	5670	6712
Chandigarh	400	491	587	699	819
Northern Region	**55596**	**73770**	**97182**	**118844**	**144161**
Goa	624	858	1096	1361	1604
Gujarat	15373	21429	28387	37359	45201
Chhattisgarh	4348	6208	8518	10783	12975
Madhya Pradesh	10766	15676	19682	25205	29968
Maharashtra	20446	28866	39828	50918	60047
D. & N. Haveli	861	1291	1798	2486	3079
Daman & Diu	313	426	553	706	870
Western Region	**50141**	**71020**	**94825**	**119277**	**142355**
Andhra Pradesh	8245	11843	16820	23223	29661
Telangana	8300	14499	18653	22951	27814
Karnataka	10895	14271	18481	22979	27242
Kerala	4131	5263	6603	7972	9478
Tamil Nadu	15412	20273	27392	34242	42409
Puducherry	476	583	708	875	1057
Southern Region	**44782**	**62975**	**83652**	**104900**	**128655**
Bihar	3607	6576	9308	11944	14495
Jharkhand	3905	5193	6626	8155	9913
Odisha	4306	5340	6273	7232	8392
West Bengal	10383	12688	15680	18827	22461
Sikkim	129	170	216	247	272
Eastern Region	**20883**	**28046**	**35674**	**42968**	**51420**
Assam	1550	2713	4166	5384	6367
Manipur	232	410	667	904	1117
Meghalaya	399	488	605	699	781
Nagaland	166	234	322	375	419
Tripura	297	391	495	570	659
Arunachal Pradesh	164	278	482	774	1054
Mizoram	118	171	252	338	411
North Eastern Region	**2810**	**4499**	**6710**	**8373**	**10007**
Andaman & Nicobar Islands	67	97	129	153	177
Lakshadweep	10	11	13	16	18
All - India (Peak Electricity Demand)	**161,834**	**225,751**	**298,774**	**370,462**	**447,702**

CHAPTER – 1
Introduction and Methodology



Chapter-1

Introduction and Methodology

1.0 General

The projection of electricity demand is a vital and prerequisite input to formulate medium-term, long term and perspective plans for generation capacity addition and commensurate transmission and distribution system augmentation. It also forms an input for planning capacity addition by various utilities and stakeholders.

The medium term projections of electricity demand is used in preparing operating plans like maintenance planning of generating units/facilities, efficient allocation of various fuels etc. The long-term projections of electricity demand is used in planning of investment in generating capacity and transmission capacity, tying up of fuel supplies etc. The importance of fairly accurate electricity demand projection in planning is that it ensures the availability of supply of electricity, as well as providing the means of avoiding over and under-utilization of generating capacity and making the best possible use of generating capacity. Too high projections lead to more generating capacity than is required and unnecessary capital expenditure. It also leads to sub-optimal utilization of generating capacity. Too low projections prevent optimum economic growth and lead to the installation of many costly and expensive-to-run generators having short gestation period in order to meet the electricity demand. These costs will have to be finally borne by consumers.

Forecasting future electricity demand is not an isolated activity. It has to reflect the role of electric energy in the society. Government policy as well as strategic decisions taken by a utility are important factors in determining future energy demand. Long-term forecast must take the view that the future is open to the effect of many human actions. Many uncertainties arise from the impact of changes in public perception, view points and policies.

Periodic Electric Power Survey (EPS) of the country is conducted by Central Electricity Authority (CEA) to assess the State/Union Territory/Region wise and all-India electricity demand on medium and long term basis. So far, eighteen Electric Power Surveys have been conducted. To reassess the electricity demand, the 19th Electric Power Survey Committee was constituted in June, 2015. In the first meeting of 19th Electric Power Survey Committee, it was decided that electricity demand projection at Distribution Company level would also be carried out, in addition to electricity demand projection of states/UTs/Regions and the all-India electricity demand projection.

Electricity demand projection has been done for Discoms/States/UTs/Regions and for the country by partial-end use method for the years 2016-17 to 2026-27. In each Discom, electricity demand projection has been done separately for different consumer categories viz. domestic, commercial, irrigation, industries, public water works, public lighting, Railways etc. Perspective electricity demand projection has also been done for the States/UT's/Regions and for the country for the years 2031-32 and 2036-37. Factors like reduction of AT&C losses, Demand Side Management (DSM) and efficiency improvement measures, penetration of roof-top solar, penetration of electric vehicles etc. have been suitably factored in the electricity demand forecast.

1.1 Background

The 19th Electric Power Survey Committee (EPSC) was constituted by CEA in June, 2015 (copy is enclosed as Appendix I). The terms of reference of the Committee was as under:

i) To forecast the year wise electricity demand for each State, Union Territory, Region and all- India in detail up to the end of 13th Plan i.e. for the years 2016 -17 to 2021 - 22.

ii) To project the perspective year wise electricity demand for 14th plan i.e. from 2021-22 to 2026-27 and the terminal years of 15th & 16th five year plans i.e. year 2031-32 & 2036-37.

In order to elicit views of the various stakeholders and experts in the power sector in connection with carrying out the 19th Electric Power Survey (EPS) exercise, a Brain Storming Session was convened by CEA in May, 2015 at New Delhi. Experts/ representatives from various Ministries, CPSU's and Utilities participated in the brain storming session. It was pointed out by experts that the methodology used by CEA for the projection of electricity demand, needs to be augmented through other methods. It was suggested that in addition to the electricity demand forecast being done by partial-end use method by CEA, electricity demand forecast by econometric method or any other better method being adopted world-wide for electricity demand forecast could also be used for forecasting the electricity demand of the country.

The first meeting of 19th Electric Power Survey Committee (EPSC) was held at New Delhi in July, 2015, under the Chairmanship of Chairperson, CEA and Chairman of 19th EPSC to deliberate on issues and aspects related to 19th Electric Power Survey of the country. It was decided in the meeting that electricity demand projection at Distribution Companies (Discoms) level would also be carried out in the 19th Electric Power Survey, in addition to the electricity demand projection of States/UT's/

Regions and the all-India electricity demand projection as was being done previously. Proforma for collection of data, modalities for collection of data from Discoms/ Licensees/ Electricity Departments of States/UTs; methodology to be adopted for the electricity demand forecast exercise etc. were discussed in the meeting. It was decided that a nodal officer would be appointed by each State/UT for participating in the deliberations of the 19th EPSC. The nodal officer would co-ordinate with various Discoms/Licensees in the State and submit consolidated data to CEA in the prescribed formats. It was also decided in the meeting that the electricity demand projection would be done by partial - end use method.

The Committee also discussed the need to carry out electric power survey of major cities so as to facilitate the state utilities to plan their infrastructure for power development of the cities in line with their programme of development as per Master Plans. 19th EPSC therefore decided to enlarge the scope of studies and decided that apart from Discom/State/UT wise electricity demand projection, demand projection for Mega Cities and NCR Region would also be undertaken after completion of electricity demand projection of Discoms, States/UTs, Regions and all-India.

The 19th EPSC decided that the 19th EPS Report would be brought out in four volumes as detailed below:

Volume I	:	Discom-wise, State/UT-wise, Region-wise and All-India Electricity Demand Projection
Volume II	:	Electric Power Survey of National Capital Region (NCR)
Volume III	:	Electric Power Survey of Mega Cities
Volume IV	:	Electricity Demand projection by Econometric Method

In order to take up EPS by econometric method, the 19th EPSC advised the Secretariat (PS&LF Division, CEA) to formulate a proposal and take action for conducting the study by engaging reputed organization/consultant.

To discuss and approve the draft report of 19th Electric Power Survey (Volume I), covering the electricity demand projection of Discoms/States/UTs/Regions and the all-India electricity demand projection, the 2nd Meeting of 19th Electric Power Survey Committee was held in December, 2016 at New Delhi. After deliberations, the Committee approved the draft report of EPS (Volume I) and suggested that the same may be finalised after taking into account the views/suggestions as given by

some of the States/UT's. The 19th EPS Committee also decided that periodic review of electricity demand forecasts, at an interval of two years, should also be carried out.

The exercise for preparation of other three reports (Volume II- IV) has already been taken up.

1.2 Consultations with Discoms/Electricity Departments/State Utilities:

Meetings were held with officers of Distribution Companies (Discoms)/Electricity Departments/ Transmission Companies of States/UTs in December, 2015, January, 2016, May, 2016, August, 2016, September, 2016 at New Delhi, Kolkata, Bengaluru, Mumbai and Cherrapunjee. Detailed discussions were held with officers of Discoms/ Transcos/Electricity Departments of States/UT's regarding category-wise electricity consumption in the past, projections for future, impact of DSM and efficiency improvement measures, peak demand, load factor etc. Effect of various initiatives of Government of India which would affect the electricity demand viz. 24x7 Power For All (PFA), T&D loss reduction, installation of roof top solar etc. were also discussed.

Some states could not furnish the Discom wise complete details as required for the electricity demand forecasting exercise. Appropriate assumptions have therefore been made to arrive at the Discom-wise projections in those States. Since some of the small distribution licensees (eg. KESCO, JUSCO etc.) did not furnish data separately, they have been considered as bulk supply load of the main Distribution Licensee.

1.3 Methodology adopted for treatment of Open Access consumers including Railways

Electricity consumption of open access consumers in a state have been considered in the respective Distribution Company (Discom) as they will be using the network of the Discom for supply of electricity to them. Further, the source of electricity may change in this case but the location of load will remain the same. This will give a better picture for planning/augmenting the transmission/sub-transmission/distribution network for sourcing power to the open access consumer in the State.

As per information furnished by Indian Railways, Railways is gradually shifting towards procurement of electricity through open access. However, the electricity demand of Railways has been considered in the respective Discoms.

1.4 Power procurement by Discom

For power procurement, Discoms need not consider the demand of open access consumers, however, the same would have to be considered for augmentation of network by the Discoms/States/UTs.

1.5 Policy Initiatives of Government affecting electricity demand

1.5.1 Reduction of AT&C losses:

Programmes for reduction of AT&C losses like Ujjwal Discom Assurance Yojana (UDAY), IPDS, DDUGJY etc. are under implementation by the Government. The target is to reduce AT&C losses to about 13 % by the year 2021-22 on all-India basis. Reduction of AT&C losses would lead to reduction in electricity demand. The losses for Discom's have been taken as per the trajectory of loss reduction given by the respective Discom's.

1.5.2 DSM, Energy Conservation & Efficiency improvement programs:

Ministry of Power, Government of India and the State Governments have introduced various programmes for vigorous Demand Side Management (DSM), improvement of energy efficiency and energy conservation measures like S&L (Standards & Labelling), Perform-Achieve-Trade (PAT) scheme in industries, Energy Efficient Lighting solutions, Super-Efficient Equipment Programme etc. There would be reduction in electrical energy requirement and peak electricity demand through implementation of these programs. These initiatives have been factored in the electricity demand forecast exercise.

1.5.3 Power For All (PFA) Initiative:

Government of India had taken a joint initiative with respective State Governments/ UT's for preparation of State/UT specific documents for providing 24X7 Power to all households/homes, industrial and commercial consumers and adequate supply of power to agricultural consumers as per their policy. This initiative aims at ensuring uninterrupted supply of quality power to existing consumers and providing access to electricity to all un-connected consumers by the year 2019 in a phased manner. This initiative would result in higher growth of electrical energy requirement in the initial years of the forecast period.

1.5.4 Dedicated Freight Corridor:

Electricity demand on account of dedicated freight corridor has been factored in the electricity demand of Railways as per information provided by Ministry of Railways/

Railway Board, based on their programme of railway track electrification and expansion plans.

1.5.5 Make in India:

Make in India is an initiative launched by the Government of India to encourage multi-national, as well as national companies to manufacture their products in India. This initiative would lead to growth in electricity demand. The state utilities/Discoms were requested to include the electricity demand due to this programme in their demand projections.

1.5.6 Roof top solar programme:

India has set its renewable energy capacity addition targets to 175 GW by the year 2022 in view of the significant Renewable Energy potential in the country. This includes 100 GW from solar, 60 GW from wind, 10 GW from biomass and 5 GW from small hydro power. The 100 GW of solar includes 40 GW from solar rooftop. Some of the electricity demand will be met locally through these rooftop solar installations and other renewable sources, leading to less requirement from the Grid.

The likely impact on electricity demand due to implementation of various initiatives, policies/programmes of Government of India and the States has been kept in view while arriving at the electricity demand projection. The state authorities have indicated that data submitted to CEA for the 19th EPS Exercise have been arrived at by considering the impact of such policies/programmes on the electricity demand of respective Discoms/States/UTs.

1.5.7 Electric Vehicles

As per the National Electric Mobility Mission Plan 2012 of Department of Heavy Industries, Government of India, the number of electric vehicles in India is likely to be 6 millions by the year 2020 (4 million two wheelers and 2 million four wheelers). The electricity demand on account of already existing electric vehicles viz. e-rickshaw, two wheelers, cars etc. has been taken into account in the electricity demand forecast in commercial category. The growth rate of 7 % in commercial category during the period 2016-17 to 2021-22, includes electricity demand of e-rickshaw, two wheelers, cars etc. However, if all the electric vehicles as projected in the National Electric Mobility Mission Plan materialise, the additional electrical energy requirement would be of the order of 8-9 BU on all-India basis. Assuming 50% of the electric vehicles will charge simultaneously, the additional electricity demand would be of the order of 10,000 MW. The electric vehicles are likely to charge their batteries during day time i.e. during periods of high solar power, when thermal power stations would be

running at part load and during off-peak hours in the night after getting back home. This therefore would not lead to any increase in the peak electricity demand.

1.6 Data Furnished

For carrying out electricity demand projection, the annual electricity data covering category-wise consumption of electrical energy, category-wise connected electric load, T&D losses, mid-year population, number of consumers, number of energized irrigation pump sets, aggregate capacity of irrigation pump sets, etc. from the year 2003-04 had been furnished by the Discoms/Utilities/ Electricity Departments of the States / UTs. Additional information such as programme of reduction in T&D losses, electrification of unelectrified households, irrigation pump sets energisation programme, details of lift irrigation schemes, LT & HT public water works, bulk power supply etc. were also provided by the Discoms/Utilities/ Electricity Departments of the States / Union Territories. Some of the states indicated that the tariff structure for various categories of consumption adopted by their State(s) is different from categories included in the EPS and therefore they have clubbed these under the broad categories while furnishing information to CEA.

State/UT wise annual statements of power supply position brought out by CEA indicating actual electrical energy requirement and availability, peak electricity demand and peak met and the inter-regional and all-India diversity factors were also studied and considered for the demand projection. State/UT wise data of electricity demand for railway traction was provided by Ministry of Railways/Railway Board based on their programme of railway track electrification and expansion plans.

1.7 Aims and objectives

1.7.1 The Electric Power Survey covers projection of electrical energy requirement and peak electricity demand over the years and detailed projection for various categories of electricity consumption.

1.7.2 Electricity demand projection is the basic input for formulation of developmental plans, programmes and schemes concerning generation, transmission and distribution of electricity by Discoms, Electricity Departments of States/UTs, Licensees, State Utilities, Central Agencies.

1.7.3 The electricity demand projection for various categories of consumption would facilitate States/UTs to identify priority sectors and develop optimum infrastructure.

1.7.4 The projection of electricity demand would also help the utilities in planning for power procurement in the medium term and long term.

1.8 Methodology

1.8.1 Partial End-Use Method (PEUM)

Partial End-Use Method (PEUM) has been used to project the electricity demand. Electricity demand is a derived demand that arises for satisfying some needs of consumers which are met through the use of appliances. Hence, demand for electrical energy depends on the demand for energy services and the choice of energy using processes or devices. End-use service demand is affected not only by the cost of energy but also by other factors such as climatic conditions, affordability or income of the consumers, preference for the end-use service etc. Similarly, demand for end-use appliances depends on the relative prices of the appliances, relative cost of operation, availability of appliances, etc.

The dynamics of electricity demand is influenced by the inertia of appliance stocks. At any given time, any consumer would possess a stock of some particular appliances with specific operating characteristics (such as efficiency and costs). The stock cannot be changed immediately and therefore the response to any stimulation would come from behavioral changes (i.e. rate of use of the appliance, acceptance of lower levels of comforts, etc.) while using the same appliances. Over a longer period of time, consumers may find changing the stock of appliances remunerative. Similarly, new procurements would incorporate the characteristics preferred by consumers given the changes in the market conditions. Therefore, in the short run, the response is partial while the total response would cumulate over time.

As working out electricity demand by summation of electricity consumption of appliances across different consumer categories would be exhaustive, electricity demand projection has been made for various categories of electricity consumers viz. Domestic, Commercial, Public Lighting, Public Water Works, Irrigation, Industrial, Railways and Bulk (Non-Industrial HT) Supply. Projection of electrical energy requirement for Lift Irrigation schemes, Railway Traction and HT Industries has been done by end-use method.

Partial End-Use Method is a combination of time series analysis and end-use methods. The time series method has been used to derive growth indicators giving higher weightage to the recent trends so as to consider the benefits of energy conservation initiatives and technological changes. End use method considers the electricity consumption of appliances and equipments at the consumer premises and

the projection is based on the increase in the number of appliances/equipments and their electricity consumption.

Following methodology has been adopted for the electricity demand projection:

- Electrical energy consumption of different category of consumers in each Discom worked out by Partial End Use Method.
- Electrical energy consumption of each Discom obtained as the summation of electrical energy consumption of different consumer categories in the Discom.
- Electrical energy requirement of each Discom worked out by adding the corresponding Transmission losses (intra-state) & Distribution losses, keeping into account the projected reduction in the losses.
- Electrical energy consumption of State worked out by summation of electrical energy consumption of Discoms in the State.
- Electrical energy requirement of the State worked out by summation of electrical energy requirement of Discoms in the State.
- Peak electricity demand of Discoms worked out by assuming suitable load factor depending on the consumer mix.
- Peak electricity demand of the state obtained by applying suitable diversity factor to the peak electricity demand of Discoms.
- In states where peak electricity demand of individual Discoms was not available, suitable assumptions have been made for load factor and diversity in demand amongst Discoms.
- Ex-bus (at power station bus bars) electrical energy requirement of the state obtained by adding the inter-state/regional transmission losses to the electrical energy requirement of the state.

1.8.2 Categories of Consumption

The Discom-wise/ State/UT-wise, Region-wise and all- India projection of electricity consumption has been done on yearly basis for the years 2016-17 to 2026-27 for each of the following categories of electricity consumers:

(a) Domestic

(b) Commercial

(c) Public Lighting

(d) Public Water Works

(e) Irrigation

(f) Industries (LT, HT less than 1 MW and HT 1 MW & above)

(g) Railway Traction

(h) Bulk Supply

1.8.2.1 Domestic

The electricity consumption in domestic category has been estimated on the basis of number of electricity consumers (mid-year) and their specific electrical energy consumption (average electricity consumption per consumer).

1.8.2.1.1 Number of Electricity Consumers

Number of consumers have been considered as per the electrification programme furnished by.Discoms/Utilities.

1.8.2.1.2 Electricity Consumption per Consumer

Average electricity consumption per consumer has been estimated by studying the past trend of electricity consumption and taking into account the anticipated improvements in the life style of people and increased hours of supply of electricity to the consumers. A rising trend of specific electricity consumption has been considered for all States/UTs to take care of electricity supply restrictions, cuts, etc. and accelerated rural electrification programme.

1.8.2.2 Commercial

The electricity consumption in commercial category has been estimated on the basis of number of electricity consumers (mid-year) and their specific electric energy consumption. The estimated average electricity consumption per consumer has been worked out by taking into consideration the developments in this sector.

1.8.2.3 Public Lighting & Public Water Works

The consumption of electricity in these two categories has been estimated based on connected load (kW) and the average electricity consumption per kilowatt of connected electric load (kWh/kW) or hours of operation. The connected electric load has been projected on the basis of past trends and improvement in public lighting and water supply facilities after giving due consideration to the steps being taken for adopting LED Lamps/ CFL for street lighting and replacement of inefficient pump sets

with BEE labeled ones in case of public water works. The number of hours of operation has been determined on the basis of past trends and taking into consideration the programme for development in future. The maximum hours of operation in case of public lighting has been considered as eleven hours per day on an average.

1.8.2.4 Irrigation

1.8.2.4.1 Pump sets/Tube wells

The electricity consumption by pump-sets/tube wells has been estimated on the basis of number of pump-sets (mid-year), average capacity of pump-sets and the average hours of operation of the pump-sets.

(i) Number of pump-sets

The number of pump-sets is based on the programme of pump-set installation furnished by Discoms/Electricity Departments, after giving due consideration to actual progress achieved in the past.

(ii) Average capacity of pump- sets

The average capacity of pump-sets has been worked out by studying the growth trend of both the connected electric load and the average capacity of pump sets in the past years. The requirement of high capacity motors for electric pumps due to depletion of ground water has also been kept in view.

(iii) Hours of operation of pumps-sets

Rising trend has been considered in most of the states to account for the increased hours of electricity supply envisaged in future,multiple cropping trend, extensive irrigation practices etc.

1.8.2.4.2 Lift Irrigation Schemes

The electricity consumption for lift irrigation schemes has been estimated on the basis of connected load and anticipated hours of operation, adopting end-use technique. The electricity consumption has been worked out on the basis of programme of development of lift irrigation schemes indicated by Discoms/ State Authorities.

1.8.2.5 Industry

The electricity requirement for the industrial sector has been estimated under three sub categories viz.

(i) L.T. Industries

(ii) H.T. Industries with demand less than 1 MW

(iii) H.T. Industries with demand of 1 MW & above.

The electricity consumption for LT Industries and HT industries with demand less than 1 MW has been projected on the basis of past trends and programmes for development in future, as indicated by state authorities. In the case of H.T. Industries with demand of 1 MW and above, projection is based on the information furnished by end users/state utilities.

1.8.2.6 Railway Traction

The estimates for this category are based on the existing requirement and the track electrification programme envisaged by Ministry of Railways/Railway Board.

1.8.2.7 Bulk Supply

The electricity consumption in this category covers electricity used in research establishments, educational institutions, hospitals, port trusts, government/defence establishments, construction supply to power projects, temporary connection etc.

Bulk supply also includes supply to Distribution Licensees which have been considered as point load by the main Distribution Licensee, open access consumers and SEZ's.

1.8.3 Total Electrical Energy Consumption at Consumer End

The projection of total electrical energy consumption at consumer's end, for each Discom, has been arrived at by aggregating the projections of electrical energy consumption of different consumer categories in the Discom.

1.8.4 Transmission and Distribution (T&D) Losses

The losses for Discoms have been taken as per the trajectory of loss reduction given by the respective Discoms. Generally, the losses in sub-transmission and distribution system is attributable to the Discom. However, as per the data received from Discoms, most of the Discoms were not able to segregate the transmission losses from the sub-transmission and distribution losses. Hence, to maintain uniformity, losses considered for each Discoms also includes the intra-state Transmission losses. T&D loss of a state would be equal to the summation of T&D loss of Discoms in the State. The inter-state transmission losses have been added to the summation of T&D losses of Discoms in the State to arrive at the overall T&D loss attributable to the State.

1.8.5 Electrical energy requirement at power station bus bars (ex-bus)

The electrical energy requirement of a Discom has been obtained by adding the Distribution losses and Transmission loss (intra-state) to the electrical energy consumption of the Discom. Electrical energy requirement for the State has been obtained as the summation of electrical energy requirement of Discoms in the State. The ex-bus electrical energy requirement of a State/UT has been worked out by adding the inter-state transmission losses to the summation of electrical energy requirement of Discoms in the State.

1.8.6 Load Factor

The load factor of a power system depends on the pattern of utilization of electrical energy by different types of load connected to the system. If the system feeds block industrial loads like aluminium and other process industries etc. having high electric load factor, the overall system load factor would also tend to be high. In regard to estimation of electric load factor for future, if the pattern of utilization of different classes of load does not differ appreciably from the past in terms of percentage of total electric load, then it was assumed that the system load factor of the past may continue. In case, the pattern is anticipated to change with respect to total electric load due to gradual withdrawal of restrictions /cuts / load shedding and under frequency conditions, then it is necessary to estimate the future electric load factor. A broad analysis to ascertain the influence of load mix on the load factor was undertaken. Based on the analysis of future electric load mix, the load factor for each Discom has been worked out.

1.8.7 Peak Electricity Demand

The flowing methodology has been adopted to work out the peak electricity demand of Discoms/States/UTs:

- Peak electricity demand for Discoms worked out by applying suitable load factor, depending on the consumer mix, on the electrical energy requirement of the Discoms.
- Peak electricity demand of the state obtained by applying suitable diversity factor to the peak electricity demand of Discoms.
- In states where peak electricity demand of individual Discoms was not available, suitable assumptions have been made for load factor and diversity in demand amongst Discoms.

- Regional peak electricity demand has been arrived at by applying diversity factor on the aggregate of non-simultaneous peak electricity demand of the States and UTs forming part of the Region.
- All India peak electricity demand has been worked out by dividing the sum of the non-simultaneous peak electricity demand of all the regions, excluding the islands, by the all-India diversity factor and then adding the annual peak electricity demand of islands to it.

Based on analysis of the diversity factors observed for the past 5-7 years, the following regional and all-India diversity factors have been adopted for the forecast period:

Diversity Factor considered for the forecast period

Region	Northern	Western	Southern	Eastern	North -Eastern	All- India
Diversity factor	1.125	1.08	1.07	1.08	1.08	1.065

1.9 Assumptions

The category wise projection of electricity consumption has been made by adopting higher growth rates of electricity consumption in the initial years on account of intense electrification planned till the year 2018-19. The assumptions broadly considered for the projection are outlined below:

- The projections of 19th EPS have been made considering the year 2015-16 as the base year.
- The projection of electricity demand has been made for the demand incident on the utility system only. The projections do not include the portion of electricity demand of Industries and other consumers that would be met from captive power plants.
- Projections of 19th EPS takes into account the reduction in electricity demand on account of aggressive DSM, improvement of energy efficiency and energy conservation measures. As per estimates made by Bureau of Energy Efficiency (BEE), the schemes for these measures would lead to savings of 95 BU electrical energy in the year 2016-17, 206 BU in the year 2021-22 and 273 BU in the year 2026-27.
- The aggregate Technical & Commercial (AT&C) losses for Distribution Companies (Discoms) have been taken as per the trajectory of loss reduction given by the respective Discoms.

- India has set its renewable energy capacity addition target to 175 GW by the year 2022 in view of the significant renewable energy potential in the country. This includes 100 GW from solar, 60 GW from wind, 10 GW from biomass and 5 GW from small hydro power. The 100 GW of solar includes 40 GW from solar rooftop and the roof-top solar installations would result in reduced demand on the utility grid.
- Power for All (PFA) initiative of Government of India/State Governments, Make in India initiative, dedicated freight corridor, electric vehicles and other developmental activities envisaged by Central/State Governments have been factored in the electricity demand projection of States/UT's.

CHAPTER – 2

All-India, State/UT, Distribution Company wise electricity demand projection for the years 2016-17 to 2026-27

Chapter-2

All-India, State/UT, Distribution Company wise Electricity Demand Projection for the years 2016-17 to 2026-27

2.0 Introduction

The 19th EPS covers the electricity demand projection for the next 20 years. viz. year-wise projections from 2016-17 to 2026-27 and perspective electricity demand projection for the years 2031-32 and 2036-37. This Chapter deals with the summary of year wise projection of electrical energy requirement and peak electricity demand for the years 2016-17 to 2026-27 for Distribution Companies, States/UTs, Regions and for the country.

2.1 Actual Electricity demand in the past

The CAGR of electrical energy requirement from the year 2010-11 to 2015-16 has been 5.28 %. Growth rate of electrical energy requirement, peak demand, electrical energy availability and actual peak met for the years 2010-11 to 2015-16 is given in Table 2.1.

Table 2.1

Electrical energy requirement, peak demand, electrical energy availability and peak met for the years 2010-11 to 2015-16

Year	Actual Electrical Energy Requirement		Actual Peak Demand		Actual Electrical Energy Availability		Actual Peak Met	
	(BU)	Growth rate (%)	(GW)	Growth rate (%)	(BU)	Growth rate (%)	(GW)	Growth rate (%)
2010-11	862		122		788		110	
2011-12	937	8.78	130	6.31	858	8.82	116	5.38
2012-13	996	6.23	135	4.19	909	5.92	123	6.11
2013-14	1002	0.67	136	0.34	960	5.63	130	5.29
2014-15	1069	6.65	148	9.01	1031	7.40	141	8.74
2015-16	1114	4.25	153	3.51	1091	5.83	148	5.17
CAGR from 2010-11 to 2015-16		5.28		4.63		6.71		6.13

Source: Power supply position, GM Division, CEA

2.2 Electricity demand projection on all-India basis from 2016-17 to 2026-27

The electrical energy consumption, electrical energy requirement, peak electricity demand, T&D losses and derived load factor on all-India basis for the years 2016-17 to 2026-27 is given in Table 2.2. CAGR of electrical energy consumption, electrical energy requirement and peak electricity demand is summarized in Table 2.3.

Table 2.2

Electrical energy consumption, electrical energy requirement, peak electricity demand, T&D losses and derived load factor on all-India basis (2016-17 to 2021-22)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Electrical energy consumption (MU)	920,837	994,382	1066,989	1144,579	1222,286	1300,486
Electrical Energy Requirement (MU)	1160,429	1240,760	1317,962	1399,913	1483,257	1566,023
Peak Electricity Demand (MW)	161,834	176,897	188,360	200,696	213,244	225,751
T&D losses (%)	20.65	19.86	19.04	18.24	17.59	16.96
Derived Load Factor (%)	81.85	80.06	79.87	79.62	79.40	79.18

Table 2.2 (Contd.)

Electrical energy consumption, electrical energy requirement, peak electricity demand, T&D losses and derived load factor on all-India basis (2022-23 to 2026-27)

	2022-23	2023-24	2024-25	2025-26	2026-27
Electrical energy consumption (MU)	1380,197	1463,505	1551,066	1644,635	1743,036
Electrical Energy Requirement (MU)	1650,594	1739,618	1836,001	1939,111	2047,434
Peak Electricity Demand (MW)	238,899	252,288	266,844	282,418	298,774
T&D losses (%)	16.38	15.87	15.52	15.19	14.87
Derived Load Factor (%)	78.87	78.71	78.54	78.38	78.23

Table 2.3

CAGR of electrical energy consumption, electrical energy requirement and peak electricity demand

	CAGR (%)		
	2015-16 to 2016-17	2016-17 to 2021-22	2021-22 to 2026-27
Electrical energy consumption	8.00	7.15	6.03
Electrical energy requirement	6.42	6.18	5.51
Peak electricity demand	9.32	6.88	5.77

The electrical energy availability during 2015-16 on all-India basis was 1091 BU. The growth in electrical energy requirement during 2016-17 would be 6.42% over the electrical energy availability during 2015-16. The CAGR of electrical energy requirement from 2016-17 to 2021-22 works out to 6.18 % and the CAGR of electrical energy requirement from 2021-22 to 2026-27 works out to 5.51%. The CAGR of electrical energy requirement in the country from the year 2010-11 to 2015-16 has been 5.28 %.

Peak electricity demand met during the year 2015-16 was 148 GW. The growth in projected peak electricity demand (unrestricted) during 2016-17 is 9.32 % over the peak electricity demand met during 2015-16. The peak electricity demand during the period April, 2016 to December, 2016 has been 159,542 MW. CAGR of peak electricity demand from 2016-17 to 2021-22 works out to 6.88 % and the CAGR of peak electricity demand for the period 2021-22 to 2026-27 works out to 5.77 %.

T&D losses during the year 2016-17, 2021-22 and 2026-27 has been estimated as 20.65 %, 16.96 % and 14.87 % respectively.

2.3 Region-wise electricity demand projection from 2016-17 to 2026-27

Projection of region-wise electrical energy requirement and peak electricity demand from the year 2016-17 to 2026-27 is given in Table 2.4 and Table 2.5 respectively.

Table 2.4

Region-wise electrical energy requirement at power station bus bars (Utilities) (2016-17 to 2021-22)

(MU)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Northern Region	356521	376550	397530	420047	443704	468196
Western Region	352304	377343	403010	429217	455250	481501
Southern Region	307047	330336	352549	376376	399047	420753
Eastern Region	128300	138862	145674	153363	162669	171228
North Eastern Region	15876	17261	18758	20437	22083	23809
Sub-total (Regions)	1160,048	1240,352	1317,521	1399,440	1482,753	1565,487
Andaman & Nicobar Islands	329	356	385	414	446	475
Lakshadweep	52	54	55	57	59	62
All - India (Electrical Energy Requirement)	**1160,429**	**1240,760**	**1317,962**	**1399,913**	**1483,257**	**1566,023**

Table 2.4 (Contd.)

Region-wise electrical energy requirement at power station bus bars (Utilities) (2022-23 to 2026-27)

(MU)

	2022-23	2023-24	2024-25	2025-26	2026-27
Northern Region	493162	519399	549833	582182	616345
Western Region	508032	535810	564915	595591	627624
Southern Region	443754	468380	494301	521717	550992
Eastern Region	179480	187906	196698	207085	217468
North Eastern Region	25598	27523	29619	31869	34301
Sub-total (Regions)	**1650,026**	**1739,018**	**1835,366**	**1938,444**	**2046,730**
Andaman & Nicobar Islands	504	535	566	598	632
Lakshadweep	64	66	68	70	73
All - India (Electrical Energy Requirement)	**1650,594**	**1739,618**	**1836,001**	**1939,111**	**2047,434**

Table 2.5

Region-wise peak electricity demand at power station bus bars (Utilities) (2016-17 to 2021-22)

(MW)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Northern Region	55596	58899	62279	65919	69766	73770
Western Region	50141	54673	58654	62728	66847	71020
Southern Region	44782	48635	52171	56007	59581	62975
Eastern Region	20883	22849	23868	25130	26633	28046
North Eastern Region	2810	3252	3537	3856	4170	4499
Peak Electricity Demand (excluding Islands)	**161,757**	**176,814**	**188,272**	**200,601**	**213,142**	**225,643**
Andaman & Nicobar Islands	67	73	78	84	91	97
Lakshadweep	10	10	10	11	11	11
All - India (Peak Electricity Demand)	**161,834**	**176,897**	**188,360**	**200,696**	**213,244**	**225,751**

Table 2.5 (Contd.)

Region-wise peak electricity demand at power station bus bars (Utilities) (2022-23 to 2026-27)

(MW)

	2022-23	2023-24	2024-25	2025-26	2026-27
Northern Region	77929	82017	86776	91835	97182
Western Region	75275	79748	84502	89528	94825
Southern Region	66710	70579	74666	79002	83652
Eastern Region	29500	30895	32319	34031	35674
North Eastern Region	4891	5319	5790	6235	6710
Peak Electricity Demand (excluding Islands)	**238,784**	**252,167**	**266,716**	**282,283**	**298,632**
Andaman & Nicobar Islands	103	109	115	122	129
Lakshadweep	12	12	13	13	13
All – India (Peak Electricity Demand)	**238,899**	**252,288**	**266,844**	**282,418**	**298,774**

2.4 State/UT-wise electricity demand projection from 2016-17 to 2026-27

State/UT-wise projection of electrical energy consumption, T&D losses, electrical energy requirement, load factor and peak electricity demand is summarized in Tables 2.6- 2.10.

Table 2.6
State/UT - wise Electrical Energy Consumption (Utilities)
(2016-17 to 2021-22)

(MU)

State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	26930	28006	29087	30197	31326	32473
Haryana	35766	38445	41344	44483	47881	51391
Himachal Pradesh	8355	8700	9061	9438	9833	10246
Jammu & Kashmir	7902	8716	9610	10600	11692	12765
Punjab	43600	46589	49686	52913	56266	59746
Rajasthan	51971	55872	59573	63962	68648	73709
Uttar Pradesh	78439	84953	92091	99564	107507	115928
Uttarakhand	11155	12048	12981	13936	14933	15978
Chandigarh	1579	1615	1680	1748	1819	1894
Northern Region	**265697**	**284945**	**305113**	**326840**	**349905**	**374128**
Goa	3574	3826	4063	4295	4527	4757
Gujarat	83745	90612	97448	104445	111625	118943
Chhattisgarh	21075	22823	24649	26548	28536	30607
Madhya Pradesh	52032	57700	63420	69079	74849	80177
Maharashtra	124129	131218	138895	147280	155055	163362
D. & N. Haveli	6021	6527	7035	7547	8066	8588
Daman & Diu	1757	1925	2057	2166	2281	2402
Western Region	**292333**	**314631**	**337567**	**361361**	**384940**	**408836**
Andhra Pradesh	48826	52623	56686	61031	65671	70679
Telangana	44608	51747	57386	63807	68613	72052
Karnataka	54720	58023	61491	65042	68783	72740
Kerala	20791	21900	23049	24236	25460	26722
Tamil Nadu	84654	90128	95888	101943	108301	114968
Puducherry	2583	2705	2827	2951	3077	3202
Southern Region	**256183**	**277125**	**297327**	**319011**	**339905**	**360363**
Bihar	14210	19446	22151	25841	29286	32006
Jharkhand	18256	19527	20983	22470	23955	25496
Odisha	17602	19074	20597	21900	23048	24157
West Bengal	44710	46572	48866	51334	53952	56644
Sikkim	317	347	372	398	426	455
Eastern Region	**95095**	**104966**	**112969**	**121944**	**130667**	**138759**
Assam	6689	7416	8223	9124	10042	10999
Manipur	807	941	1076	1218	1350	1502
Meghalaya	1402	1494	1587	1676	1762	1852
Nagaland	588	628	678	728	781	837
Tripura	895	954	1017	1078	1146	1216
Arunachal Pradesh	441	508	585	673	775	892
Mizoram	392	435	483	536	594	658
North Eastern Region	**11215**	**12377**	**13650**	**15033**	**16450**	**17956**
Andaman & Nicobar Islands	266	288	312	337	363	388
Lakshadweep	48	50	51	53	55	57
All – India (Electrical Energy Consumption)	**920,837**	**994,382**	**1066,989**	**1144,579**	**1222,286**	**1300,486**

Table 2.6 (contd.)

State/UT-wise Electrical Energy Consumption (Utilities)

(2022-23 to 2026-27)

(MU)

State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	33639	34821	36020	37235	38467
Haryana	54851	58560	62538	66809	71391
Himachal Pradesh	10678	11131	11605	12101	12621
Jammu & Kashmir	13933	15183	16536	18006	19604
Punjab	63557	67475	71508	75644	79889
Rajasthan	79184	85025	91399	98449	106051
Uttar Pradesh	123921	131833	140221	149120	158529
Uttarakhand	17073	18224	19436	20713	22062
Chandigarh	1972	2054	2141	2232	2328
Northern Region	**398809**	**424307**	**451403**	**480309**	**510941**
Goa	4989	5225	5465	5707	5951
Gujarat	126500	134320	142371	150657	159167
Chhattisgarh	32779	35089	37545	40164	42942
Madhya Pradesh	85073	90108	95307	100603	106068
Maharashtra	172236	181723	191869	202761	214415
D. & N. Haveli	9119	9664	10222	10793	11374
Daman & Diu	2530	2666	2809	2960	3120
Western Region	**433226**	**458795**	**485588**	**513644**	**543036**
Andhra Pradesh	76098	81964	87861	94235	101101
Telangana	75231	78578	82082	85794	89714
Karnataka	76844	81160	85690	90449	95441
Kerala	28024	29363	30740	32160	33718
Tamil Nadu	121993	129396	137193	145417	154071
Puducherry	3328	3459	3595	3739	3887
Southern Region	**381518**	**403920**	**427162**	**451793**	**477932**
Bihar	34332	36596	38937	42255	45292
Jharkhand	27055	28704	30447	32306	34276
Odisha	25267	26386	27575	28826	30116
West Bengal	59493	62516	65733	69176	72848
Sikkim	485	518	552	588	626
Eastern Region	**146632**	**154720**	**163244**	**173150**	**183157**
Assam	11988	13058	14216	15467	16819
Manipur	1671	1859	2076	2309	2565
Meghalaya	1947	2047	2152	2265	2382
Nagaland	895	955	1021	1091	1159
Tripura	1284	1358	1428	1504	1576
Arunachal Pradesh	1027	1182	1361	1567	1803
Mizoram	729	805	889	980	1080
North Eastern Region	**19541**	**21264**	**23144**	**25183**	**27384**
Andaman & Nicobar Islands	412	437	464	490	518
Lakshadweep	59	61	63	65	67
All – India (Electrical Energy consumption)	**1380,197**	**1463,505**	**1551,066**	**1644,635**	**1743,036**

Table 2.7
State/UT-wise T&D losses (%)
(2016-17 to 2021-22)

State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	15.68	15.31	14.95	14.65	14.35	14.04
Haryana	26.99	24.99	23.52	22.07	20.64	19.22
Himachal Pradesh	14.10	14.00	13.90	13.80	13.70	13.65
Jammu & Kashmir	46.86	43.92	40.98	38.04	35.10	32.17
Punjab	19.44	19.04	18.65	18.26	17.86	17.47
Rajasthan	29.02	27.03	25.05	23.09	21.14	19.19
Uttar Pradesh	27.42	26.57	25.70	24.84	23.98	23.12
Uttarakhand	18.65	18.40	18.26	18.06	17.86	17.67
Chandigarh	15.83	19.10	18.83	18.52	18.19	17.82
Northern Region	**25.48**	**24.33**	**23.25**	**22.19**	**21.14**	**20.09**
Goa	15.63	15.52	15.39	15.25	15.10	14.94
Gujarat	14.87	14.37	13.91	13.46	13.04	12.64
Chhattisgarh	22.42	21.76	21.46	20.66	19.75	19.11
Madhya Pradesh	24.14	23.28	22.41	21.52	20.63	19.72
Maharashtra	14.63	14.42	14.22	14.03	14.02	14.01
D. & N. Haveli	8.08	8.08	8.08	8.08	8.08	8.08
Daman & Diu	11.78	11.68	11.58	11.53	11.49	11.44
Western Region	**17.02**	**16.62**	**16.24**	**15.81**	**15.44**	**15.09**
Andhra Pradesh	10.69	10.58	10.43	10.29	10.15	10.01
Telangana	15.35	15.31	15.21	15.11	14.98	14.84
Karnataka	17.27	16.88	16.49	16.11	15.73	15.35
Kerala	15.56	15.36	15.21	15.07	14.92	14.82
Tamil Nadu	20.08	19.23	18.40	17.60	16.81	15.86
Puducherry	13.60	13.35	13.11	12.86	12.62	12.62
Southern Region	**16.57**	**16.11**	**15.66**	**15.24**	**14.82**	**14.35**
Bihar	34.21	28.91	22.65	16.69	16.69	16.69
Jharkhand	20.09	19.53	18.92	18.25	17.54	16.81
Odisha	32.37	30.83	29.28	27.73	26.18	24.89
West Bengal	22.03	21.26	20.52	19.76	19.03	18.33
Sikkim	34.55	33.38	32.20	31.02	29.84	28.66
Eastern Region	**25.88**	**24.41**	**22.45**	**20.49**	**19.67**	**18.96**
Assam	25.65	24.86	24.08	23.29	22.51	21.72
Manipur	34.94	33.67	32.41	31.14	29.87	28.61
Meghalaya	33.04	31.12	29.20	29.53	28.68	27.84
Nagaland	27.82	27.43	27.04	26.65	26.26	25.87
Tripura	29.23	28.14	27.05	25.96	24.87	23.78
Arunachal Pradesh	50.18	48.23	46.28	44.33	42.38	40.44
Mizoram	32.34	30.66	29.00	27.33	25.64	23.95
North Eastern Region	**29.36**	**28.29**	**27.23**	**26.44**	**25.51**	**24.58**
Andaman & Nicobar Islands	19.20	19.00	18.80	18.60	18.50	18.40
Lakshadweep	7.40	7.40	7.40	7.40	7.40	7.40
All- India (T&D loss)	**20.65**	**19.86**	**19.04**	**18.24**	**17.59**	**16.96**

Table 2.7 (Contd.)

State/UT-wise T&D losses (%) (2022-23 to 2026-27)

State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	13.74	13.43	13.32	13.21	13.10
Haryana	17.82	16.74	16.74	16.74	16.74
Himachal Pradesh	13.61	13.56	13.51	13.46	13.41
Jammu & Kashmir	30.21	28.25	26.29	24.33	22.37
Punjab	17.27	17.07	16.88	16.68	16.48
Rajasthan	17.33	15.98	16.00	16.01	16.03
Uttar Pradesh	22.26	21.40	20.54	19.69	18.84
Uttarakhand	17.47	17.27	17.08	16.88	16.68
Chandigarh	17.43	17.00	16.55	16.06	15.54
Northern Region	**19.13**	**18.31**	**17.90**	**17.50**	**17.10**
Goa	14.78	14.62	14.47	14.31	14.15
Gujarat	12.27	11.91	11.56	11.24	10.93
Chhattisgarh	18.37	17.75	17.15	16.58	15.94
Madhya Pradesh	18.80	17.88	16.95	16.18	15.41
Maharashtra	14.01	14.00	14.03	14.07	14.11
D. & N. Haveli	8.08	8.08	8.08	8.08	8.08
Daman & Diu	11.39	11.34	11.29	11.29	11.29
Western Region	**14.72**	**14.37**	**14.04**	**13.76**	**13.48**
Andhra Pradesh	9.87	9.73	9.59	9.45	9.31
Telangana	14.64	14.44	14.30	14.16	14.02
Karnataka	14.98	14.61	14.24	13.87	13.52
Kerala	14.72	14.62	14.52	14.43	14.33
Tamil Nadu	15.37	15.07	14.97	14.87	14.87
Puducherry	12.62	12.62	12.62	12.62	12.62
Southern Region	**14.02**	**13.76**	**13.58**	**13.40**	**13.26**
Bihar	16.69	16.69	16.69	16.69	16.69
Jharkhand	16.00	15.20	14.34	13.51	12.68
Odisha	23.83	22.77	21.71	20.65	19.59
West Bengal	17.62	16.94	16.22	15.55	14.89
Sikkim	27.49	26.31	25.13	23.96	22.78
Eastern Region	**18.30**	**17.66**	**17.01**	**16.39**	**15.78**
Assam	20.94	20.15	19.37	18.58	17.80
Manipur	27.34	26.07	24.81	23.54	22.27
Meghalaya	27.00	26.15	25.78	25.41	25.04
Nagaland	25.48	25.09	24.70	24.31	23.91
Tripura	22.69	21.60	20.51	19.42	18.33
Arunachal Pradesh	38.49	36.54	34.59	32.64	30.69
Mizoram	22.20	20.48	18.76	17.02	17.37
North Eastern Region	**23.66**	**22.74**	**21.86**	**20.98**	**20.16**
Andaman & Nicobar Islands	18.30	18.20	18.10	18.00	18.00
Lakshadweep	7.40	7.41	7.41	7.41	7.41
All- India (T&D loss)	**16.38**	**15.87**	**15.52**	**15.19**	**14.87**

Table 2.8

State/UT-wise Electrical Energy Requirement at power station bus bars (Utilities) (2016-17 to 2021-22)

(MU)

State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	31937	33070	34201	35380	36573	37778
Haryana	48991	51254	54062	57083	60336	63618
Himachal Pradesh	9726	10116	10523	10949	11394	11866
Jammu & Kashmir	14871	15543	16283	17109	18017	18819
Punjab	54118	57548	61076	64730	68502	72392
Rajasthan	73222	76569	79485	83168	87051	91216
Uttar Pradesh	108070	115688	123951	132476	141426	150797
Uttarakhand	13712	14766	15880	17007	18181	19406
Chandigarh	1876	1997	2070	2145	2223	2304
Northern Region	**356521**	**376550**	**397530**	**420047**	**443704**	**468196**
Goa	4236	4529	4802	5068	5332	5593
Gujarat	98376	105823	113187	120693	128368	136159
Chhattisgarh	27167	29171	31383	33463	35559	37840
Madhya Pradesh	68588	75209	81732	88022	94301	99871
Maharashtra	145396	153331	161926	171313	180338	189983
D. & N. Haveli	6550	7100	7653	8210	8775	9343
Daman & Diu	1991	2179	2327	2449	2577	2712
Western Region	**352304**	**377343**	**403010**	**429217**	**455250**	**481501**
Andhra Pradesh	54673	58846	63290	68034	73090	78540
Telangana	52695	61102	67680	75164	80700	84603
Karnataka	66146	69808	73636	77532	81622	85932
Kerala	24622	25875	27184	28535	29924	31371
Tamil Nadu	105923	111583	117505	123724	130189	136643
Puducherry	2990	3121	3254	3387	3521	3664
Southern Region	**307047**	**330336**	**352549**	**376376**	**399047**	**420753**
Bihar	21599	27352	28637	31017	35152	38416
Jharkhand	22847	24266	25880	27488	29052	30649
Odisha	26028	27575	29124	30302	31224	32164
West Bengal	57342	59148	61485	63979	66634	69361
Sikkim	484	520	548	577	607	638
Eastern Region	**128300**	**138862**	**145674**	**153363**	**162669**	**171228**
Assam	8997	9870	10831	11894	12959	14051
Manipur	1240	1419	1592	1769	1925	2103
Meghalaya	2094	2168	2242	2378	2470	2566
Nagaland	815	866	930	992	1059	1129
Tripura	1265	1328	1394	1456	1525	1595
Arunachal Pradesh	886	982	1089	1210	1345	1498
Mizoram	580	628	681	737	799	866
North Eastern Region	**15876**	**17261**	**18758**	**20437**	**22083**	**23809**
Andaman & Nicobar Islands	329	356	385	414	446	475
Lakshadweep	52	54	55	57	59	62
All- India (Electrical energy requirement)	**1160,429**	**1240,760**	**1317,962**	**1399,913**	**1483,257**	**1566,023**

Table 2.8 (Contd.)

State/UT-wise Electrical Energy Requirement at power station bus bars (Utilities) (2022-23 to 2026-27)

(MU)

State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	38997	40224	41557	42904	44267
Haryana	66747	70333	75110	80239	85743
Himachal Pradesh	12360	12876	13417	13983	14576
Jammu & Kashmir	19963	21161	22433	23795	25254
Punjab	76826	81369	86027	90789	95658
Rajasthan	95782	101200	108808	117219	126290
Uttar Pradesh	159412	167731	176477	185674	195323
Uttarakhand	20687	22029	23438	24920	26480
Chandigarh	2388	2475	2566	2659	2756
Northern Region	**493162**	**519399**	**549833**	**582182**	**616345**
Goa	5855	6120	6389	6660	6932
Gujarat	144186	152475	160989	169732	178693
Chhattisgarh	40155	42661	45315	48146	51088
Madhya Pradesh	104772	109727	114765	120027	125394
Maharashtra	200288	211307	223171	235949	249628
D. & N. Haveli	9920	10513	11120	11741	12373
Daman & Diu	2855	3006	3166	3337	3517
Western Region	**508032**	**535810**	**564915**	**595591**	**627624**
Andhra Pradesh	84429	90794	97181	104072	111485
Telangana	88130	91836	95776	99945	104345
Karnataka	90381	95042	99916	105017	110368
Kerala	32861	34393	35964	37582	39357
Tamil Nadu	144145	152357	161349	170822	180989
Puducherry	3809	3959	4114	4279	4448
Southern Region	**443754**	**468380**	**494301**	**521717**	**550992**
Bihar	41208	43926	46735	50717	54363
Jharkhand	32209	33850	35544	37354	39252
Odisha	33172	34163	35219	36326	37453
West Bengal	72222	75264	78463	81915	85590
Sikkim	669	702	737	773	810
Eastern Region	**179480**	**187906**	**196698**	**207085**	**217468**
Assam	15164	16355	17631	18998	20462
Manipur	2300	2515	2760	3020	3300
Meghalaya	2667	2771	2900	3036	3177
Nagaland	1200	1275	1356	1441	1524
Tripura	1661	1731	1796	1866	1930
Arunachal Pradesh	1669	1863	2081	2326	2601
Mizoram	937	1013	1095	1181	1307
North Eastern Region	**25598**	**27523**	**29619**	**31869**	**34301**
Andaman & Nicobar Islands	504	535	566	598	632
Lakshadweep	64	66	68	70	73
All- India (Electrical energy requirement)	**1650,594**	**1739,618**	**1836,001**	**1939,111**	**2047,434**

Table 2.9
State/UT - wise Load Factor (%)
(2016-17 to 2021-22)

State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	56.34	56.35	56.35	56.35	56.36	56.36
Haryana	58.11	58.12	58.14	58.16	58.18	58.21
Himachal Pradesh	70.00	70.00	70.00	70.00	70.00	70.00
Jammu & Kashmir	73.00	72.00	71.00	70.00	69.00	68.00
Punjab	52.61	52.61	53.11	53.61	54.11	54.61
Rajasthan	70.24	70.20	70.14	70.07	69.99	69.92
Uttar Pradesh	75.71	74.93	74.13	73.34	72.53	71.73
Uttarakhand	71.40	70.80	70.20	69.60	69.00	68.40
Chandigarh	52.00	52.00	52.00	52.00	52.00	52.00
Northern Region	**73.20**	**72.98**	**72.87**	**72.74**	**72.60**	**72.45**
Goa	75.72	74.91	74.25	73.67	73.14	72.65
Gujarat	72.48	72.39	72.29	72.19	72.08	71.97
Chhattisgarh	70.28	69.86	69.48	69.15	68.84	68.55
Madhya Pradesh	70.00	70.00	70.00	70.00	70.00	70.00
Maharashtra	78.33	75.13	74.53	73.96	73.29	72.65
D. & N. Haveli	83.77	82.93	82.11	81.28	80.47	79.67
Daman & Diu	70.00	70.00	70.00	70.00	70.00	70.00
Western Region	**80.21**	**78.79**	**78.44**	**78.11**	**77.74**	**77.40**
Andhra Pradesh	75.38	75.38	75.38	75.38	75.38	75.39
Telangana	71.35	68.59	67.54	66.45	65.93	65.58
Karnataka	68.93	68.81	68.70	68.58	68.47	68.36
Kerala	67.00	67.00	67.00	67.00	67.00	67.00
Tamil Nadu	77.66	77.36	77.06	76.76	76.46	76.16
Puducherry	70.00	70.00	70.00	70.00	70.00	70.00
Southern Region	**78.27**	**77.54**	**77.14**	**76.71**	**76.46**	**76.27**
Bihar	67.00	64.66	65.34	65.38	65.38	65.37
Jharkhand	65.97	65.54	66.64	66.56	66.64	66.54
Odisha	68.57	68.60	68.59	68.53	68.42	68.32
West Bengal	62.61	62.00	61.87	61.88	61.97	61.98
Sikkim	42.00	42.00	42.00	42.00	42.00	42.00
Eastern Region	**70.13**	**69.38**	**69.67**	**69.67**	**69.72**	**69.69**
Assam	65.00	58.00	58.00	58.00	58.00	58.00
Manipur	59.50	59.00	58.50	58.00	57.50	57.00
Meghalaya	57.66	57.66	57.66	57.66	57.66	57.66
Nagaland	54.80	54.60	54.40	54.20	54.00	53.80
Tripura	48.12	47.72	47.32	46.92	46.52	46.12
Arunachal Pradesh	60.00	60.00	60.00	60.00	60.00	60.00
Mizoram	54.45	54.75	55.05	55.35	55.65	55.95
North Eastern Region	**64.50**	**60.59**	**60.54**	**60.51**	**60.46**	**60.41**
Andaman & Nicobar Islands	56.00	56.00	56.00	56.00	56.00	56.00
Lakshadweep	62.00	62.00	62.00	62.00	62.00	62.00
All - India (Load Factor)	**81.85**	**80.06**	**79.87**	**79.62**	**79.40**	**79.18**

Table 2.9 (Contd.)
State/UT - wise Load Factor (%)
(2022-23 to 2026-27)

State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	56.36	56.36	56.37	56.37	56.38
Haryana	58.22	58.25	58.26	58.27	58.28
Himachal Pradesh	70.00	70.00	70.00	70.00	70.00
Jammu & Kashmir	67.00	66.00	65.00	64.00	63.00
Punjab	55.11	55.61	56.11	56.61	57.11
Rajasthan	69.84	69.78	69.66	69.54	69.42
Uttar Pradesh	70.84	70.83	70.81	70.80	70.78
Uttarakhand	67.80	67.20	66.60	66.00	65.40
Chandigarh	52.00	52.00	52.00	52.00	52.00
Northern Region	**72.24**	**72.29**	**72.33**	**72.37**	**72.40**
Goa	72.19	71.75	71.32	70.92	70.53
Gujarat	71.85	71.72	71.59	71.45	71.30
Chhattisgarh	68.29	68.05	67.83	67.63	67.45
Madhya Pradesh	70.00	70.00	70.00	70.00	70.00
Maharashtra	71.98	71.35	70.63	69.95	69.24
D. & N. Haveli	78.87	78.08	77.30	76.53	75.76
Daman & Diu	70.00	70.00	70.00	70.00	70.00
Western Region	**77.04**	**76.70**	**76.32**	**75.94**	**75.56**
Andhra Pradesh	75.39	75.39	75.37	75.36	75.35
Telangana	64.57	64.16	63.75	63.32	62.87
Karnataka	68.25	68.14	68.03	67.92	67.80
Kerala	67.00	67.00	67.00	67.00	67.00
Tamil Nadu	75.86	75.56	75.26	74.96	74.66
Puducherry	70.00	70.00	70.00	70.00	70.00
Southern Region	**75.94**	**75.76**	**75.57**	**75.39**	**75.19**
Bihar	65.36	65.35	65.34	65.37	65.35
Jharkhand	66.63	66.57	66.64	66.57	66.79
Odisha	68.20	68.09	67.97	67.85	67.72
West Bengal	61.48	61.51	61.63	61.65	61.89
Sikkim	42.00	42.00	42.00	42.00	42.00
Eastern Region	**69.45**	**69.43**	**69.48**	**69.47**	**69.59**
Assam	57.00	56.00	55.00	55.00	55.00
Manipur	56.50	56.00	55.50	55.00	55.00
Meghalaya	57.66	57.66	57.66	57.66	57.66
Nagaland	53.60	53.40	53.20	53.00	52.80
Tripura	45.72	45.32	44.92	44.52	44.12
Arunachal Pradesh	60.00	60.00	60.00	60.00	60.00
Mizoram	56.25	56.55	56.85	57.15	57.45
North Eastern Region	**59.75**	**59.07**	**58.40**	**58.35**	**58.35**
Andaman & Nicobar Islands	56.00	56.00	56.00	56.00	56.00
Lakshadweep	62.00	62.00	62.00	62.00	62.00
All- India (Load Factor)	**78.87**	**78.71**	**78.54**	**78.38**	**78.23**

Table 2.10

State/UT-wise Peak Electricity Demand at power station bus bars (Utilities) (2016-17 to 2021-22)

(MW)

State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	6318	6541	6764	6997	7233	7471
Haryana	9428	9861	10397	10975	11596	12222
Himachal Pradesh	1555	1618	1683	1751	1822	1898
Jammu & Kashmir	2278	2414	2565	2733	2920	3095
Punjab	11551	12283	12914	13559	14216	14886
Rajasthan	11535	12070	12540	13133	13761	14435
Uttar Pradesh	16067	17379	18821	20334	21948	23664
Uttarakhand	2153	2338	2536	2739	2953	3180
Chandigarh	400	425	441	457	474	491
Northern Region	**55596**	**58899**	**62279**	**65919**	**69766**	**73770**
Goa	624	674	721	767	813	858
Gujarat	15373	16558	17734	18937	20172	21429
Chhattisgarh	4348	4697	5080	5442	5809	6208
Madhya Pradesh	10766	11805	12829	13816	14802	15676
Maharashtra	20446	22491	23953	25544	27148	28866
D. & N. Haveli	861	943	1026	1112	1201	1291
Daman & Diu	313	343	366	385	405	426
Western Region	**50141**	**54673**	**58654**	**62728**	**66847**	**71020**
Andhra Pradesh	8245	8874	9544	10259	11021	11843
Telangana	8300	10011	11262	12712	13757	14499
Karnataka	10895	11517	12169	12834	13534	14271
Kerala	4131	4341	4561	4788	5021	5263
Tamil Nadu	15412	16299	17230	18213	19240	20273
Puducherry	476	497	518	539	561	583
Southern Region	**44782**	**48635**	**52171**	**56007**	**59581**	**62975**
Bihar	3607	4733	4904	5308	6016	6576
Jharkhand	3905	4175	4378	4656	4915	5193
Odisha	4306	4560	4816	5016	5176	5340
West Bengal	10383	10817	11267	11724	12191	12688
Sikkim	129	139	146	154	162	170
Eastern Region	**20883**	**22849**	**23868**	**25130**	**26633**	**28046**
Assam	1550	1906	2091	2297	2502	2713
Manipur	232	267	303	339	372	410
Meghalaya	399	413	427	453	470	488
Nagaland	166	177	191	204	219	234
Tripura	297	315	333	351	371	391
Arunachal Pradesh	164	182	202	224	249	278
Mizoram	118	127	137	148	159	171
North Eastern Region	**2810**	**3252**	**3537**	**3856**	**4170**	**4499**
Andaman & Nicobar Islands	67	73	78	84	91	97
Lakshadweep	10	10	10	11	11	11
All - India (Peak Electricity Demand)	**161,834**	**176,897**	**188,360**	**200,696**	**213,244**	**225,751**

Table 2.10 (Contd.)

State/UT-wise Peak Electricity Demand at power station bus bars (Utilities) (2022-23 to 2026-27)

(MW)

State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	7712	7954	8217	8482	8751
Haryana	12819	13501	14415	15398	16451
Himachal Pradesh	1977	2059	2146	2236	2331
Jammu & Kashmir	3332	3585	3859	4157	4482
Punjab	15654	16431	17217	18009	18809
Rajasthan	15176	16048	17282	18651	20131
Uttar Pradesh	25331	26658	28053	29522	31064
Uttarakhand	3420	3675	3945	4232	4538
Chandigarh	509	527	546	566	587
Northern Region	77929	82017	86776	91835	97182
Goa	904	951	999	1047	1096
Gujarat	22730	24079	25471	26908	28387
Chhattisgarh	6613	7050	7513	8006	8518
Madhya Pradesh	16445	17223	18014	18840	19682
Maharashtra	30725	32717	34911	37269	39828
D. & N. Haveli	1385	1483	1584	1689	1798
Daman & Diu	449	473	498	525	553
Western Region	75275	79748	84502	89528	94825
Andhra Pradesh	12731	13690	14656	15698	16820
Telangana	15338	16086	16885	17738	18653
Karnataka	15033	15834	16674	17554	18481
Kerala	5513	5770	6034	6305	6603
Tamil Nadu	21471	22784	24225	25750	27392
Puducherry	606	630	655	681	708
Southern Region	66710	70579	74666	79002	83652
Bihar	7054	7521	8003	8681	9308
Jharkhand	5450	5733	6013	6326	6626
Odisha	5517	5691	5878	6073	6273
West Bengal	13318	13873	14435	15065	15680
Sikkim	179	187	197	206	216
Eastern Region	29500	30895	32319	34031	35674
Assam	2979	3271	3590	3868	4166
Manipur	453	499	553	611	667
Meghalaya	508	528	552	578	605
Nagaland	250	266	284	303	322
Tripura	411	432	452	474	495
Arunachal Pradesh	309	345	386	431	482
Mizoram	185	199	213	229	252
North Eastern Region	4891	5319	5790	6235	6710
Andaman & Nicobar Islands	103	109	115	122	129
Lakshadweep	12	12	13	13	13
All - India (Peak Electricity Demand)	238,899	252,288	266,844	282,418	298,774

2.5 Distribution Company (Discom)-wise electricity demand projection from 2016-17 to 2026-27

Discom-wise electricity demand projection from the year 2016-17 to 2026-27 is given in Tables 2.11-2.14. The medium/long term projection of electricity demand has been done for 66 Discoms, 36 States/UT's, 5 Regions and for the country. Since, some of the small distribution licensees (eg KESCO, JUSCO etc.) did not furnish data separately they have been considered as bulk supply load of main distribution licensee.

Table 2.11

Distribution Company wise Electrical Energy Consumption (2016-17 to 2021-22)

(MU)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi – NDMC	1379	1404	1430	1456	1483	1511
Delhi – BYPL	5906	6172	6451	6744	7044	7350
Delhi – BRPL	11049	11487	11943	12417	12903	13403
Delhi – TPDDL	8370	8710	9023	9333	9641	9948
Delhi – MES	226	233	240	247	255	262
DELHI	26930	28006	29087	30197	31326	32473
Haryana- DHBVN	20711	22455	24347	26400	28629	31049
Haryana – UHBVN	15055	15990	16997	18082	19252	20341
HARYANA	35766	38445	41344	44483	47881	51391
Himachal Pradesh-Discom	8355	8700	9061	9438	9833	10246
HIMACHAL PRADESH	8355	8700	9061	9438	9833	10246
Jammu & Kashmir-Discom	7902	8716	9610	10600	11692	12765
JAMMU & KASHMIR	7902	8716	9610	10600	11692	12765
Punjab-Discom	43600	46589	49686	52913	56266	59746
PUNJAB	43600	46589	49686	52913	56266	59746
Rajasthan – AVVNL	14177	15178	16122	17170	18335	19578
Rajasthan – JdVVNL	18204	19853	21425	23236	25190	27413
Rajasthan – JVVNL	19589	20842	22026	23556	25122	26718
RAJASTHAN	51971	55872	59573	63962	68648	73709
Uttar Pradesh – MVVNL	14136	15695	17396	19189	21132	23229
Uttar Pradesh – PUVVNL	17972	19553	21271	22979	24710	26447
Uttar Pradesh – PVVNL	24752	26689	28773	31018	33434	36037
Uttar Pradesh – DVVNL	20035	21433	22921	24500	26173	27927
Uttar Pradesh – NPC	1544	1582	1730	1878	2058	2288
UTTAR PRADESH	78439	84953	92091	99564	107507	115928
Uttarakhand-Discom	11155	12048	12981	13936	14933	15978
UTTARAKHAND	11155	12048	12981	13936	14933	15978
CHANDIGARH	1579	1615	1680	1748	1819	1894
NORTHERN REGION	265697	284945	305113	326840	349905	374128
Goa-Discom	3574	3826	4063	4295	4527	4757
GOA	3574	3826	4063	4295	4527	4757
Gujarat – MGVCL	10184	11052	11927	12823	13746	14692
Gujarat – DGVCL	16622	18236	19849	21525	23277	25101
Gujarat – UGVCL	20347	22090	23768	25459	27168	28879
Gujarat – PGVCL	26011	28062	30130	32259	34447	36681
Gujarat – TORRENT	10580	11172	11774	12380	12988	13590
GUJARAT	83745	90612	97448	104445	111625	118943
Chhattisgarh-Discom	21075	22823	24649	26548	28536	30607
CHHATTISGARH	21075	22823	24649	26548	28536	30607
Madhya Pradesh – CENTRAL DISCOM	16891	18676	20452	22305	24263	25965
Madhya Pradesh – EASTERN DISCOM	15778	17609	19457	21276	23216	24924
Madhya Pradesh – WESTERN DISCOM	19363	21415	23511	25498	27371	29287
MADHYA PRADESH	52032	57700	63420	69079	74849	80177

Table 2.11 (Contd.)

Distribution Company wise Electrical Energy Consumption (2016-17 to 2021-22)

(MU)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Maharashtra – BEST	4541	4602	4666	4730	4795	4861
Maharashtra – TATA	4073	4270	4473	4743	4989	5243
Maharashtra – RELIANCE	10380	10659	10943	11232	11526	11825
Maharashtra – MSEDCL	105135	111686	118812	126575	133745	141432
MAHARASHTRA	124129	131218	138895	147280	155055	163362
D. & N. HAVELI	6021	6527	7035	7547	8066	8588
DAMAN & DIU	1757	1925	2057	2166	2281	2402
WESTERN REGION	292333	314631	337567	361361	384940	408836
Andhra Pradesh – EPDCL	17753	19142	20628	22219	23921	25743
Andhra Pradesh – SPDCL	31072	33481	36058	38813	41750	44936
ANDHRA PRADESH	48826	52623	56686	61031	65671	70679
Telangana – NPDCL	12528	17341	20368	24100	26118	27127
Telangana – SPDCL	32081	34406	37017	39707	42495	44925
TELANGANA	44608	51747	57386	63807	68613	72052
Karnataka – BESCOM	26002	27301	28664	30000	31396	32866
Karnataka – CESCOM	6170	6714	7297	7908	8564	9274
Karnataka – GESCOM	6767	7131	7478	7861	8254	8656
Karnataka – HESCOM	11177	11970	12811	13702	14653	15651
Karnataka – MESCOM	4604	4907	5241	5572	5916	6293
KARNATAKA	54720	58023	61491	65042	68783	72740
Kerala-Discom	20791	21900	23049	24236	25460	26722
KERALA	20791	21900	23049	24236	25460	26722
Tamil Nadu-Discom	84654	90128	95888	101943	108301	114968
TAMIL NADU	84654	90128	95888	101943	108301	114968
PUDUCHERRY	2583	2705	2827	2951	3077	3202
SOUTHERN REGION	256183	277125	297327	319011	339905	360363
Bihar – SBPDCL	8262	10841	11880	13696	15497	17029
Bihar – NBPDCL	5949	8604	10271	12145	13789	14977
BIHAR	14210	19446	22151	25841	29286	32006
Jharkhand – DVC	6115	6399	6696	7007	7333	7673
Jharkhand – TATA STEEL	3010	3070	3185	3249	3332	3398
Jharkhand – JBVNL	9132	10059	11103	12214	13290	14425
JHARKHAND	18256	19527	20983	22470	23955	25496
Odisha – CESU	6166	6793	7481	8105	8668	9169
Odisha – SOUTHCO	2451	2797	3133	3364	3481	3603
Odisha – WESCO	5079	5278	5487	5706	5937	6178
Odisha - NESCO	3905	4207	4496	4724	4963	5208
ODISHA	17602	19074	20597	21900	23048	24157
West Bengal – CESC	9525	9764	10062	10363	10666	10971
West Bengal – DPL	1825	1921	2020	2124	2233	2346
West Bengal – IPCL	818	844	901	1001	1122	1146
West Bengal – WBSEDCL	25328	26123	27184	28293	29437	30653
West Bengal – DVC	7213	7921	8699	9554	10494	11527
WEST BENGAL	44710	46572	48866	51334	53952	56644
Sikkim-Discom	317	347	372	398	426	455
SIKKIM	317	347	372	398	426	455

Table 2.11 (Contd.)

Distribution Company wise Electrical Energy Consumption (2016-17 to 2021-22)

(MU)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
EASTERN REGION	95095	104966	112969	121944	130667	138759
Assam-Discom	6689	7416	8223	9124	10042	10999
ASSAM	6689	7416	8223	9124	10042	10999
Manipur-Discom	807	941	1076	1218	1350	1502
MANIPUR	807	941	1076	1218	1350	1502
Meghalaya-Discom	1402	1494	1587	1676	1762	1852
MEGHALAYA	1402	1494	1587	1676	1762	1852
Nagaland-Discom	588	628	678	728	781	837
NAGALAND	588	628	678	728	781	837
Tripura-Discom	895	954	1017	1078	1146	1216
TRIPURA	895	954	1017	1078	1146	1216
Arunachal Pradesh-Discom	441	508	585	673	775	892
ARUNACHAL PRADESH	441	508	585	673	775	892
Mizoram-Discom	392	435	483	536	594	658
MIZORAM	392	435	483	536	594	658
NORTH EASTERN REGION	11215	12377	13650	15033	16450	17956
ANDAMAN & NICOBAR ISLANDS	266	288	312	337	363	388
LAKSHADWEEP	48	50	51	53	55	57
All - India (Electrical Energy Consumption)	920,837	994,382	1066,989	1144,579	1222,286	1300,486

Table 2.11 (Contd.)

Distribution Company wise Electrical Energy Consumption (2022-23 to 2026-27)

(MU)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi – NDMC	1539	1567	1596	1626	1657
Delhi – BYPL	7661	7977	8296	8619	8945
Delhi – BRPL	13916	14442	14980	15531	16094
Delhi – TPDDL	10253	10558	10861	11164	11467
Delhi – MES	270	278	286	295	304
DELHI	33639	34821	36020	37235	38467
Haryana- DHBVN	33349	35821	38480	41343	44423
Haryana – UHBVN	21502	22739	24058	25466	26968
HARYANA	54851	58560	62538	66809	71391
Himachal Pradesh-Discom	10678	11131	11605	12101	12621
HIMACHAL PRADESH	10678	11131	11605	12101	12621
Jammu & Kasmir- Discom	13933	15183	16536	18006	19604
JAMMU & KASHMIR	13933	15183	16536	18006	19604
Punjab-Discom	63557	67475	71508	75644	79889
PUNJAB	63557	67475	71508	75644	79889
Rajasthan - AVVNL	20944	22372	23895	25610	27423
Rajasthan - JdVVNL	29813	32415	35296	38499	42038
Rajasthan - JVVNL	28428	30239	32208	34339	36590
RAJASTHAN	79184	85025	91399	98449	106051
Uttar Pradesh - MVVNL	25395	27684	30117	32693	35405
Uttar Pradesh – PUVVNL	27965	29416	30941	32553	34248
Uttar Pradesh - PVVNL	38340	40612	43017	45564	48254
Uttar Pradesh - DVVNL	29672	31276	32964	34742	36613
Uttar Pradesh - NPC	2548	2845	3182	3568	4009
UTTAR PRADESH	123921	131833	140221	149120	158529
Uttarakhand-Discom	17073	18224	19436	20713	22062
UTTARAKHAND	17073	18224	19436	20713	22062
CHANDIGARH	1972	2054	2141	2232	2328
NORTHERN REGION	398809	424307	451403	480309	510941
Goa-Discom	4989	5225	5465	5707	5951
GOA	4989	5225	5465	5707	5951
Gujarat - MGVCL	15672	16694	17757	18866	20013
Gujarat - DGVCL	26997	28972	31002	33112	35291
Gujarat - UGVCL	30636	32444	34300	36198	38135
Gujarat - PGVCL	38994	41390	43865	46401	49011
Gujarat - TORRENT	14201	14820	15447	16080	16717
GUJARAT	126500	134320	142371	150657	159167

Table 2.11 (Contd.)

Distribution Company wise Electrical Energy Consumption (2022-23 to 2026-27)

(MU)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Chhattisgarh-Discom	32779	35089	37545	40164	42942
CHHATTISGARH	32779	35089	37545	40164	42942
Madhya Pradesh - CENTRAL DISCOM	27460	28894	30348	31834	33371
Madhya Pradesh - EASTERN DISCOM	26352	27853	29381	30935	32543
Madhya Pradesh - WESTERN DISCOM	31261	33361	35577	37834	40154
MADHYA PRADESH	85073	90108	95307	100603	106068
Maharashtra - BEST	4928	4996	5065	5135	5206
Maharashtra - TATA	5503	5770	6045	6341	6647
Maharashtra - RELIANCE	12129	12441	12761	13090	13427
Maharashtra - MSEDCL	149676	158516	167998	178194	189134
MAHARASHTRA	172236	181723	191869	202761	214415
D. & N. HAVELI	9119	9664	10222	10793	11374
DAMAN & DIU	2530	2666	2809	2960	3120
WESTERN REGION	433226	458795	485588	513644	543036
Andhra Pradesh - EPDCL	27704	29816	31639	33577	35623
Andhra Pradesh - SPDCL	48394	52147	56222	60658	65478
ANDHRA PRADESH	76098	81964	87861	94235	101101
Telangana - NPDCL	28173	29253	30368	31524	32715
Telangana - SPDCL	47059	49325	51714	54269	56999
TELANGANA	75231	78578	82082	85794	89714
Karnataka - BESCOM	34389	35992	37673	39444	41290
Karnataka - CESCOM	10019	10815	11667	12574	13540
Karnataka - GESCOM	9066	9485	9912	10347	10790
Karnataka - HESCOM	16704	17817	18988	20221	21514
Karnataka - MESCOM	6665	7051	7451	7863	8307
KARNATAKA	76844	81160	85690	90449	95441
Kerala-Discom	28024	29363	30740	32160	33718
KERALA	28024	29363	30740	32160	33718
Tamil Nadu-Discom	121993	129396	137193	145417	154071
TAMIL NADU	121993	129396	137193	145417	154071
PUDUCHERRY	3328	3459	3595	3739	3887
SOUTHERN REGION	381518	403920	427162	451793	477932
Bihar - SBPDCL	18389	19725	21086	22458	24396
Bihar - NBPDCL	15943	16871	17851	19796	20896
BIHAR	34332	36596	38937	42255	45292

Table 2.11 (Contd.)

Distribution Company wise Electrical Energy Consumption (2022-23 to 2026-27)

(MU)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Jharkhand - DVC	8048	8442	8855	9288	9742
Jharkhand - TATA STEEL	3467	3536	3607	3679	3752
Jharkhand - JBVNL	15540	16727	17986	19339	20782
JHARKHAND	27055	28704	30447	32306	34276
Odisha - CESU	9644	10100	10591	11103	11633
Odisha - SOUTHCO	3730	3860	3994	4129	4269
Odisha - WESCO	6432	6698	6978	7276	7589
Odisha - NESCO	5462	5728	6011	6317	6625
ODISHA	25267	26386	27575	28826	30116
West Bengal - CESC	11280	11591	11905	12224	12546
West Bengal - DPL	2466	2591	2721	2858	3001
West Bengal - IPCL	1173	1198	1225	1253	1281
West Bengal - WBSEDCL	31911	33224	34597	36043	37558
West Bengal - DVC	12663	13912	15285	16798	18462
WEST BENGAL	59493	62516	65733	69176	72848
Sikkim-Discom	485	518	552	588	626
SIKKIM	485	518	552	588	626
EASTERN REGION	146632	154720	163244	173150	183157
Assam-Discom	11988	13058	14216	15467	16819
ASSAM	11988	13058	14216	15467	16819
Manipur-Discom	1671	1859	2076	2309	2565
MANIPUR	1671	1859	2076	2309	2565
Meghalaya-Discom	1947	2047	2152	2265	2382
MEGHALAYA	1947	2047	2152	2265	2382
Nagaland-Discom	895	955	1021	1091	1159
NAGALAND	895	955	1021	1091	1159
Tripura-Discom	1284	1358	1428	1504	1576
TRIPURA	1284	1358	1428	1504	1576
Arunachal Pradesh-Discom	1027	1182	1361	1567	1803
ARUNACHAL PRADESH	1027	1182	1361	1567	1803
Mizoram-Discom	729	805	889	980	1080
MIZORAM	729	805	889	980	1080
NORTH EASTERN REGION	19541	21264	23144	25183	27384
ANDAMAN & NICOBAR ISLANDS	412	437	464	490	518
LAKSHADWEEP	59	61	63	65	67
All- India (Electrical Energy Consumption)	1380,197	1463,505	1551,066	1644,635	1743,036

Table 2.12

Distribution Company wise T&D loss (%)

(2016-17 to 2021-22)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi – NDMC	13.82	13.72	13.62	13.52	13.42	13.32
Delhi – BYPL	18.64	18.19	17.74	17.29	16.84	16.39
Delhi – BRPL	13.70	13.20	12.70	12.20	11.70	11.20
Delhi – TPDDL	9.70	9.50	9.30	9.30	9.30	9.30
Delhi – MES	9.43	9.43	9.43	9.43	9.43	9.43
DELHI	15.68	15.31	14.95	14.65	14.35	14.04
Haryana – DHBVN	22.00	20.00	19.00	18.00	17.00	16.00
Haryana – UHBVN	29.77	27.77	25.77	23.77	21.77	19.77
HARYANA	26.99	24.99	23.52	22.07	20.64	19.22
Himachal Pradesh-Discom	12.40	12.30	12.20	12.10	12.00	11.95
HIMACHAL PRADESH	14.10	14.00	13.90	13.80	13.70	13.65
Jammu & Kashmir-Discom	45.75	42.75	39.75	36.75	33.75	30.75
JAMMU & KASHMIR	46.86	43.92	40.98	38.04	35.10	32.17
Punjab-Discom	18.10	17.70	17.30	16.90	16.50	16.10
PUNJAB	19.44	19.04	18.65	18.26	17.86	17.47
Rajasthan - AVVNL	26.30	24.23	22.17	20.11	18.04	15.98
Rajasthan - JdVVNL	23.46	21.91	20.37	18.82	17.27	15.72
Rajasthan - JVVNL	29.92	27.54	25.15	22.77	20.39	18.01
RAJASTHAN	29.02	27.03	25.05	23.09	21.14	19.19
Uttar Pradesh - MVVNL	25.10	24.20	23.30	22.40	21.50	20.60
Uttar Pradesh – PUVVNL	26.00	25.20	24.40	23.60	22.80	22.00
Uttar Pradesh - PVVNL	25.30	24.60	23.90	23.20	22.50	21.80
Uttar Pradesh - DVVNL	29.90	28.80	27.70	26.60	25.50	24.40
Uttar Pradesh - NPC	8.56	8.57	8.75	8.80	8.85	8.90
UTTAR PRADESH	27.42	26.57	25.70	24.84	23.98	23.12
Uttarakhand-Discom	17.15	16.9	16.75	16.55	16.35	16.15
UTTARAKHAND	18.65	18.40	18.26	18.06	17.86	17.67
CHANDIGARH	15.83	19.10	18.83	18.52	18.19	17.82
NORTHERN REGION	25.48	24.33	23.25	22.19	21.14	20.09
Goa-Discom	13.61	13.50	13.36	13.21	13.06	12.90
GOA	15.63	15.52	15.39	15.25	15.10	14.94
Gujarat - MGVCL	15.22	14.65	14.10	13.57	13.06	12.57
Gujarat - DGVCL	9.22	9.20	9.17	9.15	9.12	9.09
Gujarat - UGVCL	10.86	10.69	10.51	10.34	10.16	9.99
Gujarat - PGVCL	21.47	20.42	19.42	18.47	17.57	16.71
Gujarat - TORRENT	6.63	6.63	6.63	6.63	6.63	6.63
GUJARAT	14.87	14.37	13.91	13.46	13.04	12.64

T & D loss of a Discom indicates the distribution loss and intra-state transmission loss. T&D loss of a State is ex-bus and indicates the distribution loss, intra-state transmission loss and inter-state transmission loss.

Table 2.12 (Contd.)

Distribution Company wise T&D loss (%)

(2016-17 to 2021-22)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Chhattisgarh-Discom	21.26	20.59	20.28	19.47	18.55	17.90
CHHATTISGARH	22.42	21.76	21.46	20.66	19.75	19.11
Madhya Pradesh - CENTRAL DISCOM	22.20	21.33	20.43	19.52	18.60	17.67
Madhya Pradesh - EASTERN DISCOM	20.81	19.92	19.01	18.08	17.15	16.20
Madhya Pradesh - WESTERN DISCOM	20.58	19.68	18.77	17.84	16.90	15.95
MADHYA PRADESH	24.14	23.28	22.41	21.52	20.63	19.72
Maharashtra - BEST	5.73	5.63	5.53	5.43	5.33	5.23
Maharashtra - TATA	1.11	1.28	1.38	1.48	1.72	1.96
Maharashtra - RELIANCE	9.31	9.26	9.21	9.16	9.13	9.10
Maharashtra - MSEDCL	12.32	12.11	11.90	11.69	11.70	11.72
MAHARASHTRA	14.63	14.42	14.22	14.03	14.02	14.01
D. & N. HAVELI	8.08	8.08	8.08	8.08	8.08	8.08
DAMAN & DIU	11.78	11.68	11.58	11.53	11.49	11.44
WESTERN REGION	17.02	16.62	16.24	15.81	15.44	15.09
Andhra Pradesh - EPDCL	8.50	8.43	8.37	8.31	8.24	8.17
Andhra Pradesh - SPDCL	11.32	11.17	10.99	10.81	10.62	10.44
ANDHRA PRADESH	10.69	10.58	10.43	10.29	10.15	10.01
Telangana - NPDCL	15.30	15.10	14.90	14.70	14.50	14.30
Telangana - SPDCL	13.50	13.40	13.30	13.20	13.10	13.00
TELANGANA	15.35	15.31	15.21	15.11	14.98	14.84
Karnataka - BESCOM	16.48	15.98	15.48	14.98	14.48	13.98
Karnataka - CESCOM	15.92	15.72	15.52	15.32	15.12	14.92
Karnataka - GESCOM	18.75	18.25	17.75	17.25	16.75	16.25
Karnataka - HESCOM	17.93	17.63	17.33	17.03	16.73	16.43
Karnataka - MESCOM	14.19	14.09	13.99	13.89	13.79	13.69
KARNATAKA	17.27	16.88	16.49	16.11	15.73	15.35
Kerala-Discom	14.25	14.05	13.90	13.75	13.60	13.50
KERALA	15.56	15.36	15.21	15.07	14.92	14.82
Tamil Nadu-Discom	19.26	18.40	17.56	16.76	15.96	15.00
TAMIL NADU	20.08	19.23	18.40	17.60	16.81	15.86
PUDUCHERRY	13.60	13.35	13.11	12.86	12.62	12.62
SOUTHERN REGION	16.57	16.11	15.66	15.24	14.82	14.35
Bihar - SBPDCL	36.00	30.00	22.00	15.00	15.00	15.00
Bihar - NBPDCL	28.00	24.00	20.00	15.00	15.00	15.00
BIHAR	34.21	28.91	22.65	16.69	16.69	16.69

T & D loss of a Discom indicates the distribution loss and intra-state transmission loss. T&D loss of a State is ex-bus and indicates the distribution loss, intra-state transmission loss and inter-state transmission loss.

Table 2.12 (Contd.)

Distribution Company wise T&D loss (%)

(2016-17 to 2021-22)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Jharkhand - DVC	3.50	3.50	3.50	3.30	3.30	3.30
Jharkhand - TATA STEEL	4.00	4.00	4.00	4.00	4.00	4.00
Jharkhand - JBVNL	30.25	28.85	27.45	26.05	24.65	23.25
JHARKHAND	20.09	19.53	18.92	18.25	17.54	16.81
Odisha - CESU	31.93	30.33	28.73	27.13	25.53	23.93
Odisha - SOUTHCO	33.73	31.43	29.13	26.83	24.53	23.03
Odisha - WESCO	33.15	31.65	30.15	28.65	27.15	26.15
Odisha - NESCO	29.10	28.10	27.10	26.10	25.10	24.10
ODISHA	32.37	30.83	29.28	27.73	26.18	24.89
West Bengal - CESC	14.30	14.30	14.30	14.30	14.30	14.30
West Bengal - DPL	5.20	5.20	5.20	5.20	5.20	5.20
West Bengal - IPCL	5.50	5.00	4.50	4.50	4.50	4.50
West Bengal - WBSEDCL	28.80	27.90	27.00	26.10	25.20	24.30
West Bengal - DVC	3.50	3.50	3.50	3.30	3.30	3.30
WEST BENGAL	22.03	21.26	20.52	19.76	19.03	18.33
Sikkim-Discom	33.30	32.10	30.90	29.70	28.50	27.30
SIKKIM	34.55	33.38	32.20	31.02	29.84	28.66
EASTERN REGION	25.88	24.41	22.45	20.49	19.67	18.96
Assam-Discom	24.21	23.41	22.61	21.81	21.01	20.21
ASSAM	25.65	24.86	24.08	23.29	22.51	21.72
Manipur-Discom	33.22	31.92	30.62	29.32	28.02	26.72
MANIPUR	34.94	33.67	32.41	31.14	29.87	28.61
Meghalaya-Discom	30.36	28.36	26.36	26.71	25.83	24.95
MEGHALAYA	33.04	31.12	29.20	29.53	28.68	27.84
Nagaland-Discom	26.10	25.70	25.30	24.90	24.50	24.10
NAGALAND	27.82	27.43	27.04	26.65	26.26	25.87
Tripura-Discom	28.57	27.47	26.37	25.27	24.17	23.07
TRIPURA	29.23	28.14	27.05	25.96	24.87	23.78
Arunachal Pradesh-Discom	48.86	46.86	44.86	42.86	40.86	38.86
ARUNACHAL PRADESH	50.18	48.23	46.28	44.33	42.38	40.44
Mizoram-Discom	30.31	28.58	26.87	25.15	23.41	21.66
MIZORAM	32.34	30.66	29.00	27.33	25.64	23.95
NORTH EASTERN REGION	29.36	28.29	27.23	26.44	25.51	24.58
ANDAMAN & NICOBAR ISLANDS	19.20	19.00	18.80	18.60	18.50	18.40
LAKSHADWEEP	7.40	7.40	7.40	7.40	7.40	7.40
All- India (T&D loss)	20.65	19.86	19.04	18.24	17.59	16.96

T & D loss of a Discom indicates the distribution loss and intra-state transmission loss. T&D loss of a State is ex-bus and indicates the distribution loss, intra-state transmission loss and inter-state transmission loss.

Table 2.12 (Contd.)
Distribution Company wise T&D loss (%)
(2022-23 to 2026-27)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi – NDMC	13.22	13.12	13.02	12.92	12.82
Delhi – BYPL	15.94	15.49	15.04	14.59	14.14
Delhi – BRPL	10.70	10.20	10.20	10.20	10.20
Delhi – TPDDL	9.30	9.30	9.30	9.30	9.30
Delhi – MES	9.43	9.43	9.43	9.43	9.43
DELHI	13.74	13.43	13.32	13.21	13.10
Haryana- DHBVN	15.00	15.00	15.00	15.00	15.00
Haryana - UHBVN	17.77	15.00	15.00	15.00	15.00
HARYANA	17.82	16.74	16.74	16.74	16.74
Himachal Pradesh-Discom	11.90	11.85	11.80	11.75	11.70
HIMACHAL PRADESH	13.61	13.56	13.51	13.46	13.41
Jammu & Kashmir-Discom	28.75	26.75	24.75	22.75	20.75
JAMMU & KASHMIR	30.21	28.25	26.29	24.33	22.37
Punjab-Discom	15.90	15.70	15.50	15.30	15.10
PUNJAB	17.27	17.07	16.88	16.68	16.48
Rajasthan - AVVNL	13.92	11.85	11.85	11.85	11.85
Rajasthan - JdVVNL	14.37	14.37	14.37	14.37	14.37
Rajasthan - JVVNL	15.63	13.25	13.28	13.30	13.31
RAJASTHAN	17.33	15.98	16.00	16.01	16.03
Uttar Pradesh - MVVNL	19.70	18.80	17.90	17.00	16.10
Uttar Pradesh – PUVVNL	21.20	20.40	19.60	18.80	18.00
Uttar Pradesh - PVVNL	21.10	20.40	19.70	19.00	18.30
Uttar Pradesh - DVVNL	23.30	22.20	21.10	20.00	18.90
Uttar Pradesh - NPC	8.95	9.00	9.15	9.20	9.50
UTTAR PRADESH	22.26	21.40	20.54	19.69	18.84
Uttarakhand-Discom	15.95	15.75	15.55	15.35	15.15
UTTARAKHAND	17.47	17.27	17.08	16.88	16.68
CHANDIGARH	17.43	17.00	16.55	16.06	15.54
NORTHERN REGION	19.13	18.31	17.90	17.50	17.10
Goa-Discom	12.74	12.58	12.41	12.25	12.09
GOA	14.78	14.62	14.47	14.31	14.15
Gujarat - MGVCL	12.10	11.65	11.21	10.79	10.38
Gujarat - DGVCL	9.07	9.04	9.02	8.99	8.97
Gujarat - UGVCL	9.81	9.64	9.46	9.29	9.11
Gujarat - PGVCL	15.89	15.11	14.37	13.67	13.00
Gujarat - TORRENT	6.63	6.63	6.63	6.63	6.63
GUJARAT	12.27	11.91	11.56	11.24	10.93

T & D loss of a Discom indicates the distribution loss and intra-state transmission loss. T&D loss of a State is ex-bus and indicates the distribution loss, intra-state transmission loss and inter-state transmission loss.

Table 2.12 (Contd.)

Distribution Company wise T&D loss (%)

(2022-23 to 2026-27)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Chhattisgarh-Discom	17.14	16.51	15.90	15.33	14.68
CHHATTISGARH	18.37	17.75	17.15	16.58	15.94
Madhya Pradesh - CENTRAL DISCOM	16.72	15.77	14.82	13.86	12.90
Madhya Pradesh - EASTERN DISCOM	15.24	14.28	13.32	12.59	11.87
Madhya Pradesh - WESTERN DISCOM	15.00	14.05	13.09	12.38	11.66
MADHYA PRADESH	18.80	17.88	16.95	16.18	15.41
Maharashtra - BEST	5.13	5.03	4.93	4.83	4.73
Maharashtra - TATA	2.20	2.44	2.91	3.38	3.85
Maharashtra - RELIANCE	9.07	9.04	9.01	8.98	8.95
Maharashtra - MSEDCL	11.74	11.76	11.77	11.79	11.81
MAHARASHTRA	14.01	14.00	14.03	14.07	14.11
D. & N. HAVELI	8.08	8.08	8.08	8.08	8.08
DAMAN & DIU	11.39	11.34	11.29	11.29	11.29
WESTERN REGION	14.72	14.37	14.04	13.76	13.48
Andhra Pradesh - EPDCL	8.11	8.05	7.98	7.91	7.85
Andhra Pradesh - SPDCL	10.25	10.07	9.88	9.69	9.51
ANDHRA PRADESH	9.87	9.73	9.59	9.45	9.31
Telangana - NPDCL	14.10	13.90	13.70	13.50	13.30
Telangana - SPDCL	12.80	12.60	12.50	12.40	12.30
TELANGANA	14.64	14.44	14.30	14.16	14.02
Karnataka - BESCOM	13.48	12.98	12.48	11.98	11.48
Karnataka - CESCOM	14.72	14.52	14.32	14.12	13.92
Karnataka - GESCOM	15.75	15.25	14.75	14.25	13.75
Karnataka - HESCOM	16.13	15.83	15.53	15.23	15.00
Karnataka - MESCOM	13.59	13.49	13.39	13.29	13.19
KARNATAKA	14.98	14.61	14.24	13.87	13.52
Kerala-Discom	13.40	13.30	13.20	13.10	13.00
KERALA	14.72	14.62	14.52	14.43	14.33
Tamil Nadu-Discom	14.50	14.20	14.10	14.00	14.00
TAMIL NADU	15.37	15.07	14.97	14.87	14.87
PUDUCHERRY	12.62	12.62	12.62	12.62	12.62
SOUTHERN REGION	14.02	13.76	13.58	13.40	13.26
Bihar - SBPDCL	15.00	15.00	15.00	15.00	15.00
Bihar - NBPDCL	15.00	15.00	15.00	15.00	15.00
BIHAR	16.69	16.69	16.69	16.69	16.69

T & D loss of a Discom indicates the distribution loss and intra-state transmission loss. T&D loss of a State is ex-bus and indicates the distribution loss, intra-state transmission loss and inter-state transmission loss.

Table 2.12 (Contd.)

Distribution Company wise T&D loss (%)

(2022-23 to 2026-27)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Jharkhand - DVC	3.20	3.20	3.00	3.00	3.00
Jharkhand - TATA STEEL	4.00	4.00	4.00	4.00	4.00
Jharkhand - JBVNL	21.85	20.45	19.05	17.65	16.25
JHARKHAND	16.00	15.20	14.34	13.51	12.68
Odisha - CESU	22.93	21.93	20.93	19.93	18.93
Odisha - SOUTHCO	21.53	20.03	18.53	17.03	15.53
Odisha - WESCO	25.15	24.15	23.15	22.15	21.15
Odisha - NESCO	23.10	22.10	21.10	20.10	19.10
ODISHA	23.83	22.77	21.71	20.65	19.59
West Bengal - CESC	14.30	14.30	14.30	14.30	14.30
West Bengal - DPL	5.20	5.20	5.20	5.20	5.20
West Bengal - IPCL	4.50	4.50	4.50	4.50	4.50
West Bengal - WBSEDCL	23.40	22.50	21.60	20.70	19.80
West Bengal - DVC	3.20	3.20	3.00	3.00	3.00
WEST BENGAL	17.62	16.94	16.22	15.55	14.89
Sikkim-Discom	26.10	24.90	23.70	22.50	21.30
SIKKIM	27.49	26.31	25.13	23.96	22.78
EASTERN REGION	18.30	17.66	17.01	16.39	15.78
Assam-Discom	19.41	18.61	17.81	17.01	16.21
ASSAM	20.94	20.15	19.37	18.58	17.80
Manipur-Discom	25.42	24.12	22.82	21.52	20.22
MANIPUR	27.34	26.07	24.81	23.54	22.27
Meghalaya-Discom	24.08	23.20	22.81	22.43	22.04
MEGHALAYA	27.00	26.15	25.78	25.41	25.04
Nagaland-Discom	23.70	23.30	22.90	22.50	22.10
NAGALAND	25.48	25.09	24.70	24.31	23.91
Tripura-Discom	21.97	20.87	19.77	18.67	17.57
TRIPURA	22.69	21.60	20.51	19.42	18.33
Arunachal Pradesh-Discom	36.86	34.86	32.86	30.86	28.86
ARUNACHAL PRADESH	38.49	36.54	34.59	32.64	30.69
Mizoram-Discom	19.87	18.10	16.32	14.53	14.89
MIZORAM	22.20	20.48	18.76	17.02	17.37
NORTH EASTERN REGION	23.66	22.74	21.86	20.98	20.16
ANDAMAN & NICOBAR ISLANDS	18.30	18.20	18.10	18.00	18.00
LAKSHADWEEP	7.40	7.41	7.41	7.41	7.41
All- India (T&D loss)	16.38	15.87	15.52	15.19	14.87

T & D loss of a Discom indicates the distribution loss and intra-state transmission loss. T&D loss of a State is ex-bus and indicates the distribution loss, intra-state transmission loss and inter-state transmission loss.

Table 2.13

Distribution Company wise Electrical Energy Requirement (Utilities) (2016-17 to 2021-22)

(MU)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi - NDMC	1600	1627	1655	1684	1713	1743
Delhi - BYPL	7259	7545	7842	8153	8470	8790
Delhi - BRPL	12803	13234	13680	14143	14613	15093
Delhi - TPDDL	9269	9625	9948	10290	10630	10968
Delhi - MES	250	257	265	273	281	289
DELHI	31937	33070	34201	35380	36573	37778
Haryana- DHBVN	26553	28068	30058	32196	34493	36963
Haryana - UHBVN	21436	22138	22898	23721	24609	25354
HARYANA	48991	51254	54062	57083	60336	63618
Himachal Pradesh-Discom	9538	9920	10320	10737	11173	11636
HIMACHAL PRADESH	9726	10116	10523	10949	11394	11866
Jammu & Kashmir-Discom	14567	15225	15950	16759	17649	18434
JAMMU & KASHMIR	14871	15543	16283	17109	18017	18819
Punjab-Discom	53235	56609	60080	63674	67385	71211
PUNJAB	54118	57548	61076	64730	68502	72392
Rajasthan – AVVNL	19236	20032	20715	21491	22372	23302
Rajasthan – JdVVNL	23785	25424	26905	28622	30449	32527
Rajasthan – JVVNL	27954	28762	29425	30502	31557	32587
RAJASTHAN	73222	76569	79485	83168	87051	91216
Uttar Pradesh – MVVNL	18874	20706	22681	24728	26919	29256
Uttar Pradesh – PUVVNL	24287	26140	28136	30077	32007	33906
Uttar Pradesh – PVVNL	33136	35397	37809	40388	43141	46083
Uttar Pradesh – DVVNL	28580	30103	31702	33379	35132	36940
Uttar Pradesh – NPC	1688	1730	1896	2059	2258	2511
UTTAR PRADESH	108070	115688	123951	132476	141426	150797
Uttarakhand-Discom	13464	14499	15593	16699	17852	19055
UTTARAKHAND	13712	14766	15880	17007	18181	19406
CHANDIGARH	1876	1997	2070	2145	2223	2304
NORTHERN REGION	356521	376550	397530	420047	443704	468196
Goa-Discom	4136	4423	4689	4949	5207	5462
GOA	4236	4529	4802	5068	5332	5593
Gujarat - MGVCL	12013	12949	13886	14837	15812	16805
Gujarat - DGVCL	18312	20083	21854	23692	25613	27612
Gujarat - UGVCL	22827	24733	26560	28394	30241	32084
Gujarat - PGVCL	33124	35265	37393	39568	41788	44039
Gujarat - TORRENT	11331	11966	12610	13260	13910	14555
GUJARAT	98376	105823	113187	120693	128368	136159

Table 2.13 (Contd.)

Distribution Company wise Electrical Energy Requirement (Utilities) (2016-17 to 2021-22)

(MU)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Chhattisgarh-Discom	26765	28740	30919	32968	35033	37281
CHHATTISGARH	27167	29171	31383	33463	35559	37840
Madhya Pradesh - CENTRAL DISCOM	21712	23738	25702	27715	29808	31538
Madhya Pradesh - EASTERN DISCOM	19924	21989	24023	25972	28020	29742
Madhya Pradesh - WESTERN DISCOM	24380	26662	28942	31034	32937	34847
MADHYA PRADESH	68588	75209	81732	88022	94301	99871
Maharashtra - BEST	4816	4877	4939	5001	5065	5130
Maharashtra - TATA	4119	4326	4536	4814	5077	5347
Maharashtra - RELIANCE	11446	11747	12053	12364	12684	13009
Maharashtra - MSEDCL	119910	127073	134857	143323	151471	160209
MAHARASHTRA	145396	153331	161926	171313	180338	189983
D. & N. HAVELI	6550	7100	7653	8210	8775	9343
DAMAN & DIU	1991	2179	2327	2449	2577	2712
WESTERN REGION	352304	377343	403010	429217	455250	481501
Andhra Pradesh - EPDCL	19402	20905	22512	24231	26069	28034
Andhra Pradesh - SPDCL	35039	37692	40510	43515	46711	50173
ANDHRA PRADESH	54673	58846	63290	68034	73090	78540
Telangana - NPDCL	14791	20425	23935	28253	30548	31653
Telangana - SPDCL	37087	39729	42696	45746	48901	51638
TELANGANA	52695	61102	67680	75164	80700	84603
Karnataka - BESCOM	31132	32494	33913	35285	36712	38207
Karnataka - CESCOM	7339	7966	8638	9338	10089	10901
Karnataka - GESCOM	8328	8723	9092	9500	9915	10336
Karnataka - HESCOM	13619	14532	15496	16514	17596	18728
Karnataka - MESCOM	5366	5711	6093	6471	6863	7291
KARNATAKA	66146	69808	73636	77532	81622	85932
Kerala-Discom	24246	25480	26770	28100	29468	30893
KERALA	24622	25875	27184	28535	29924	31371
Tamil Nadu-Discom	104848	110451	116313	122469	128868	135256
TAMIL NADU	105923	111583	117505	123724	130189	136643
PUDUCHERRY	2990	3121	3254	3387	3521	3664
SOUTHERN REGION	307047	330336	352549	376376	399047	420753
Bihar - SBPDCL	12909	15488	15230	16113	18232	20034
Bihar - NBPDCL	8262	11322	12839	14288	16223	17620
BIHAR	21599	27352	28637	31017	35152	38416

Table 2.13 (Contd.)

Distribution Company wise Electrical Energy Requirement (Utilities) (2016-17 to 2021-22)

(MU)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Jharkhand - DVC	6337	6631	6939	7246	7583	7935
Jharkhand - TATA STEEL	3135	3197	3317	3385	3471	3540
Jharkhand - JBVNL	13092	14138	15303	16517	17638	18794
JHARKHAND	22847	24266	25880	27488	29052	30649
Odisha - CESU	9059	9749	10496	11122	11639	12053
Odisha - SOUTHCO	3699	4079	4421	4598	4613	4681
Odisha - WESCO	7597	7722	7855	7998	8149	8366
Odisha - NESCO	5508	5851	6167	6393	6626	6861
ODISHA	26028	27575	29124	30302	31224	32164
West Bengal - CESC	11114	11394	11741	12092	12445	12802
West Bengal - DPL	1925	2026	2131	2241	2356	2475
West Bengal - IPCL	866	888	944	1048	1175	1200
West Bengal - WBSEDCL	35573	36231	37238	38286	39354	40493
West Bengal - DVC	7475	8208	9014	9880	10852	11921
WEST BENGAL	57342	59148	61485	63979	66634	69361
Sikkim-Discom	475	511	538	566	596	626
SIKKIM	484	520	548	577	607	638
EASTERN REGION	128300	138862	145674	153363	162669	171228
Assam-Discom	8826	9683	10626	11669	12713	13785
ASSAM	8997	9870	10831	11894	12959	14051
Manipur-Discom	1208	1383	1551	1723	1875	2049
MANIPUR	1240	1419	1592	1769	1925	2103
Meghalaya-Discom	2014	2085	2156	2287	2375	2467
MEGHALAYA	2094	2168	2242	2378	2470	2566
Nagaland-Discom	796	846	908	969	1034	1103
NAGALAND	815	866	930	992	1059	1129
Tripura- Discom	1253	1316	1381	1443	1511	1581
TRIPURA	1265	1328	1394	1456	1525	1595
Arunachal Pradesh-Discom	863	956	1061	1178	1310	1459
ARUNACHAL PRADESH	886	982	1089	1210	1345	1498
Mizoram-Discom	563	610	661	716	776	840
MIZORAM	580	628	681	737	799	866
NORTH EASTERN REGION	15876	17261	18758	20437	22083	23809
ANDAMAN & NICOBAR ISLANDS	329	356	385	414	446	475
LAKSHADWEEP	52	54	55	57	59	62
All- India (Electrical Energy Requirement)	1160,429	1240,760	1317,962	1399,913	1483,257	1566,023

Table 2.13 (Contd.)

Distribution Company wise Electrical Energy Requirement (Utilities) (2022-23 to 2026-27)

(MU)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi – NDMC	1773	1804	1835	1867	1900
Delhi – BYPL	9113	9438	9765	10091	10418
Delhi – BRPL	15584	16082	16682	17295	17922
Delhi – TPDDL	11305	11640	11975	12309	12643
Delhi – MES	298	307	316	326	336
DELHI	38997	40224	41557	42904	44267
Haryana- DHBVN	39234	42142	45271	48639	52262
Haryana - UHBVN	26149	26752	28303	29960	31727
HARYANA	66747	70333	75110	80239	85743
Himachal Pradesh-Discom	12121	12627	13158	13713	14294
HIMACHAL PRADESH	12360	12876	13417	13983	14576
Jammu & Kashmir-Discom	19555	20728	21975	23308	24737
JAMMU & KASHMIR	19963	21161	22433	23795	25254
Punjab-Discom	75573	80042	84624	89308	94098
PUNJAB	76826	81369	86027	90789	95658
Rajasthan - AVVNL	24330	25380	27108	29054	31111
Rajasthan - JdVVNL	34816	37855	41220	44960	49093
Rajasthan - JVVNL	33695	34858	37140	39606	42209
RAJASTHAN	95782	101200	108808	117219	126290
Uttar Pradesh - MVVNL	31626	34094	36683	39389	42199
Uttar Pradesh – PUVVNL	35489	36954	38484	40090	41766
Uttar Pradesh - PVVNL	48593	51021	53570	56252	59063
Uttar Pradesh - DVVNL	38686	40201	41779	43428	45145
Uttar Pradesh - NPC	2799	3126	3503	3929	4429
UTTAR PRADESH	159412	167731	176477	185674	195323
Uttarakhand-Discom	20313	21631	23014	24469	26001
UTTARAKHAND	20687	22029	23438	24920	26480
CHANDIGARH	2388	2475	2566	2659	2756
NORTHERN REGION	493162	519399	549833	582182	616345
Goa-Discom	5718	5977	6239	6503	6769
GOA	5855	6120	6389	6660	6932
Gujarat - MGVCL	17829	18894	19998	21147	22332
Gujarat - DGVCL	29690	31853	34075	36384	38767
Gujarat - UGVCL	33970	35905	37885	39905	41959
Gujarat - PGVCL	46361	48759	51228	53748	56335
Gujarat - TORRENT	15209	15873	16545	17222	17904
GUJARAT	144186	152475	160989	169732	178693

Table 2.13 (Contd.)

Distribution Company wise Electrical Energy Requirement (Utilities) (2022-23 to 2026-27)

(MU)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Chhattisgarh-Discom	39561	42030	44645	47434	50333
CHHATTISGARH	40155	42661	45315	48146	51088
Madhya Pradesh - CENTRAL DISCOM	32974	34305	35628	36956	38314
Madhya Pradesh - EASTERN DISCOM	31089	32493	33895	35392	36925
Madhya Pradesh - WESTERN DISCOM	36780	38815	40938	43179	45452
MADHYA PRADESH	104772	109727	114765	120027	125394
Maharashtra - BEST	5194	5260	5327	5396	5465
Maharashtra - TATA	5627	5914	6227	6563	6913
Maharashtra - RELIANCE	13339	13677	14025	14381	14747
Maharashtra - MSEDCL	169581	179634	190420	202016	214462
MAHARASHTRA	200288	211307	223171	235949	249628
D. & N. HAVELI	9920	10513	11120	11741	12373
DAMAN & DIU	2855	3006	3166	3337	3517
WESTERN REGION	508032	535810	564915	595591	627624
Andhra Pradesh - EPDCL	30149	32425	34383	36461	38656
Andhra Pradesh - SPDCL	53923	57985	62387	67170	72357
ANDHRA PRADESH	84429	90794	97181	104072	111485
Telangana - NPDCL	32797	33976	35189	36444	37733
Telangana - SPDCL	53966	56436	59102	61951	64993
TELANGANA	88130	91836	95776	99945	104345
Karnataka - BESCOM	39747	41361	43045	44813	46645
Karnataka - CESCOM	11748	12652	13617	14641	15730
Karnataka - GESCOM	10761	11192	11627	12066	12510
Karnataka - HESCOM	19916	21167	22478	23854	25310
Karnataka - MESCOM	7713	8151	8603	9069	9570
KARNATAKA	90381	95042	99916	105017	110368
Kerala-Discom	32360	33868	35415	37008	38756
KERALA	32861	34393	35964	37582	39357
Tamil Nadu-Discom	142682	150811	159712	169089	179153
TAMIL NADU	144145	152357	161349	170822	180989
PUDUCHERRY	3809	3959	4114	4279	4448
SOUTHERN REGION	443754	468380	494301	521717	550992
Bihar - SBPDCL	21634	23206	24808	26422	28701
Bihar - NBPDCL	18757	19848	21001	23290	24584
BIHAR	41208	43926	46735	50717	54363

Table 2.13 (Contd.)

Distribution Company wise Electrical Energy Requirement (Utilities) (2022-23 to 2026-27)

(MU)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Jharkhand - DVC	8314	8721	9128	9575	10043
Jharkhand - TATA STEEL	3611	3683	3757	3832	3909
Jharkhand - JBVNL	19885	21026	22219	23484	24814
JHARKHAND	32209	33850	35544	37354	39252
Odisha - CESU	12513	12937	13394	13866	14349
Odisha - SOUTHCO	4753	4827	4902	4977	5053
Odisha - WESCO	8593	8830	9080	9346	9625
Odisha - NESCO	7102	7353	7619	7906	8189
ODISHA	33172	34163	35219	36326	37453
West Bengal - CESC	13162	13525	13892	14264	14640
West Bengal - DPL	2601	2733	2870	3015	3166
West Bengal - IPCL	1228	1255	1282	1312	1342
West Bengal - WBSEDCL	41660	42870	44128	45452	46830
West Bengal - DVC	13082	14372	15758	17318	19033
WEST BENGAL	72222	75264	78463	81915	85590
Sikkim-Discom	657	689	723	758	795
SIKKIM	669	702	737	773	810
EASTERN REGION	179480	187906	196698	207085	217468
Assam-Discom	14876	16044	17296	18638	20073
ASSAM	15164	16355	17631	18998	20462
Manipur-Discom	2241	2450	2689	2942	3215
MANIPUR	2300	2515	2760	3020	3300
Meghalaya-Discom	2564	2665	2788	2919	3055
MEGHALAYA	2667	2771	2900	3036	3177
Nagaland-Discom	1172	1245	1325	1407	1488
NAGALAND	1200	1275	1356	1441	1524
Tripura-Discom	1646	1716	1780	1849	1912
TRIPURA	1661	1731	1796	1866	1930
Arunachal Pradesh-Discom	1626	1815	2027	2266	2534
ARUNACHAL PRADESH	1669	1863	2081	2326	2601
Mizoram-Discom	909	983	1063	1147	1269
MIZORAM	937	1013	1095	1181	1307
NORTH EASTERN REGION	25598	27523	29619	31869	34301
ANDAMAN & NICOBAR ISLANDS	504	535	566	598	632
LAKSHADWEEP	64	66	68	70	73
All- India (Electrical Energy Requirement)	1650,594	1739,618	1836,001	1939,111	2047,434

Table 2.14

Distribution Company wise Peak Electricity Demand (Utilities) (2016-17 to 2021-22)

(MW)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi - NDMC	397	404	411	418	425	433
Delhi - BYPL	1625	1689	1755	1825	1896	1968
Delhi - BRPL	2610	2698	2789	2883	2979	3077
Delhi - TPDDL	1856	1928	1992	2061	2129	2197
Delhi - MES	51	52	54	56	57	59
DELHI	6318	6541	6764	6997	7233	7471
Haryana – DHBVN	5365	5671	6073	6505	6969	7468
Haryana – UHBVN	4523	4671	4832	5005	5193	5350
HARYANA	9428	9861	10397	10975	11596	12222
Himachal Pradesh-Discom	1555	1618	1683	1751	1822	1898
HIMACHAL PRADESH	1555	1618	1683	1751	1822	1898
Jammu & Kashmir-Discom	2278	2414	2565	2733	2920	3095
JAMMU & KASHMIR	2278	2414	2565	2733	2920	3095
Punjab-Discom	11551	12283	12914	13559	14216	14886
PUNJAB	11551	12283	12914	13559	14216	14886
Rajasthan - AVVNL	3498	3625	3731	3853	3992	4138
Rajasthan - JdVVNL	3446	3707	3948	4227	4526	4867
Rajasthan - JVVNL	4591	4738	4861	5054	5244	5431
RAJASTHAN	11535	12070	12540	13133	13761	14435
Uttar Pradesh - MVVNL	2877	3190	3533	3894	4287	4711
Uttar Pradesh - PUVVNL	3702	4028	4383	4737	5097	5460
Uttar Pradesh - PVVNL	5051	5454	5889	6360	6870	7421
Uttar Pradesh - DVVNL	4357	4638	4938	5257	5594	5949
Uttar Pradesh - NPC	321	329	361	392	430	478
UTTAR PRADESH	16067	17379	18821	20334	21948	23664
Uttarakhand-Discom	2153	2338	2536	2739	2953	3180
UTTARAKHAND	2153	2338	2536	2739	2953	3180
CHANDIGARH	400	425	441	457	474	491
NORTHERN REGION	55596	58899	62279	65919	69766	73770
Goa-Discom	624	674	721	767	813	858
GOA	624	674	721	767	813	858
Gujarat - MGVCL	1872	2041	2211	2384	2564	2749
Gujarat - DGVCL	2844	3141	3441	3756	4089	4440
Gujarat - UGVCL	3555	3887	4208	4534	4864	5197
Gujarat - PGVCL	5561	5920	6277	6643	7015	7393
Gujarat - TORRENT	2463	2563	2661	2757	2849	2937
GUJARAT	15373	16558	17734	18937	20172	21429

Table 2.14

Distribution Company wise Peak Electricity Demand (Utilities) (2016-17 to 2021-22)

(MW)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Chhattisgarh-Discom	4348	4697	5080	5442	5809	6208
CHHATTISGARH	4348	4697	5080	5442	5809	6208
Madhya Pradesh - CENTRAL DISCOM	3541	3871	4192	4520	4861	5143
Madhya Pradesh - EASTERN DISCOM	3249	3586	3918	4236	4569	4850
Madhya Pradesh - WESTERN DISCOM	3976	4348	4720	5061	5371	5683
MADHYA PRADESH	10766	11805	12829	13816	14802	15676
Maharashtra - BEST	899	913	922	931	946	955
Maharashtra - TATA	645	675	702	741	768	805
Maharashtra - RELIANCE	1867	1916	1966	1998	2068	2122
Maharashtra - MSEDCL	17731	18987	20363	21873	23366	24985
MAHARASHTRA	20446	22491	23953	25544	27148	28866
D. & N. HAVELI	861	943	1026	1112	1201	1291
DAMAN & DIU	313	343	366	385	405	426
WESTERN REGION	50141	54673	58654	62728	66847	71020
Andhra Pradesh - EPDCL	2840	3059	3295	3546	3815	4103
Andhra Pradesh - SPDCL	5405	5815	6249	6713	7206	7740
ANDHRA PRADESH	8245	8874	9544	10259	11021	11843
Telangana - NPDCL	3186	4484	5254	6202	6706	6949
Telangana - SPDCL	5289	5737	6245	6777	7340	7854
TELANGANA	8300	10011	11262	12712	13757	14499
Karnataka - BESCOM	5276	5507	5747	5980	6222	6475
Karnataka - CESCOM	1351	1467	1590	1719	1858	2007
Karnataka - GESCOM	1327	1396	1461	1533	1607	1682
Karnataka - HESCOM	1967	2110	2262	2422	2595	2776
Karnataka - MESCOM	1032	1100	1175	1250	1328	1411
KARNATAKA	10895	11517	12169	12834	13534	14271
Kerala-Discom	4131	4341	4561	4788	5021	5263
KERALA	4131	4341	4561	4788	5021	5263
Tamil Nadu-Discom	15412	16299	17230	18213	19240	20273
TAMIL NADU	15412	16299	17230	18213	19240	20273
PUDUCHERRY	476	497	518	539	561	583
SOUTHERN REGION	44782	48635	52171	56007	59581	62975
Bihar - SBPDCL	2199	2804	2717	2874	3252	3573
Bihar - NBPDCL	1408	1929	2187	2434	2764	3002
BIHAR	3607	4733	4904	5308	6016	6576

Table 2.14
Distribution Company wise Peak Electricity Demand (Utilities)
(2016-17 to 2021-22)

(MW)

Discom/State/UT	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Jharkhand - DVC	1206	1241	1267	1324	1374	1438
Jharkhand - TATA STEEL	429	442	455	469	483	498
Jharkhand - JBVNL	2270	2491	2656	2864	3057	3257
JHARKHAND	3905	4175	4378	4656	4915	5193
Odisha - CESU	1486	1608	1741	1856	1954	2035
Odisha - SOUTHCO	567	629	687	719	726	742
Odisha - WESCO	1368	1382	1397	1413	1431	1460
Odisha - NESCO	886	941	992	1028	1065	1103
ODISHA	4306	4560	4816	5016	5176	5340
West Bengal - CESC	2080	2132	2234	2301	2368	2436
West Bengal - DPL	338	356	374	394	414	435
West Bengal - IPCL	143	147	156	176	197	201
West Bengal - WBSEDCL	6446	6671	6856	7049	7246	7456
West Bengal - DVC	1376	1511	1646	1805	1966	2160
WEST BENGAL	10383	10817	11267	11724	12191	12688
Sikkim-Discom	129	139	146	154	162	170
SIKKIM	129	139	146	154	162	170
EASTERN REGION	20883	22849	23868	25130	26633	28046
Assam-Discom	1550	1906	2091	2297	2502	2713
ASSAM	1550	1906	2091	2297	2502	2713
Manipur-Discom	232	267	303	339	372	410
MANIPUR	232	267	303	339	372	410
Meghalaya-Discom	399	413	427	453	470	488
MEGHALAYA	399	413	427	453	470	488
Nagaland-Discom	166	177	191	204	219	234
NAGALAND	166	177	191	204	219	234
Tripura-Discom	297	315	333	351	371	391
TRIPURA	297	315	333	351	371	391
Arunachal Pradesh-Discom	164	182	202	224	249	278
ARUNACHAL PRADESH	164	182	202	224	249	278
Mizoram-Discom	118	127	137	148	159	171
MIZORAM	118	127	137	148	159	171
NORTH EASTERN REGION	2810	3252	3537	3856	4170	4499
ANDAMAN & NICOBAR ISLANDS	67	73	78	84	91	97
LAKSHADWEEP	10	10	10	11	11	11
All- India (Peak Electricity Demand)	161,834	176,897	188,360	200,696	213,244	225,751

Table 2.14 (Contd.)

Distribution Company wise Peak Electricity Demand (Utilities) (2022-23 to 2026-27)

(MW)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi - NDMC	440	448	455	463	472
Delhi - BYPL	2040	2113	2186	2259	2332
Delhi - BRPL	3177	3278	3401	3525	3653
Delhi - TPDDL	2264	2331	2398	2465	2532
Delhi - MES	61	63	64	66	68
DELHI	7712	7954	8217	8482	8751
Haryana- DHBVN	7927	8515	9147	9827	10559
Haryana - UHBVN	5518	5645	5972	6322	6695
HARYANA	12819	13501	14415	15398	16451
Himachal Pradesh-Discom	1977	2059	2146	2236	2331
HIMACHAL PRADESH	1977	2059	2146	2236	2331
Jammu & Kashmir-Discom	3332	3585	3859	4157	4482
JAMMU & KASHMIR	3332	3585	3859	4157	4482
Punjab-Discom	15654	16431	17217	18009	18809
PUNJAB	15654	16431	17217	18009	18809
Rajasthan - AVVNL	4301	4466	4748	5065	5399
Rajasthan - JdVVNL	5243	5739	6291	6908	7594
Rajasthan - JVVNL	5632	5843	6244	6678	7138
RAJASTHAN	15176	16048	17282	18651	20131
Uttar Pradesh - MVVNL	5157	5560	5982	6424	6882
Uttar Pradesh - PUVVNL	5788	6026	6276	6538	6811
Uttar Pradesh - PVVNL	7924	8320	8736	9174	9632
Uttar Pradesh - DVVNL	6309	6556	6813	7082	7362
Uttar Pradesh - NPC	533	595	666	748	843
UTTAR PRADESH	25331	26658	28053	29522	31064
Uttarakhand-Discom	3420	3675	3945	4232	4538
UTTARAKHAND	3420	3675	3945	4232	4538
CHANDIGARH	509	527	546	566	587
NORTHERN REGION	77929	82017	86776	91835	97182
Goa-Discom	904	951	999	1047	1096
GOA	904	951	999	1047	1096
Gujarat - MGVCL	2940	3141	3350	3569	3797
Gujarat - DGVCL	4807	5194	5597	6019	6461
Gujarat - UGVCL	5540	5895	6260	6636	7022
Gujarat - PGVCL	7783	8185	8600	9023	9457
Gujarat - TORRENT	3024	3109	3193	3274	3354
GUJARAT	22730	24079	25471	26908	28387

Table 2.14 (Contd.)
Distribution Company wise Peak Electricity Demand (Utilities)
(2022-23 to 2026-27)

(MW)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Chhattisgarh-Discom	6613	7050	7513	8006	8518
CHHATTISGARH	6613	7050	7513	8006	8518
Madhya Pradesh - CENTRAL DISCOM	5377	5594	5810	6027	6248
Madhya Pradesh - EASTERN DISCOM	5070	5299	5528	5772	6022
Madhya Pradesh - WESTERN DISCOM	5998	6330	6676	7042	7412
MADHYA PRADESH	16445	17223	18014	18840	19682
Maharashtra - BEST	965	979	989	999	1014
Maharashtra - TATA	846	888	932	980	1030
Maharashtra - RELIANCE	2175	2210	2287	2345	2405
Maharashtra - MSEDCL	26738	28640	30703	32945	35379
MAHARASHTRA	30725	32717	34911	37269	39828
D. & N. HAVELI	1385	1483	1584	1689	1798
DAMAN & DIU	449	473	498	525	553
WESTERN REGION	75275	79748	84502	89528	94825
Andhra Pradesh - EPDCL	4412	4745	5032	5336	5657
Andhra Pradesh - SPDCL	8318	8945	9624	10362	11162
ANDHRA PRADESH	12731	13690	14656	15698	16820
Telangana - NPDCL	7341	7605	7876	8157	8446
Telangana - SPDCL	8319	8819	9364	9953	10599
TELANGANA	15338	16086	16885	17738	18653
Karnataka - BESCOM	6736	7009	7295	7594	7905
Karnataka - CESCOM	2163	2329	2507	2696	2896
Karnataka - GESCOM	1759	1837	1917	1998	2081
Karnataka - HESCOM	2967	3170	3384	3610	3852
Karnataka - MESCOM	1492	1577	1665	1755	1852
KARNATAKA	15033	15834	16674	17554	18481
Kerala-Discom	5513	5770	6034	6305	6603
KERALA	5513	5770	6034	6305	6603
Tamil Nadu-Discom	21471	22784	24225	25750	27392
TAMIL NADU	21471	22784	24225	25750	27392
PUDUCHERRY	606	630	655	681	708
SOUTHERN REGION	66710	70579	74666	79002	83652
Bihar - SBPDCL	3859	4139	4425	4713	5119
Bihar - NBPDCL	3196	3382	3578	3968	4189
BIHAR	7054	7521	8003	8681	9308

Table 2.14 (Contd.)

Distribution Company wise Peak Electricity Demand (Utilities) (2022-23 to 2026-27)

(MW)

Discom/State/UT	2022-23	2023-24	2024-25	2025-26	2026-27
Jharkhand - DVC	1495	1568	1628	1708	1764
Jharkhand - TATA STEEL	513	528	544	560	577
Jharkhand - JBVNL	3443	3637	3841	4058	4285
JHARKHAND	5450	5733	6013	6326	6626
Odisha - CESU	2125	2210	2302	2398	2497
Odisha - SOUTHCO	759	776	794	812	830
Odisha - WESCO	1491	1523	1556	1592	1630
Odisha - NESCO	1142	1182	1225	1271	1317
ODISHA	5517	5691	5878	6073	6273
West Bengal - CESC	2504	2573	2643	2714	2785
West Bengal - DPL	457	480	504	529	556
West Bengal - IPCL	209	214	219	227	232
West Bengal - WBSEDCL	7796	8023	8258	8506	8764
West Bengal - DVC	2352	2584	2811	3089	3343
WEST BENGAL	13318	13873	14435	15065	15680
Sikkim-Discom	179	187	197	206	216
SIKKIM	179	187	197	206	216
EASTERN REGION	29500	30895	32319	34031	35674
Assam-Discom	2979	3271	3590	3868	4166
ASSAM	2979	3271	3590	3868	4166
Manipur-Discom	453	499	553	611	667
MANIPUR	453	499	553	611	667
Meghalaya-Discom	508	528	552	578	605
MEGHALAYA	508	528	552	578	605
Nagaland-Discom	250	266	284	303	322
NAGALAND	250	266	284	303	322
Tripura-Discom	411	432	452	474	495
TRIPURA	411	432	452	474	495
Arunachal Pradesh-Discom	309	345	386	431	482
ARUNACHAL PRADESH	309	345	386	431	482
Mizoram-Discom	185	199	213	229	252
MIZORAM	185	199	213	229	252
NORTH EASTERN REGION	4891	5319	5790	6235	6710
ANDAMAN & NICOBAR ISLANDS	103	109	115	122	129
LAKSHADWEEP	12	12	13	13	13
All - India (Peak Electricity Demand)	238,899	252,288	266,844	282,418	298,774

CHAPTER – 3

Review of 18th EPS projections vis-à-vis actual achievement and comparison of 19th EPS projections with 18th EPS projections

Chapter-3

Review of 18th EPS Projections vis-a-vis Actual Achievement and Comparison of 19th EPS Projections with 18th EPS Projections

3.0 Introduction

This Chapter presents a comparison between the electrical energy requirement and peak electricity demand as projected in 18th EPS vis-a-vis the actual electrical energy requirement and peak electricity demand till the year 2015-16. Comparison has also been done between 19th EPS projections and 18th EPS projections.

3.1 Electricity demand projection as per 18th Electric Power Survey Report

The 18th Electric Power Survey Report was brought out in December, 2011. The projection of electrical energy requirement and peak electricity demand on all-India basis as per the 18th Electric Power Survey Report is summarised in Table 3.1.

Table 3.1

Electrical Energy Requirement and Peak electricity demand as per 18th EPS Report (on all-India basis)

Year	Electrical Energy Requirement (MU)	Peak Electricity Demand (MW)
2010-11	8,70,831	1,22,287
2011-12	9,36,589	1,32,685
2012-13	10,07,694	1,43,967
2013-14	10,84,610	1,56,208
2014-15	11,67,731	1,69,491
2015-16	12,57,589	1,83,902
2016-17	13,54,874	1,99,540
2021-22	19,04,861	2,83,470
2026-27	27,10,058	4,00,705

3.2 Comparison of 18th EPS projections with actual electrical energy requirement and peak electricity demand

The actual growth of electrical energy requirement and peak electricity demand in the country has been less as compared to the 18th EPS projections. Comparative Tables of 18th EPS projections vs actual electrical energy requirement and peak demand on all-India basis are given in Table 3.2 and Table 3.3 respectively.

Table 3.2

Comparison of projected electrical energy requirement as per 18th EPS vs actual on all-India basis

Year	Electrical Energy Requirement			
	18th EPS Projections (MU)	Actual (MU)	Difference between actual and 18th EPS projection (MU)	Difference between actual and 18th EPS projection (%)
2010-11	870,831	861,591	-9,240	-1.06
2011-12	936,589	937,199	610	0.07
2012-13	1007,694	995,557	-12,137	-1.20
2013-14	1084,610	1002,257	-82,353	-7.59
2014-15	1167,731	1068,943	-98,788	-8.46
2015-16	1257,589	1114,408	-143,181	-11.39
CAGR (%) from 2010-11 to 2015-16	7.62	5.28		

Table 3.3

Comparison of projected peak electricity demand as per 18th EPS vs actual on all-India basis

Year	Peak Electricity Demand			
	18th EPS Projections (MW)	Actual (MW)	Difference between actual and 18th EPS projection (MW)	Difference between actual and 18th EPS projection (%)
2010-11	1,22,287	1,22,287	0	0.00
2011-12	1,32,685	1,30,006	-2,679	-2.02
2012-13	1,43,967	1,35,453	-8,514	-5.91
2013-14	1,56,208	1,35,918	-20,290	-12.99
2014-15	1,69,491	1,48,166	-21,325	-12.58
2015-16	1,83,902	1,53,366	-30,536	-16.60
CAGR (%) from 2010-11 to 2015-16	8.50	4.63		

3.2.1 Reasons for variation between 18th EPS projected figures and actual figures

From Table 3.2 & 3.3, it can be seen that the actual values were close to the forecasts in the initial years with wider deviation being experienced in the later years. CAGR of projected electrical energy requirement, as per 18th EPS, for the period 2010-11 to 2015-16 was 7.62 % whereas the CAGR of actual electrical energy requirement for the period 2010-11 to 2015-16 has been 5.28 %.

CAGR of projected peak electricity demand, as per 18th EPS, for the period 2010-11 to 2015-16 was 8.50%, whereas the CAGR of actual peak electricity demand for the period 2010-11 to 2015-16 has been 4.63 %.

The growth of actual electrical energy requirement is indicated in Table 3.4 and it can be seen that the growth of electrical energy requirement during the year 2013-14 was quite low (0.67 %). This led to a wide gap between 18th EPS projection and actual figures in the year 2013-14 and this was also reflected in subsequent years.

Table 3.4

Growth of actual electrical energy requirement

Year	Actual electrical energy requirement (MU)	Growth rate of actual electrical energy requirement (%)	18th EPS Projections (MU)	% difference between actual electrical energy requirement and 18th EPS projections
2011-12	937199		936589	0.07
2012-13	995557	6.23	1007694	-1.20
2013-14	1002257	0.67	1084610	-7.59
2014-15	1068943	6.65	1167731	-8.46
2015-16	1114408	4.25	1257589	-11.39

Further, GDP growth rate assumed in 18th EPS was 8 % -10 % during 12th Plan period, whereas the actual growth of GDP has been low. GDP growth during the years 2012-13, 2013-14, 2014-15 and 2015-16 has been 5.62 %, 6.64 %, 7.24 % and 7.57 % respectively.

It was presumed in 18th EPS that almost all the households would be electrified by the year 2016-17, however, till the year 2016-17, 100% electrification could not be achieved and almost 5 crore households are yet to be electrified.

The above mentioned factors have led to variation between the 18th EPS projection and actual demand.

3.3 Projections of electrical energy requirement and peak electricity demand as per 19th Electric Power Survey

As per the 19th Electric Power Survey, the electrical energy requirement on all-India basis during the years 2016-17, 2021-22 and 2026-27 would be 1160 BU, 1566 BU and 2047 BU respectively. The projected peak electricity demand on all-India basis during the year 2016-17, 2021-22 and 2026-27 is 162 GW, 226 GW and 299 GW respectively. Projected electrical energy requirement and peak electricity demand as per 19th EPS is summarised in Table 3.5.

Table 3.5

Electrical Energy Requirement and Peak electricity demand on all-India basis as per 19th EPS

Year	Electrical Energy Requirement (MU)	CAGR (%) of electrical energy requirement	Peak Electricity Demand (MW)	CAGR (%) of peak electricity demand
2016-17	1160,429		1,61,834	
2021-22	1566,023	6.18	2,25,751	6.88
2026-27	2047,434	5.51	2,98,774	5.77

CAGR of electrical energy requirement during 2016-17 to 2021-22 as per 19th EPS works out to 6.18 % and CAGR of peak electricity demand for the period 2016-17 to 2021-22 works out to 6.88 %.

CAGR of electrical energy requirement for the period 2010-11 to 2015-16 has been 5.28 %. Higher CAGR (6.18 %) of electrical energy requirement during 2016-17 to 2021-22 as per 19th EPS is to cater to **Power for All** initiative of Government of India/ State Governments, **Make in India** initiative, **Dedicated Freight Corridor** and other developmental activities envisaged by Central/State Governments.

3.4 Comparison of 19th EPS projections with 18th EPS projections

Comparison of electrical energy requirement as per 18th EPS vs actual and 19th EPS projections has been done in Table 3.6. Comparison of peak electricity demand as per 18th EPS vs actual and 19th EPS projections has been done in Table 3.7.

Table 3.6

Comparison between 18th EPS Projections, actual demand and 19th EPS Projections-Electrical energy requirement

Year	Electrical Energy Requirement				
	18th EPS Projections (MU)	Actual (MU)	Difference between actual and 18th EPS projection (%)	19th EPS Projections (MU)	Difference between 19th EPS & 18th EPS Projections (%)
2010-11	870,831	861,591	-1.06		
2011-12	936,589	937,199	0.07		
2012-13	1007,694	995,557	-1.20		
2013-14	1084,610	1002,257	-7.59		
2014-15	1167,731	1068,943	-8.46		
2015-16	1257,589	1114,408	-11.39		
2016-17	1354,874			1160,429	-14.35
2021-22	1904,861			1566,023	-17.79
2026-27	2710,058			2047,434	-24.45

Table 3.7

Comparison between 18th EPS Projections, actual demand and 19th EPS Projections-Peak Electricity Demand

Year	Peak Electricity Demand				
	18th EPS Projections (MW)	Actual (MW)	Difference between actual and 18th EPS projection (%)	19th EPS Projections (MW)	Difference between 19th EPS & 18th EPS Projections (%)
2010-11	1,22,287	1,22,287	0.00		
2011-12	1,32,685	1,30,006	-2.02		
2012-13	1,43,967	1,35,453	-5.91		
2013-14	1,56,208	1,35,918	-12.99		
2014-15	1,69,491	1,48,166	-12.58		
2015-16	1,83,902	1,53,366	-16.60		
2016-17	1,99,540			1,61,834	-18.90
2021-22	2,83,470			2,25,751	-20.36
2026-27	4,00,705			2,98,774	-25.44

3.4.1 Reasons for variation in 19th EPS projections vs 18th EPS projections

The projections of 19th EPS have been made considering the year 2015-16 as base year. Projections of 19th EPS are lower than the projections of 18th EPS, on account of reduced demand in the base year itself, as compared to 18th EPS Projections.

Further, projections of 19th EPS takes into account the reduction in electricity demand on account of aggressive Demand Side Management (DSM), improvement of energy efficiency and energy conservation measures. Government of India has introduced various programmes for vigorous DSM, improvement of energy efficiency and energy conservation measures like S&L (Standards & Labelling), Perform-Achieve-Trade (PAT) scheme in industries, Energy Efficient Lighting solutions, Super-Efficient Equipment Programme etc. As per estimates made by Bureau of Energy Efficiency (BEE), these schemes would lead to savings of 95 BU electrical energy in the year 2016-17, 206 BU in the year 2021-22 and 273 BU in the year 2026-27.

The aggressive Aggregate Technical & Commercial (AT&C) loss reduction as agreed to by the States who have participated in the UDAY scheme of Government of India has also been considered in the 19th EPS projections. In the 19th EPS, the average AT&C loss on all-India basis has been assumed to be 13% during the year 2021-22.

India has set its renewable energy capacity addition target to 175 GW by 2022 in view of the significant renewable energy potential in the country. This includes 100 GW from solar, 60 GW from wind, 10 GW from biomass and 5 GW from small hydro power. The 100 GW of solar includes 40 GW from solar rooftop and the roof-top solar installations would also result in reduced demand on the utility grid.

CHAPTER – 4

Category wise projection of electricity demand on all-India and Regional basis for the years 2016-17 to 2026-27

Chapter-4

Category Wise Projection of Electricity Demand on All-India and Regional Basis for the Years 2016-17 to 2026-27

4.0 Introduction

This Chapter covers the projection of electricity consumption for different consumption categories viz. domestic, commercial, public lighting, public water works, irrigation, industries, railway traction and bulk supply as well as the electrical energy requirement, T&D losses, load factor and the peak electricity demand for the regions and on all-India basis.

4.1 Methodology

Following methodology has been adopted for the electricity demand projection:

- Electrical energy consumption of different consumer categories in each Discom worked out by Partial End Use Method.
- Electrical energy consumption of a Discom worked out as the summation of electrical energy consumption of different consumer categories in the Discom.
- Electrical energy requirement of each Discom worked out by adding the corresponding Transmission losses (intra-state) & Distribution losses, keeping into account the projected reduction in the losses.
- Electrical energy consumption of State worked out by summation of electrical energy consumption of Discoms in the State.
- Electrical energy requirement of the State worked out by summation of electrical energy requirement of Discoms in the State.
- Peak electricity demand for Discoms worked out by assuming suitable load factor depending on the consumer mix.
- Peak electricity demand of the state obtained by applying suitable diversity factor to the peak electricity demand of Discoms.
- In states where peak electricity demand of individual Discoms was not available, suitable assumptions have been made for load factor and diversity in demand amongst Discoms.
- Ex-bus electrical energy requirement of the state obtained by adding the inter-state/regional transmission losses to the electrical energy requirement of the state.

- Electrical energy consumption of a region obtained as the summation of electrical energy consumption of States/UTs in the region.
- Electrical energy requirement of a region obtained as the summation of ex-bus electrical energy requirement of the States/UTs in the region.
- Peak electricity demand of a region worked out by applying diversity factor to the sum of non-simultaneous peak electricity demand of States/UTs in the region.

4.2 Category-wise projection of electricity demand on all-India basis for the years 2016-17 to 2026-27

Category-wise projections of electrical energy consumption for different consumption categories viz. domestic, commercial,public lighting, public water works, irrigation, industries, railway traction and bulk supply; T&D losses, electrical energy requirement and peak electricity demand on all-India basis for the years 2016-17 to 2026-27 is given in Table 4.1.

4.3 Category-wise projection of electricity demand for regions for the years 2016-17 to 2026-27

Region-wise details of electrical energy consumption in different consumption categories, T&D losses, electrical energy requirement and peak electricity demand for the years 2016-17 to 2026-27 is given in Tables 4.2-4.6.

4.4 Category-wise projection of electrical energy consumption for States/UTs for the years 2016-17 to 2026-27

State/UT-wise details of electrical energy consumption in different consumption categories viz. domestic, commercial, public lighting, public water works, irrigation, industries, railway traction and bulk supply is given in Tables 4.7 - 4.15. State/UT-wise details of total electrical energy consumption is given in Table 4.16

Table 4.1

ALL INDIA

19TH ELECTRIC POWER SURVEY PROJECTION

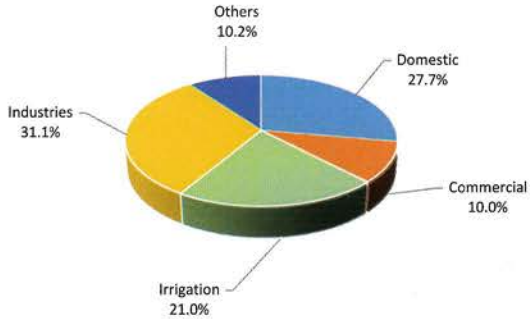
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

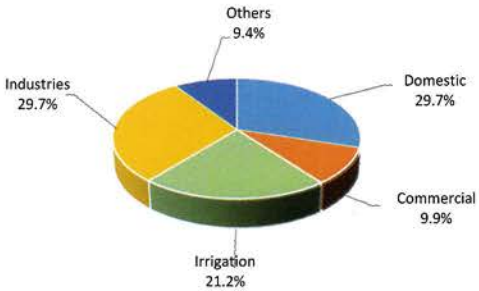
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	235988	259311	283253	307183	333356	360256	386790
Commercial	85078	91936	98333	105272	112630	120469	128888
Public lighting	8824	9406	9957	10663	11373	12117	12910
Public Water Works	21980	24001	25786	27656	29633	31727	33940
Irrigation	179376	195473	213983	229831	247283	262256	276277
Industries LT	56794	60604	64515	68712	73081	77713	82605
Industries HT	208626	220630	235967	251924	268411	285747	303845
Railway traction	16544	17217	17907	18626	19409	20203	21043
Bulk Supply	39532	42259	44681	47121	49403	51798	54188
Total Energy Consumption	**852741**	**920837**	**994382**	**1066989**	**1144579**	**1222286**	**1300486**
T&D losses -MU	216442	218594	223994	227269	230204	234420	237593
T&D losses - %	20.24	19.18	18.38	17.56	16.74	16.09	15.45
Energy Requirement - MU	1069183	1139431	1218376	1294258	1374783	1456706	1538079
Annual Load Factor - %	84.07	81.85	80.06	79.87	79.62	79.40	79.18
Peak Electricity Demand - MW	145180	158923	173721	184988	197109	209442	221737
Energy Requirement (Ex Bus) - MU	**1090439**	**1160429**	**1240760**	**1317962**	**1399913**	**1483257**	**1566023**
Peak Electricity Demand (Ex Bus)-MW	148043	161834	176897	188360	200696	213244	225751
T&D losses (Ex Bus) -%	21.80	20.65	19.86	19.04	18.24	17.59	16.96
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	27.7	28.2	28.5	28.8	29.1	29.5	29.7
Commercial	10.0	10.0	9.9	9.9	9.8	9.9	9.9
Irrigation	21.0	21.2	21.5	21.5	21.6	21.5	21.2
Industries	31.1	30.5	30.2	30.1	29.8	29.7	29.7
Others	10.2	10.1	9.9	9.8	9.6	9.5	9.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.1 (Contd.)

ALL INDIA

19TH ELECTRIC POWER SURVEY PROJECTION

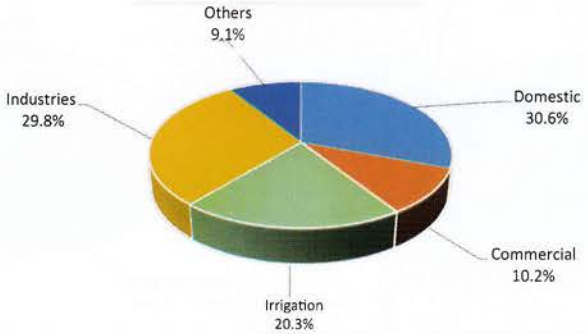
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	386790	413333	440722	469565	500031	532651
Commercial	128888	137620	146921	156676	167144	178358
Public lighting	12910	13736	14610	15552	16564	17643
Public Water Works	33940	36236	38679	41238	43975	46900
Irrigation	276277	290269	304766	320079	336926	353538
Industries LT	82605	87699	93033	98654	104594	110882
Industries HT	303845	322743	342675	363477	385504	408867
Railway traction	21043	21892	22776	23697	24884	26123
Bulk Supply	54188	56669	59323	62128	65011	68074
Total Energy Consumption	**1300486**	**1380197**	**1463505**	**1551066**	**1644635**	**1743036**
T&D losses -MU	237593	241051	245289	252420	260104	268071
T&D losses - %	15.45	14.87	14.35	14.00	13.66	13.33
Energy Requirement - MU	1538079	1621248	1708794	1803486	1904739	2011108
Annual Load Factor - %	79.18	78.87	78.71	78.54	78.38	78.23
Peak Electricity Demand - MW	221737	234665	247829	262128	277421	293480
Energy Requirement (Ex Bus) - MU	**1566023**	**1650594**	**1739618**	**1836001**	**1939111**	**2047434**
Peak Electricity Demand (Ex Bus) - MW	225751	238899	252288	266844	282418	298774
T&D losses (Ex Bus) -%	16.96	16.38	15.87	15.52	15.19	14.87
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	29.7	29.9	30.1	30.3	30.4	30.6
Commercial	9.9	10.0	10.0	10.1	10.2	10.2
Irrigation	21.2	21.0	20.8	20.6	20.5	20.3
Industries	29.7	29.7	29.8	29.8	29.8	29.8
Others	9.4	9.3	9.3	9.2	9.1	9.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.2

NORTHERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

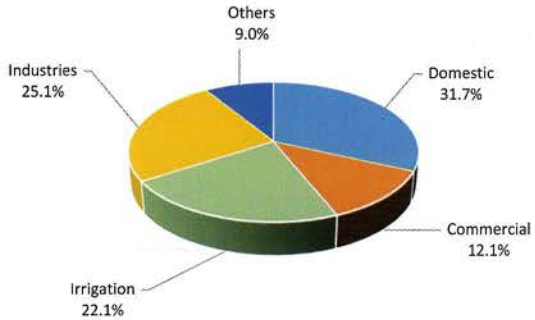
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

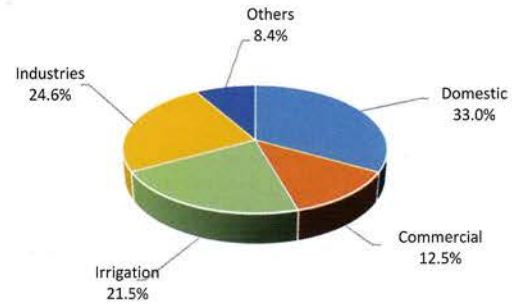
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	77632	85157	92061	99340	107058	115084	123482
Commercial	29614	32380	34851	37463	40296	43369	46693
Public lighting	2062	2149	2194	2350	2519	2696	2886
Public Water Works	6678	7420	7899	8413	8970	9574	10217
Irrigation	54174	58739	62816	66648	70946	75549	80489
Industries LT	14797	15574	16314	17254	18245	19294	20406
Industries HT	46566	50075	53824	57848	62151	66755	71484
Railway traction	2683	2790	2902	3018	3139	3264	3395
Bulk Supply	10511	11414	12085	12780	13516	14320	15078
Total Energy Consumption	**244716**	**265697**	**284945**	**305113**	**326840**	**349905**	**374128**
T&D losses -MU	82224	83635	84033	84454	84815	84956	84757
T&D losses - %	25.15	23.94	22.77	21.68	20.60	19.54	18.47
Energy Requirement - MU	326940	349331	368979	389567	411656	434861	458886
Annual Load Factor - %	73.63	73.20	72.98	72.87	72.74	72.60	72.45
Peak Electricity Demand - MW	50688	54475	57715	61031	64602	68376	72303
Energy Requirement (Ex Bus) - MU	**333816**	**356521**	**376550**	**397530**	**420047**	**443704**	**468196**
Peak Electricity Demand (Ex Bus) - MW	51754	55596	58899	62279	65919	69766	73770
T&D losses (Ex Bus) -%	26.69	25.48	24.33	23.25	22.19	21.14	20.09
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	31.7	32.1	32.3	32.6	32.8	32.9	33.0
Commercial	12.1	12.2	12.2	12.3	12.3	12.4	12.5
Irrigation	22.1	22.1	22.0	21.8	21.7	21.6	21.5
Industries	25.1	24.7	24.6	24.6	24.6	24.6	24.6
Others	9.0	8.9	8.8	8.7	8.6	8.5	8.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.2 (Contd.)

NORTHERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

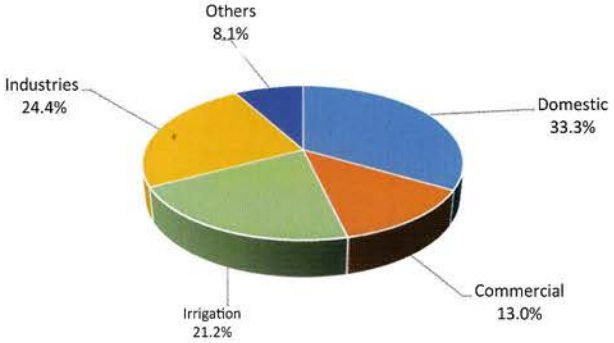
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	123482	132336	141080	150234	159906	170005
Commercial	46693	50021	53605	57498	61782	66447
Public lighting	2886	3077	3274	3488	3709	3947
Public Water Works	10217	10866	11552	12280	13065	13908
Irrigation	80489	85414	90577	96124	102005	108232
Industries LT	20406	21537	22730	23988	25318	26720
Industries HT	71484	76194	81181	86458	92041	97946
Railway traction	3395	3530	3672	3818	4009	4210
Bulk Supply	15078	15832	16637	17515	18474	19526
Total Energy Consumption	**374128**	**398809**	**424307**	**451403**	**480309**	**510941**
T&D losses -MU	84757	84559	84777	87491	90264	93086
T&D losses - %	18.47	17.49	16.65	16.24	15.82	15.41
Energy Requirement - MU	458886	483367	509084	538894	570573	604027
Annual Load Factor - %	72.45	72.24	72.29	72.33	72.37	72.40
Peak Electricity Demand - MW	72303	76381	80388	85050	90004	95240
Energy Requirement (Ex Bus) - MU	**468196**	**493162**	**519399**	**549833**	**582182**	**616345**
Peak Electricity Demand (Ex Bus) - MW	73770	77929	82017	86776	91835	97182
T&D losses (Ex Bus) -%	20.09	19.13	18.31	17.90	17.50	17.10
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	33.0	33.2	33.2	33.3	33.3	33.3
Commercial	12.5	12.5	12.6	12.7	12.9	13.0
Irrigation	21.5	21.4	21.3	21.3	21.2	21.2
Industries	24.6	24.5	24.5	24.5	24.4	24.4
Others	8.4	8.4	8.3	8.2	8.2	8.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.3

WESTERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

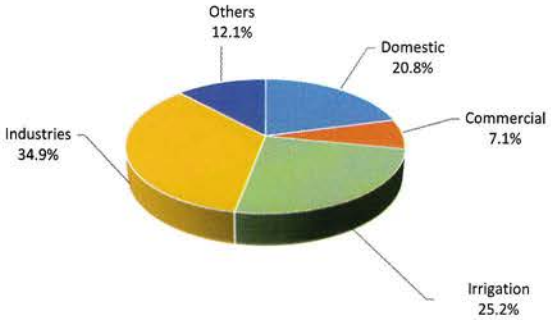
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

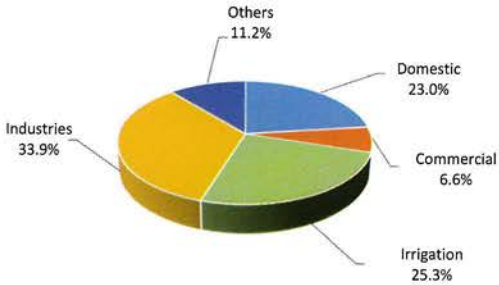
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	56750	61816	67386	73345	79782	86909	93953
Commercial	19415	20555	21758	23010	24307	25659	27074
Public lighting	2601	2878	3163	3468	3762	4076	4414
Public Water Works	7134	7831	8602	9394	10212	11061	11945
Irrigation	68711	75230	81083	87096	93301	98319	103345
Industries LT	24830	26808	28929	31076	33305	35647	38105
Industries HT	70436	72663	78264	83813	89315	94872	100556
Railway traction	6206	6453	6710	6978	7257	7546	7848
Bulk Supply	17108	18100	18736	19387	20121	20851	21595
Total Energy Consumption	**273189**	**292333**	**314631**	**337567**	**361361**	**384940**	**408836**
T&D losses -MU	52125	50721	52890	55022	56811	58675	60450
T&D losses - %	16.02	14.79	14.39	14.02	13.59	13.23	12.88
Energy Requirement - MU	325315	343054	367521	392589	418172	443615	469286
Annual Load Factor - %	81.93	80.21	78.79	78.44	78.11	77.74	77.40
Peak Electricity Demand - MW	45330	48825	53249	57138	61114	65138	69218
Energy Requirement (Ex Bus) - MU	**335424**	**352304**	**377343**	**403010**	**429217**	**455250**	**481501**
Peak Electricity Demand (Ex Bus) - MW	46738	50141	54673	58654	62728	66847	71020
T&D losses (Ex Bus) -%	18.55	17.02	16.62	16.24	15.81	15.44	15.09
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	20.8	21.1	21.4	21.7	22.1	22.6	23.0
Commercial	7.1	7.0	6.9	6.8	6.7	6.7	6.6
Irrigation	25.2	25.7	25.8	25.8	25.8	25.5	25.3
Industries	34.9	34.0	34.1	34.0	33.9	33.9	33.9
Others	12.1	12.1	11.8	11.6	11.4	11.3	11.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.3 (Contd.)

WESTERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

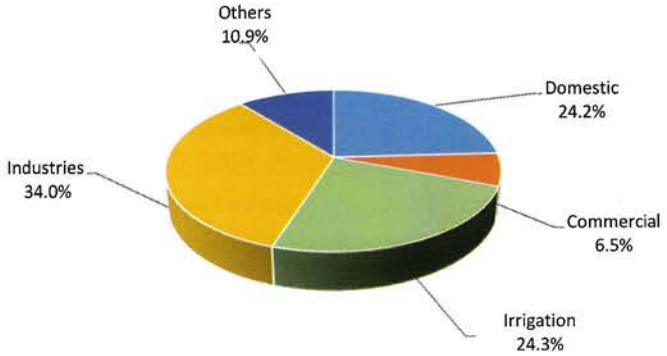
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	93953	100691	107800	115293	123216	131613
Commercial	27074	28564	30129	31767	33462	35245
Public lighting	4414	4778	5175	5607	6077	6585
Public Water Works	11945	12879	13869	14916	16020	17187
Irrigation	103345	108658	114181	119977	125928	132052
Industries LT	38105	40704	43459	46370	49452	52733
Industries HT	100556	106416	112520	118826	125362	132144
Railway traction	7848	8162	8487	8826	9266	9729
Bulk Supply	21595	22374	23175	24005	24861	25749
Total Energy Consumption	**408836**	**433226**	**458795**	**485588**	**513644**	**543036**
T&D losses -MU	60450	62018	63633	65266	67124	68967
T&D losses - %	12.88	12.52	12.18	11.85	11.56	11.27
Energy Requirement -MU	469286	495244	522428	550853	580768	612003
Annual Load Factor - %	77.40	77.04	76.70	76.32	75.94	75.56
Peak Electricity Demand - MW	69218	73381	77756	82398	87300	92465
Energy Requirement (Ex Bus) - MU	**481501**	**508032**	**535810**	**564915**	**595591**	**627624**
Peak Electricity Demand (Ex Bus) - MW	71020	75275	79748	84502	89528	94825
T&D losses (Ex Bus) -%	15.09	14.72	14.37	14.04	13.76	13.48
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	23.0	23.2	23.5	23.7	24.0	24.2
Commercial	6.6	6.6	6.6	6.5	6.5	6.5
Irrigation	25.3	25.1	24.9	24.7	24.5	24.3
Industries	33.9	34.0	34.0	34.0	34.0	34.0
Others	11.2	11.1	11.1	11.0	10.9	10.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.4

SOUTHERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

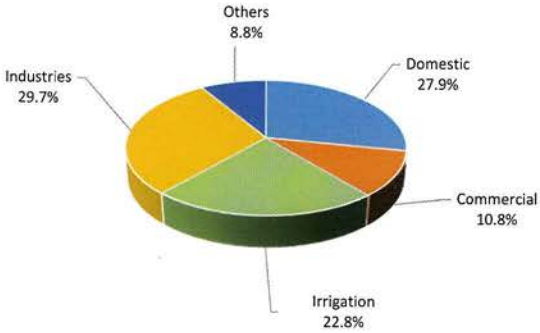
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

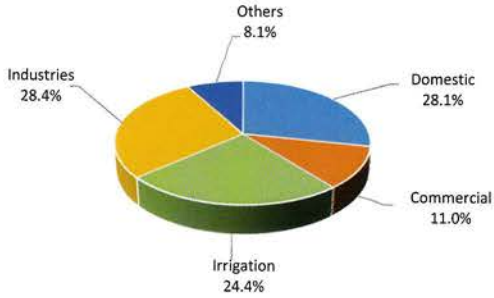
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	66424	71906	77203	82790	88590	94670	101092
Commercial	25681	27787	29908	32163	34560	37084	39771
Public lighting	3307	3464	3643	3827	4019	4216	4401
Public Water Works	6547	7003	7438	7889	8368	8875	9412
Irrigation	54158	58983	66238	72107	78913	84106	87913
Industries LT	13933	14765	15623	16524	17469	18461	19500
Industries HT	56680	60528	64453	68625	73058	77793	82862
Railway traction	3343	3489	3632	3781	3937	4100	4279
Bulk Supply	7712	8257	8988	9620	10098	10602	11132
Total Energy Consumption	**237785**	**256183**	**277125**	**297327**	**319011**	**339905**	**360363**
T&D losses -MU	45899	47933	50031	51818	53717	55273	56324
T&D losses - %	16.18	15.76	15.29	14.84	14.41	13.99	13.52
Energy Requirement -MU	283684	304116	327156	349145	372728	395178	416687
Annual Load Factor - %	80.01	78.27	77.54	77.14	76.71	76.46	76.27
Peak Electricity Demand - MW	40473	44354	48167	51668	55464	59003	62366
Energy Requirement (Ex Bus) - MU	**286425**	**307047**	**330336**	**352549**	**376376**	**399047**	**420753**
Peak Electricity Demand (Ex Bus) - MW	40864	44782	48635	52171	56007	59581	62975
T&D losses (Ex Bus) -%	16.98	16.57	16.11	15.66	15.24	14.82	14.35
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	27.9	28.1	27.9	27.8	27.8	27.9	28.1
Commercial	10.8	10.8	10.8	10.8	10.8	10.9	11.0
Irrigation	22.8	23.0	23.9	24.3	24.7	24.7	24.4
Industries	29.7	29.4	28.9	28.6	28.4	28.3	28.4
Others	8.8	8.7	8.6	8.4	8.3	8.2	8.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.4 (Contd.)

SOUTHERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

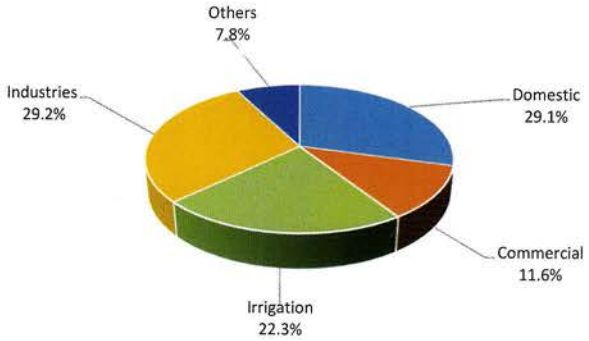
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	101092	107870	115014	122541	130465	138895
Commercial	39771	42636	45686	48731	51957	55370
Public lighting	4401	4589	4782	4982	5192	5403
Public Water Works	9412	9975	10573	11178	11833	12538
Irrigation	87913	91397	95007	98762	102650	106669
Industries LT	19500	20590	21733	22931	24185	25498
Industries HT	82862	88312	94197	100311	106896	114015
Railway traction	4279	4458	4645	4842	5095	5353
Bulk Supply	11132	11691	12282	12885	13521	14190
Total Energy Consumption	**360363**	**381518**	**403920**	**427162**	**451793**	**477932**
T&D losses -MU	56324	57964	59968	62412	64951	67824
T&D losses - %	13.52	13.19	12.93	12.75	12.57	12.43
Energy Requirement - MU	416687	439482	463887	489575	516744	545756
Annual Load Factor - %	76.27	75.94	75.76	75.57	75.39	75.19
Peak Electricity Demand - MW	62366	66068	69902	73952	78249	82857
Energy Requirement (Ex Bus) - MU	**420753**	**443754**	**468380**	**494301**	**521717**	**550992**
Peak Electricity Demand (Ex Bus) - MW	62975	66710	70579	74666	79002	83652
T&D losses (Ex Bus) -%	14.35	14.02	13.76	13.58	13.40	13.26
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	28.1	28.3	28.5	28.7	28.9	29.1
Commercial	11.0	11.2	11.3	11.4	11.5	11.6
Irrigation	24.4	24.0	23.5	23.1	22.7	22.3
Industries	28.4	28.5	28.7	28.9	29.0	29.2
Others	8.1	8.1	8.0	7.9	7.9	7.8
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.5

EASTERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

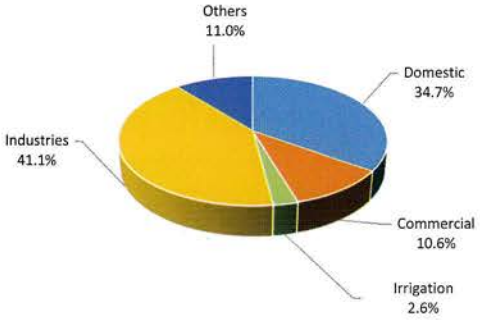
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

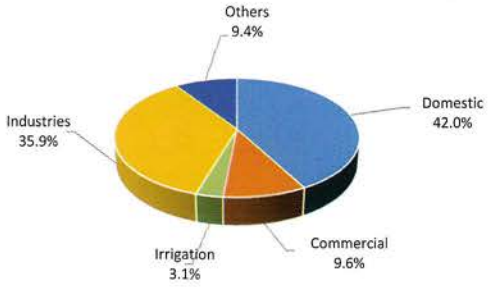
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	30154	34712	40157	44446	49789	54535	58235
Commercial	9162	9887	10363	11045	11729	12457	13277
Public lighting	755	809	843	894	939	983	1049
Public Water Works	1356	1454	1528	1616	1717	1821	1938
Irrigation	2245	2415	3724	3839	3967	4111	4342
Industries LT	2931	3115	3264	3422	3565	3756	3972
Industries HT	32784	35061	36981	39041	41134	43412	45861
Railway traction	4312	4485	4663	4849	5042	5243	5452
Bulk Supply	3096	3156	3442	3816	4062	4349	4633
Total Energy Consumption	**86795**	**95095**	**104966**	**112969**	**121944**	**130667**	**138759**
T&D losses -MU	32117	31931	32467	31206	29827	30283	30642
T&D losses - %	27.01	25.14	23.62	21.64	19.65	18.82	18.09
Energy Requirement - MU	118912	127026	137433	144174	151771	160951	169400
Annual Load Factor - %	71.80	70.13	69.38	69.67	69.67	69.72	69.69
Peak Electricity Demand - MW	18906	20676	22614	23622	24869	26352	27747
Energy Requirement (Ex Bus) - MU	**120122**	**128300**	**138862**	**145674**	**153363**	**162669**	**171228**
Peak Electricity Demand (Ex Bus) - MW	19098	20883	22849	23868	25130	26633	28046
T&D losses (Ex Bus) -%	27.74	25.88	24.41	22.45	20.49	19.67	18.96
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	34.7	36.5	38.3	39.3	40.8	41.7	42.0
Commercial	10.6	10.4	9.9	9.8	9.6	9.5	9.6
Irrigation	2.6	2.5	3.5	3.4	3.3	3.1	3.1
Industries	41.1	40.1	38.3	37.6	36.7	36.1	35.9
Others	11.0	10.4	10.0	9.9	9.6	9.5	9.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.5 (Contd.)

EASTERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

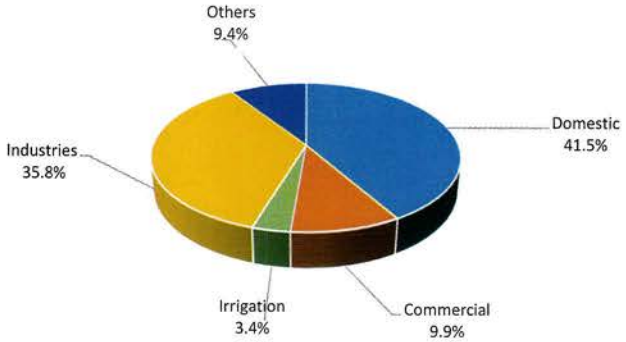
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	58235	61374	64650	68093	71707	75950
Commercial	13277	14132	15029	15978	16988	18063
Public lighting	1049	1118	1189	1266	1357	1455
Public Water Works	1938	2059	2193	2337	2490	2658
Irrigation	4342	4595	4776	4969	6072	6288
Industries LT	3972	4178	4339	4505	4677	4855
Industries HT	45861	48563	51340	54258	57390	60752
Railway traction	5452	5670	5896	6132	6431	6744
Bulk Supply	4633	4944	5309	5706	6038	6391
Total Energy Consumption	**138759**	**146632**	**154720**	**163244**	**173150**	**183157**
T&D losses -MU	30642	30919	31155	31318	31666	31914
T&D losses - %	18.09	17.41	16.76	16.10	15.46	14.84
Energy Requirement - MU	169400	177551	185876	194562	204816	215071
Annual Load Factor - %	69.69	69.45	69.43	69.48	69.47	69.59
Peak Electricity Demand - MW	27747	29183	30561	31968	33658	35280
Energy Requirement (Ex Bus) - MU	**171228**	**179480**	**187906**	**196698**	**207085**	**217468**
Peak Electricity Demand (Ex Bus) - MW	28046	29500	30895	32319	34031	35674
T&D losses (Ex Bus) -%	18.96	18.30	17.66	17.01	16.39	15.78
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	42.0	41.9	41.8	41.7	41.4	41.5
Commercial	9.6	9.6	9.7	9.8	9.8	9.9
Irrigation	3.1	3.1	3.1	3.0	3.5	3.4
Industries	35.9	36.0	36.0	36.0	35.8	35.8
Others	9.4	9.4	9.4	9.5	9.4	9.4
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.6

NORTH EASTERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

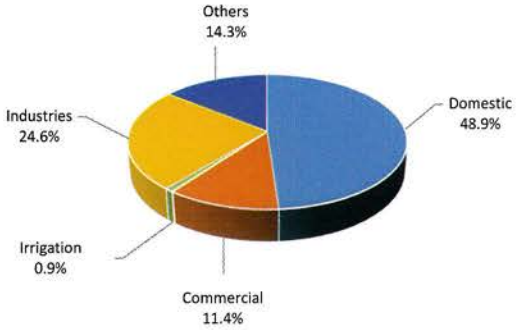
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

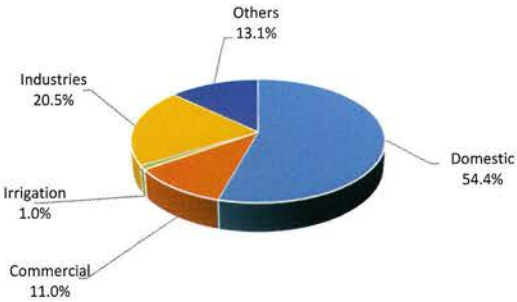
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	4869	5546	6255	7054	7911	8813	9767
Commercial	1135	1250	1371	1504	1647	1803	1969
Public lighting	88	95	103	111	121	132	144
Public Water Works	265	294	318	343	367	396	427
Irrigation	88	106	123	142	156	172	188
Industries LT	287	324	366	416	474	532	596
Industries HT	2161	2302	2446	2597	2752	2914	3082
Railway traction	0	0	0	0	35	50	70
Bulk Supply	1071	1298	1395	1482	1570	1639	1711
Total Energy Consumption	**9964**	**11215**	**12377**	**13650**	**15033**	**16450**	**17956**
T&D losses -MU	4014	4307	4500	4693	4952	5146	5328
T&D losses - %	28.72	27.75	26.67	25.58	24.78	23.83	22.88
Energy Requirement - MU	13978	15522	16877	18343	19985	21595	23284
Annual Load Factor - %	66.22	64.50	60.59	60.54	60.51	60.46	60.41
Peak Electricity Demand - MW	2410	2747	3180	3458	3770	4078	4400
Energy Requirement (Ex Bus) - MU	**14299**	**15876**	**17261**	**18758**	**20437**	**22083**	**23809**
Peak Electricity Demand (Ex Bus) - MW	2465	2810	3252	3537	3856	4170	4499
T&D losses (Ex Bus) -%	30.32	29.36	28.29	27.23	26.44	25.51	24.58
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	48.9	49.5	50.5	51.7	52.6	53.6	54.4
Commercial	11.4	11.1	11.1	11.0	11.0	11.0	11.0
Irrigation	0.9	0.9	1.0	1.0	1.0	1.0	1.0
Industries	24.6	23.4	22.7	22.1	21.5	20.9	20.5
Others	14.3	15.0	14.7	14.2	13.9	13.5	13.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.6 (Contd.)

NORTH EASTERN REGION

19TH ELECTRIC POWER SURVEY PROJECTION

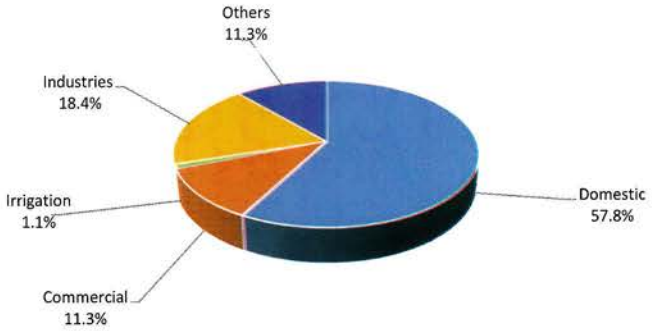
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	9767	10784	11882	13091	14406	15837
Commercial	1969	2158	2357	2581	2827	3097
Public lighting	144	158	174	191	212	234
Public Water Works	427	457	492	527	568	608
Irrigation	188	206	225	248	271	296
Industries LT	596	661	742	828	929	1040
Industries HT	3082	3258	3437	3625	3815	4011
Railway traction	70	73	76	79	83	87
Bulk Supply	1711	1787	1879	1975	2073	2174
Total Energy Consumption	**17956**	**19541**	**21264**	**23144**	**25183**	**27384**
T&D losses -MU	5328	5494	5654	5825	5986	6162
T&D losses - %	22.88	21.94	21.00	20.11	19.20	18.37
Energy Requirement - MU	23284	25035	26918	28968	31168	33547
Annual Load Factor - %	60.41	59.75	59.07	58.40	58.35	58.35
Peak Electricity Demand - MW	4400	4783	5202	5663	6098	6563
Energy Requirement (Ex Bus) - MU	**23809**	**25598**	**27523**	**29619**	**31869**	**34301**
Peak Electricity Demand (Ex Bus) - MW	4499	4891	5319	5790	6235	6710
T&D losses (Ex Bus) -%	24.58	23.66	22.74	21.86	20.98	20.16
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	54.4	55.2	55.9	56.6	57.2	57.8
Commercial	11.0	11.0	11.1	11.2	11.2	11.3
Irrigation	1.0	1.1	1.1	1.1	1.1	1.1
Industries	20.5	20.1	19.7	19.2	18.8	18.4
Others	13.1	12.7	12.3	12.0	11.7	11.3
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 4.7

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN DOMESTIC CATEGORY (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	13071	13737	14398	15081	15786	16502	17228
Haryana	6949	7717	8302	8928	9597	10311	11072
Himachal Pradesh	1942	2059	2182	2313	2452	2599	2755
Jammu & Kashmir	2927	3272	3624	4013	4446	4921	5440
Punjab	11859	12745	13454	14152	14862	15576	16291
Rajasthan	10553	11534	12548	13526	14563	15568	16603
Uttar Pradesh	27281	30778	33999	37531	41313	45323	49559
Uttarakhand	2392	2595	2798	3001	3204	3407	3610
Chandigarh	657	720	756	795	836	878	923
Northern Region	77632	85157	92061	99340	107058	115084	123482
Goa	906	980	1050	1111	1168	1225	1280
Gujarat	13450	14583	15906	17223	18577	19969	21391
Chhattisgarh	4886	6065	6869	7722	8635	9610	10645
Madhya Pradesh	10458	11610	13083	14768	16691	19043	21050
Maharashtra	26862	28362	30241	32256	34419	36739	39230
D. & N. Haveli	99	113	129	145	162	181	201
Daman & Diu	88	103	109	119	130	143	156
Western Region	56750	61816	67386	73345	79782	86909	93953
Andhra Pradesh	11385	12735	13873	15060	16290	17557	18910
Telangana	9635	10696	11668	12712	13831	15028	16308
Karnataka	11299	12220	13157	14163	15161	16218	17343
Kerala	9927	10513	11123	11757	12415	13098	13805
Tamil Nadu	23489	25016	26617	28294	30048	31881	33794
Puducherry	689	726	765	805	846	888	931
Southern Region	66424	71906	77203	82790	88590	94670	101092
Bihar	5817	7070	10345	12179	15115	17622	19211
Jharkhand	4553	5249	6057	6991	7983	8932	9775
Odisha	6181	7172	8071	8973	9751	10386	10979
West Bengal	13509	15117	15569	16174	16797	17439	18100
Sikkim	94	104	116	128	142	156	171
Eastern Region	30154	34712	40157	44446	49789	54535	58235
Assam	2960	3334	3805	4341	4923	5525	6142
Manipur	363	427	494	570	658	761	876
Meghalaya	423	483	539	596	647	692	740
Nagaland	328	344	358	375	386	403	425
Tripura	440	502	542	585	629	676	724
Arunachal Pradesh	138	199	230	265	306	354	409
Mizoram	218	257	288	323	361	404	451
North Eastern Region	4869	5546	6255	7054	7911	8813	9767
Andaman & Nicobar	125	139	154	171	189	206	223
Lakshadweep	34	35	36	37	37	38	39
All India	235988	259311	283253	307183	333356	360256	386790

Table 4.7 (Contd.)

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN DOMESTIC CATEGORY (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	17228	17963	18705	19454	20206	20964
Haryana	11072	11884	12749	13670	14650	15691
Himachal Pradesh	2755	2920	3096	3281	3478	3687
Jammu & Kashmir	5440	6008	6628	7304	8038	8837
Punjab	16291	17218	18127	19028	19907	20769
Rajasthan	16603	17774	18982	20228	21626	23068
Uttar Pradesh	49559	53785	57758	61979	66453	71180
Uttarakhand	3610	3813	4016	4219	4422	4625
Chandigarh	923	971	1020	1072	1127	1185
Northern Region	123482	132336	141080	150234	159906	170005
Goa	1280	1335	1389	1443	1496	1548
Gujarat	21391	22852	24352	25887	27451	29039
Chhattisgarh	10645	11763	12974	14283	15694	17211
Madhya Pradesh	21050	22443	23873	25339	26870	28494
Maharashtra	39230	41904	44777	47864	51180	54745
D. & N. Haveli	201	223	246	272	300	330
Daman & Diu	156	171	187	205	224	245
Western Region	93953	100691	107800	115293	123216	131613
Andhra Pradesh	18910	20354	21894	23536	25286	27149
Telangana	16308	17674	19130	20680	22330	24082
Karnataka	17343	18541	19811	21161	22592	24106
Kerala	13805	14537	15293	16073	16877	17805
Tamil Nadu	33794	35788	37864	40022	42263	44587
Puducherry	931	976	1022	1069	1117	1166
Southern Region	101092	107870	115014	122541	130465	138895
Bihar	19211	20268	21369	22537	23777	25549
Jharkhand	9775	10577	11424	12317	13257	14251
Odisha	10979	11562	12172	12811	13482	14170
West Bengal	18100	18781	19483	20208	20953	21723
Sikkim	171	186	202	219	238	257
Eastern Region	58235	61374	64650	68093	71707	75950
Assam	6142	6789	7498	8272	9118	10042
Manipur	876	1005	1148	1305	1476	1662
Meghalaya	740	791	846	904	966	1031
Nagaland	425	450	462	486	507	527
Tripura	724	773	823	873	924	975
Arunachal Pradesh	409	472	545	628	725	837
Mizoram	451	503	560	622	690	763
North Eastern Region	9767	10784	11882	13091	14406	15837
Andaman & Nicobar	223	239	256	273	290	308
Lakshadweep	39	40	40	41	42	42
All India	386790	413333	440722	469565	500031	532651

Table 4.8

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN COMMERCIAL CATEGORY (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	6978	7183	7383	7586	7792	8002	8216
Haryana	3656	3941	4280	4649	5050	5484	5957
Himachal Pradesh	626	657	690	725	761	799	839
Jammu & Kashmir	912	1024	1138	1263	1401	1553	1721
Punjab	3414	3678	3940	4221	4521	4844	5188
Rajasthan	3956	4398	4883	5420	6075	6808	7628
Uttar Pradesh	8494	9807	10748	11714	12713	13798	14964
Uttarakhand	1118	1198	1278	1358	1438	1518	1598
Chandigarh	459	495	510	527	545	562	581
Northern Region	29614	32380	34851	37463	40296	43369	46693
Goa	380	399	419	440	462	485	509
Gujarat	1896	2037	2190	2345	2500	2654	2807
Chhattisgarh	1459	1627	1780	1940	2109	2288	2478
Madhya Pradesh	2487	2774	3063	3360	3662	3976	4309
Maharashtra	13114	13636	14220	14832	15474	16147	16855
D. & N. Haveli	29	32	35	39	42	46	50
Daman & Diu	50	50	51	55	59	63	67
Western Region	19415	20555	21758	23010	24307	25659	27074
Andhra Pradesh	3802	4322	4726	5165	5644	6165	6732
Telangana	3008	3271	3581	3907	4249	4589	4954
Karnataka	6608	6974	7364	7777	8213	8674	9160
Kerala	3202	3440	3689	3949	4219	4497	4786
Tamil Nadu	8860	9569	10325	11130	11987	12898	13865
Puducherry	201	211	223	235	248	261	275
Southern Region	25681	27787	29908	32163	34560	37084	39771
Bihar	1246	1350	1469	1737	1990	2271	2592
Jharkhand	580	629	671	700	731	764	831
Odisha	1800	1934	2084	2242	2409	2585	2770
West Bengal	5497	5934	6096	6319	6548	6784	7027
Sikkim	38	41	44	47	50	54	58
Eastern Region	9162	9887	10363	11045	11729	12457	13277
Assam	788	860	938	1022	1112	1210	1317
Manipur	39	49	59	72	85	99	117
Meghalaya	92	99	107	116	125	134	145
Nagaland	65	74	85	97	110	122	131
Tripura	75	78	80	83	86	89	92
Arunachal Pradesh	39	47	55	64	74	86	100
Mizoram	37	42	46	51	56	61	67
North Eastern Region	1135	1250	1371	1504	1647	1803	1969
Andaman & Nicobar	62	66	69	74	78	82	87
Lakshadweep	11	11	12	13	14	15	16
All India	85078	91936	98333	105272	112630	120469	128888

Table 4.8 (Contd.)

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN COMMERCIAL CATEGORY (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	8216	8435	8660	8889	9125	9366
Haryana	5957	6470	7027	7632	8290	9004
Himachal Pradesh	839	881	925	971	1020	1071
Jammu & Kashmir	1721	1907	2112	2339	2590	2868
Punjab	5188	5558	5954	6378	6832	7318
Rajasthan	7628	8594	9685	10921	12370	14008
Uttar Pradesh	14964	15898	16865	17889	18977	20132
Uttarakhand	1598	1678	1758	1838	1918	1998
Chandigarh	581	600	620	640	661	683
Northern Region	46693	50021	53605	57498	61782	66447
Goa	509	535	561	590	619	650
Gujarat	2807	2962	3118	3277	3438	3598
Chhattisgarh	2478	2680	2896	3127	3373	3634
Madhya Pradesh	4309	4665	5037	5420	5793	6187
Maharashtra	16855	17597	18381	19209	20084	21010
D. & N. Haveli	50	53	58	62	66	71
Daman & Diu	67	72	77	83	88	95
Western Region	27074	28564	30129	31767	33462	35245
Andhra Pradesh	6732	7349	8020	8550	9115	9715
Telangana	4954	5347	5768	6221	6707	7229
Karnataka	9160	9674	10218	10790	11395	12034
Kerala	4786	5087	5399	5723	6062	6414
Tamil Nadu	13865	14891	15978	17128	18344	19628
Puducherry	275	289	303	318	334	350
Southern Region	39771	42636	45686	48731	51957	55370
Bihar	2592	2925	3278	3657	4072	4525
Jharkhand	831	904	985	1074	1172	1280
Odisha	2770	2964	3167	3380	3603	3835
West Bengal	7027	7277	7532	7795	8065	8342
Sikkim	58	62	66	71	76	82
Eastern Region	13277	14132	15029	15978	16988	18063
Assam	1317	1433	1559	1696	1844	2005
Manipur	117	137	160	187	219	255
Meghalaya	145	155	167	179	192	205
Nagaland	131	147	156	172	190	208
Tripura	92	96	99	102	106	110
Arunachal Pradesh	100	116	134	155	179	206
Mizoram	67	74	81	89	98	107
North Eastern Region	1969	2158	2357	2581	2827	3097
Andaman & Nicobar	87	91	96	102	107	113
Lakshadweep	16	18	19	20	22	23
All India	128888	137620	146921	156676	167144	178358

Table 4.9

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN PUBLIC LIGHTING (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	475	499	524	550	577	605	633
Haryana	84	98	104	111	117	124	132
Himachal Pradesh	13	13	13	13	14	14	14
Jammu & Kashmir	50	53	56	59	63	67	70
Punjab	177	195	206	217	229	241	254
Rajasthan	394	345	265	290	318	349	384
Uttar Pradesh	800	876	952	1033	1120	1213	1314
Uttarakhand	45	47	48	50	52	53	55
Chandigarh	25	24	25	27	28	29	31
Northern Region	2062	2149	2194	2350	2519	2696	2886
Goa	39	39	39	39	39	39	39
Gujarat	332	373	400	427	454	481	508
Chhattisgarh	101	122	134	146	157	169	181
Madhya Pradesh	359	404	460	519	550	575	600
Maharashtra	1756	1924	2108	2312	2535	2780	3050
D. & N. Haveli	7	8	9	11	12	14	16
Daman & Diu	7	8	12	14	16	18	20
Western Region	2601	2878	3163	3468	3762	4076	4414
Andhra Pradesh	318	324	337	351	366	381	397
Telangana	708	675	717	762	809	859	894
Karnataka	881	993	1040	1088	1138	1189	1242
Kerala	379	402	428	455	484	513	543
Tamil Nadu	994	1044	1095	1147	1201	1255	1309
Puducherry	27	26	25	23	20	19	16
Southern Region	3307	3464	3643	3827	4019	4216	4401
Bihar	41	45	49	65	73	80	88
Jharkhand	144	147	150	153	157	160	182
Odisha	91	93	98	103	109	114	120
West Bengal	480	525	546	573	600	629	659
Sikkim	0	0	0	0	0	0	0
Eastern Region	755	809	843	894	939	983	1049
Assam	14	15	17	19	21	23	25
Manipur	5	5	5	6	6	7	8
Meghalaya	1	1	1	1	1	2	2
Nagaland	10	11	11	11	12	12	13
Tripura	40	39	40	42	44	45	47
Arunachal Pradesh	12	16	19	23	28	33	40
Mizoram	7	8	8	9	9	10	10
North Eastern Region	88	95	103	111	121	132	144
Andaman & Nicobar	10	10	11	12	12	14	14
Lakshadweep	1	1	1	1	1	1	1
All India	8824	9406	9957	10663	11373	12117	12910

Table 4.9 (Contd.)

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN PUBLIC LIGHTING (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	633	662	691	720	751	781
Haryana	132	140	148	157	167	177
Himachal Pradesh	14	14	14	14	14	15
Jammu & Kashmir	70	74	78	83	87	92
Punjab	254	265	276	288	298	309
Rajasthan	384	421	463	509	560	615
Uttar Pradesh	1314	1412	1511	1621	1734	1855
Uttarakhand	55	57	58	60	62	63
Chandigarh	31	33	34	36	38	40
Northern Region	2886	3077	3274	3488	3709	3947
Goa	39	39	39	39	39	39
Gujarat	508	536	564	593	622	651
Chhattisgarh	181	194	207	222	237	252
Madhya Pradesh	600	623	647	672	696	718
Maharashtra	3050	3347	3673	4031	4426	4860
D. & N. Haveli	16	18	20	23	26	29
Daman & Diu	20	22	25	28	32	36
Western Region	4414	4778	5175	5607	6077	6585
Andhra Pradesh	397	411	425	440	456	472
Telangana	894	930	968	1006	1046	1086
Karnataka	1242	1296	1353	1411	1472	1531
Kerala	543	574	605	637	670	703
Tamil Nadu	1309	1364	1420	1479	1539	1602
Puducherry	16	13	11	9	9	9
Southern Region	4401	4589	4782	4982	5192	5403
Bihar	88	95	99	104	110	115
Jharkhand	182	207	235	267	310	360
Odisha	120	126	132	139	145	152
West Bengal	659	690	722	756	791	828
Sikkim	0	0	1	1	1	1
Eastern Region	1049	1118	1189	1266	1357	1455
Assam	25	28	30	33	36	39
Manipur	8	8	9	10	10	11
Meghalaya	2	2	2	2	2	2
Nagaland	13	13	14	14	15	15
Tripura	47	49	50	52	53	55
Arunachal Pradesh	40	48	58	69	83	100
Mizoram	10	10	11	11	12	12
North Eastern Region	144	158	174	191	212	234
Andaman & Nicobar	14	15	15	16	17	18
Lakshadweep	1	1	1	1	1	1
All India	12910	13736	14610	15552	16564	17643

Table 4.10

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN PUBLIC WATER WORKS (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	588	616	645	675	707	741	776
Haryana	768	920	988	1060	1137	1218	1303
Himachal Pradesh	546	579	614	651	690	731	775
Jammu & Kashmir	577	615	657	701	748	799	855
Punjab	462	521	562	606	653	703	756
Rajasthan	1803	1916	2037	2173	2328	2506	2694
Uttar Pradesh	1587	1887	2010	2140	2281	2431	2592
Uttarakhand	346	366	386	406	426	446	466
Chandigarh	0	0	0	0	0	0	0
Northern Region	6678	7420	7899	8413	8970	9574	10217
Goa	164	176	190	202	214	226	237
Gujarat	2954	3279	3640	4006	4383	4769	5160
Chhattisgarh	253	302	341	381	424	469	517
Madhya Pradesh	1232	1320	1439	1553	1655	1752	1847
Maharashtra	2525	2747	2984	3243	3526	3835	4173
D. & N. Haveli	4	4	4	4	5	5	5
Daman & Diu	3	3	4	4	5	5	6
Western Region	7134	7831	8602	9394	10212	11061	11945
Andhra Pradesh	668	682	709	737	766	796	827
Telangana	658	783	886	990	1098	1212	1332
Karnataka	2535	2721	2892	3072	3269	3482	3715
Kerala	364	378	392	407	421	437	452
Tamil Nadu	2285	2400	2519	2643	2772	2906	3044
Puducherry	38	39	40	40	41	42	43
Southern Region	6547	7003	7438	7889	8368	8875	9412
Bihar	72	81	90	97	114	126	142
Jharkhand	165	174	177	182	186	191	197
Odisha	251	269	286	302	319	337	355
West Bengal	867	930	975	1034	1098	1167	1243
Sikkim	1	1	1	1	1	1	1
Eastern Region	1356	1454	1528	1616	1717	1821	1938
Assam	78	85	93	101	111	121	131
Manipur	17	21	23	26	29	33	37
Meghalaya	37	45	48	50	53	56	59
Nagaland	5	6	7	8	9	9	11
Tripura	79	82	87	92	94	99	105
Arunachal Pradesh	0	0	0	0	0	0	0
Mizoram	49	55	60	65	71	78	85
North Eastern Region	265	294	318	343	367	396	427
Andaman & Nicobar	0	0	0	0	0	0	0
Lakshadweep	0	0	0	0	0	0	0
All India	21980	24001	25786	27656	29633	31727	33940

Table 4.10 (Contd.)

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN PUBLIC WATER WORKS (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	776	813	851	891	933	976
Haryana	1303	1393	1488	1588	1693	1803
Himachal Pradesh	775	821	871	923	978	1037
Jammu & Kashmir	855	915	979	1038	1100	1166
Punjab	756	813	873	936	1003	1073
Rajasthan	2694	2902	3134	3396	3690	4018
Uttar Pradesh	2592	2724	2850	2983	3122	3269
Uttarakhand	466	486	506	526	546	566
Chandigarh	0	0	0	0	0	0
Northern Region	10217	10866	11552	12280	13065	13908
Goa	237	249	260	271	283	294
Gujarat	5160	5565	5986	6421	6869	7327
Chhattisgarh	517	569	625	685	749	817
Madhya Pradesh	1847	1943	2041	2139	2237	2337
Maharashtra	4173	4542	4945	5387	5869	6398
D. & N. Haveli	5	5	6	6	6	6
Daman & Diu	6	6	7	7	8	8
Western Region	11945	12879	13869	14916	16020	17187
Andhra Pradesh	827	859	892	926	961	997
Telangana	1332	1458	1591	1711	1852	2018
Karnataka	3715	3960	4226	4506	4808	5126
Kerala	452	468	484	501	517	534
Tamil Nadu	3044	3187	3335	3489	3649	3816
Puducherry	43	44	45	45	46	47
Southern Region	9412	9975	10573	11178	11833	12538
Bihar	142	156	175	195	216	240
Jharkhand	197	204	211	218	226	233
Odisha	355	374	394	414	433	453
West Bengal	1243	1325	1413	1509	1614	1730
Sikkim	1	1	1	1	1	1
Eastern Region	1938	2059	2193	2337	2490	2658
Assam	131	143	155	169	184	200
Manipur	37	41	46	51	58	64
Meghalaya	59	63	66	70	73	77
Nagaland	11	11	12	13	14	15
Tripura	105	107	112	114	120	123
Arunachal Pradesh	0	0	0	0	0	0
Mizoram	85	92	100	109	119	129
North Eastern Region	427	457	492	527	568	608
Andaman & Nicobar	0	0	0	0	0	0
Lakshadweep	0	0	0	0	0	0
All India	33940	36236	38679	41238	43975	46900

Table 4.11

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN IRRIGATION (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	28	28	27	26	26	25	25
Haryana	9506	10591	11100	11638	12208	12810	13448
Himachal Pradesh	52	54	55	57	59	60	62
Jammu & Kashmir	305	313	331	349	368	388	419
Punjab	11514	12159	13070	14020	15010	16037	17103
Rajasthan	19969	21717	23308	24514	26154	27958	29946
Uttar Pradesh	12658	13734	14781	15899	16978	18123	19339
Uttarakhand	141	142	142	143	144	145	145
Chandigarh	2	2	2	2	2	2	2
Northern Region	54174	58739	62816	66648	70946	75549	80489
Goa	25	25	25	25	25	25	25
Gujarat	17531	19364	20741	22067	23416	24782	26162
Chhattisgarh	4025	4227	4438	4660	4893	5137	5394
Madhya Pradesh	18882	21341	23607	25803	27861	29659	31316
Maharashtra	28236	30261	32259	34526	37090	38697	40428
D. & N. Haveli	9	10	11	12	13	15	17
Daman & Diu	2	3	3	3	3	3	3
Western Region	68711	75230	81083	87096	93301	98319	103345
Andhra Pradesh	11087	12556	13101	13674	14276	14907	15570
Telangana	12010	13168	17987	21322	25522	27997	28978
Karnataka	19160	20598	21858	23158	24466	25823	27219
Kerala	296	305	313	322	331	339	348
Tamil Nadu	11548	12299	12921	13574	14261	14983	15741
Puducherry	57	57	57	57	57	57	57
Southern Region	54158	58983	66238	72107	78913	84106	87913
Bihar	355	388	1630	1660	1700	1750	1882
Jharkhand	96	110	127	146	168	193	222
Odisha	270	285	302	321	339	359	378
West Bengal	1524	1631	1665	1712	1760	1809	1860
Sikkim	0	0	0	0	0	0	0
Eastern Region	2245	2415	3724	3839	3967	4111	4342
Assam	51	61	72	83	92	101	111
Manipur	3	4	6	10	11	12	14
Meghalaya	0	0	0	0	0	0	0
Nagaland	0	0	0	0	0	0	0
Tripura	34	41	44	49	53	58	63
Arunachal Pradesh	0	0	0	0	0	0	0
Mizoram	0	0	0	0	0	0	0
North Eastern Region	88	106	123	142	156	172	188
Andaman & Nicobar	0	0	0	0	0	0	0
Lakshadweep	0	0	0	0	0	0	0
All India	179376	195473	213983	229831	247283	262256	276277

Table 4.11 (Contd.)

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN IRRIGATION (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	25	24	24	23	23	22
Haryana	13448	14124	14839	15597	16401	17252
Himachal Pradesh	62	64	66	68	70	72
Jammu & Kashmir	419	453	484	518	554	593
Punjab	17103	18206	19344	20517	21723	22960
Rajasthan	29946	31977	34109	36481	39038	41786
Uttar Pradesh	19339	20420	21563	22770	24047	25396
Uttarakhand	145	146	147	147	148	149
Chandigarh	2	2	2	2	2	2
Northern Region	80489	85414	90577	96124	102005	108232
Goa	25	25	25	25	25	25
Gujarat	26162	27573	29017	30493	31997	33526
Chhattisgarh	5394	5664	5947	6244	6557	6885
Madhya Pradesh	31316	33083	34874	36745	38570	40361
Maharashtra	40428	42291	44294	46444	48751	51224
D. & N. Haveli	17	18	20	23	25	28
Daman & Diu	3	3	3	4	4	4
Western Region	103345	108658	114181	119977	125928	132052
Andhra Pradesh	15570	16266	16997	17779	18600	19462
Telangana	28978	29550	30133	30728	31334	31948
Karnataka	27219	28631	30081	31572	33101	34665
Kerala	348	356	365	374	382	391
Tamil Nadu	15741	16537	17373	18252	19176	20147
Puducherry	57	57	57	57	57	57
Southern Region	87913	91397	95007	98762	102650	106669
Bihar	1882	2031	2101	2173	3147	3225
Jharkhand	222	255	294	338	388	447
Odisha	378	397	416	438	459	482
West Bengal	1860	1912	1965	2020	2077	2135
Sikkim	0	0	0	0	0	0
Eastern Region	4342	4595	4776	4969	6072	6288
Assam	111	122	134	148	163	179
Manipur	14	15	17	20	22	25
Meghalaya	0	0	0	0	0	0
Nagaland	0	0	0	0	0	0
Tripura	63	68	74	80	86	92
Arunachal Pradesh	0	0	0	0	0	0
Mizoram	0	0	0	0	0	1
North Eastern Region	188	206	225	248	271	296
Andaman & Nicobar	0	0	0	0	0	0
Lakshadweep	0	0	0	0	0	0
All India	276277	290269	304766	320079	336926	353538

Table 4.12

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN LT INDUSTRIES (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	2652	2739	2827	2914	3001	3089	3176
Haryana	1622	1656	1732	1813	1897	1986	2079
Himachal Pradesh	210	218	227	236	246	256	266
Jammu & Kashmir	475	514	556	601	650	703	760
Punjab	2999	3147	3337	3539	3751	3978	4219
Rajasthan	2971	3160	3362	3575	3803	4045	4303
Uttar Pradesh	3450	3702	3817	4089	4381	4694	5030
Uttarakhand	282	311	340	369	398	427	456
Chandigarh	136	126	117	117	117	117	117
Northern Region	14797	15574	16314	17254	18245	19294	20406
Goa	100	104	108	112	117	122	127
Gujarat	13546	14658	15864	17032	18211	19414	20636
Chhattisgarh	532	594	639	682	724	768	812
Madhya Pradesh	1080	1170	1270	1374	1479	1593	1722
Maharashtra	9210	9897	10634	11434	12304	13250	14280
D. & N. Haveli	201	220	240	261	283	305	327
Daman & Diu	161	165	173	180	187	194	202
Western Region	24830	26808	28929	31076	33305	35647	38105
Andhra Pradesh	2319	2520	2737	2972	3226	3501	3799
Telangana	1056	1100	1145	1191	1239	1288	1338
Karnataka	1901	2000	2087	2177	2271	2369	2471
Kerala	1048	1084	1121	1159	1199	1239	1281
Tamil Nadu	7443	7890	8355	8840	9344	9867	10409
Puducherry	167	173	179	185	190	196	202
Southern Region	13933	14765	15623	16524	17469	18461	19500
Bihar	373	430	496	561	607	696	801
Jharkhand	156	158	162	164	168	172	180
Odisha	315	344	366	389	412	437	463
West Bengal	2086	2182	2239	2306	2376	2449	2525
Sikkim	2	2	2	2	2	2	2
Eastern Region	2931	3115	3264	3422	3565	3756	3972
Assam	87	95	105	116	128	141	155
Manipur	20	24	30	37	42	48	55
Meghalaya	6	6	6	6	6	6	7
Nagaland	54	58	67	78	94	106	118
Tripura	21	26	28	29	30	32	34
Arunachal Pradesh	97	112	128	148	170	195	224
Mizoram	2	2	2	3	3	3	4
North Eastern Region	287	324	366	416	474	532	596
Andaman & Nicobar	15	17	18	20	22	23	25
Lakshadweep	0	0	0	0	0	0	0
All India	56794	60604	64515	68712	73081	77713	82605

Table 4.12 (Contd.)

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN LT INDUSTRIES (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	3176	3264	3351	3439	3526	3614
Haryana	2079	2176	2278	2386	2499	2617
Himachal Pradesh	266	276	287	299	311	323
Jammu & Kashmir	760	821	886	955	1028	1105
Punjab	4219	4474	4744	5028	5330	5649
Rajasthan	4303	4577	4869	5179	5509	5860
Uttar Pradesh	5030	5347	5685	6044	6426	6833
Uttarakhand	456	485	514	543	572	601
Chandigarh	117	117	117	117	117	117
Northern Region	20406	21537	22730	23988	25318	26720
Goa	127	132	137	142	148	154
Gujarat	20636	21893	23193	24517	25876	27286
Chhattisgarh	812	857	903	951	1000	1051
Madhya Pradesh	1722	1863	2014	2185	2368	2566
Maharashtra	14280	15400	16620	17950	19399	20980
D. & N. Haveli	327	350	374	398	424	450
Daman & Diu	202	210	219	227	236	246
Western Region	38105	40704	43459	46370	49452	52733
Andhra Pradesh	3799	4120	4467	4842	5247	5685
Telangana	1338	1390	1443	1496	1552	1608
Karnataka	2471	2577	2687	2803	2923	3048
Kerala	1281	1324	1369	1414	1462	1510
Tamil Nadu	10409	10972	11553	12154	12774	13412
Puducherry	202	208	215	221	228	234
Southern Region	19500	20590	21733	22931	24185	25498
Bihar	801	896	941	988	1038	1090
Jharkhand	180	189	199	209	219	230
Odisha	463	488	513	539	565	591
West Bengal	2525	2602	2683	2766	2852	2941
Sikkim	2	2	2	3	3	3
Eastern Region	3972	4178	4339	4505	4677	4855
Assam	155	171	188	207	228	250
Manipur	55	63	72	82	93	105
Meghalaya	7	7	7	7	8	8
Nagaland	118	123	137	147	163	178
Tripura	34	35	37	39	41	43
Arunachal Pradesh	224	258	297	341	393	451
Mizoram	4	4	4	5	5	5
North Eastern Region	596	661	742	828	929	1040
Andaman & Nicobar	25	27	29	31	33	36
Lakshadweep	0	0	0	0	0	0
All India	82605	87699	93033	98654	104594	110882

Table 4.13

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN HT INDUSTRIES (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	511	516	521	525	530	535	539
Haryana	8424	9267	10193	11213	12334	13567	14752
Himachal Pradesh	4461	4595	4732	4874	5021	5171	5326
Jammu & Kashmir	915	1017	1130	1256	1399	1559	1715
Punjab	9537	10299	11103	11947	12831	13755	14717
Rajasthan	7277	7771	8300	8867	9474	10123	10819
Uttar Pradesh	9872	10577	11315	12091	12906	13764	14665
Uttarakhand	5437	5916	6427	6973	7556	8180	8849
Chandigarh	132	117	102	102	102	102	102
Northern Region	46566	50075	53824	57848	62151	66755	71484
Goa	1589	1808	1951	2087	2221	2355	2486
Gujarat	23086	22627	24834	27091	29423	31839	34325
Chhattisgarh	6416	7171	7617	8074	8521	8966	9406
Madhya Pradesh	7980	8729	9927	11020	11984	12869	13768
Maharashtra	24789	25273	26266	27298	28372	29489	30652
D. & N. Haveli	5197	5632	6096	6560	7027	7498	7971
Daman & Diu	1379	1423	1572	1682	1767	1855	1948
Western Region	70436	72663	78264	83813	89315	94872	100556
Andhra Pradesh	12539	13315	14651	16118	17727	19493	21432
Telangana	10314	11168	11482	11771	12068	12372	12685
Karnataka	7924	8338	8701	9105	9517	9959	10449
Kerala	3050	3136	3223	3308	3393	3476	3558
Tamil Nadu	21881	23548	25312	27178	29147	31223	33409
Puducherry	973	1024	1085	1146	1207	1269	1329
Southern Region	56680	60528	64453	68625	73058	77793	82862
Bihar	1812	2141	2366	2480	2618	2841	3124
Jharkhand	9357	9985	10337	10743	11125	11524	12013
Odisha	5738	6059	6371	6705	6933	7134	7322
West Bengal	15744	16730	17747	18945	20281	21728	23207
Sikkim	133	146	160	168	177	186	195
Eastern Region	32784	35061	36981	39041	41134	43412	45861
Assam	1517	1636	1760	1890	2026	2168	2315
Manipur	7	8	10	13	13	15	15
Meghalaya	608	626	641	658	674	691	708
Nagaland	0	0	0	0	0	0	0
Tripura	22	25	26	27	29	30	31
Arunachal Pradesh	0	0	0	0	0	0	0
Mizoram	7	8	9	10	10	11	12
North Eastern Region	2161	2302	2446	2597	2752	2914	3082
Andaman & Nicobar	0	0	0	0	0	0	0
Lakshadweep	0	0	0	0	0	0	0
All India	208626	220630	235967	251924	268411	285747	303845

Table 4.13 (Contd.)

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN HT INDUSTRIES (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	539	544	549	553	558	562
Haryana	14752	15715	16743	17839	19008	20255
Himachal Pradesh	5326	5486	5651	5820	5995	6175
Jammu & Kashmir	1715	1886	2075	2282	2510	2761
Punjab	14717	15718	16756	17828	18933	20069
Rajasthan	10819	11564	12362	13216	14132	15113
Uttar Pradesh	14665	15613	16608	17651	18744	19888
Uttarakhand	8849	9567	10338	11167	12059	13020
Chandigarh	102	102	102	102	102	102
Northern Region	71484	76194	81181	86458	92041	97946
Goa	2486	2619	2754	2892	3032	3173
Gujarat	34325	36919	39631	42459	45396	48437
Chhattisgarh	9406	9831	10268	10715	11172	11640
Madhya Pradesh	13768	14693	15664	16644	17666	18752
Maharashtra	30652	31861	33118	34425	35785	37199
D. & N. Haveli	7971	8448	8937	9436	9944	10458
Daman & Diu	1948	2045	2147	2255	2367	2486
Western Region	100556	106416	112520	118826	125362	132144
Andhra Pradesh	21432	23576	25946	28319	30927	33796
Telangana	12685	13005	13334	13671	14017	14373
Karnataka	10449	10956	11499	12083	12706	13392
Kerala	3558	3638	3717	3794	3868	3940
Tamil Nadu	33409	35748	38250	40928	43793	46858
Puducherry	1329	1389	1451	1517	1585	1656
Southern Region	82862	88312	94197	100311	106896	114015
Bihar	3124	3499	3821	4088	4374	4681
Jharkhand	12013	12542	13096	13677	14285	14922
Odisha	7322	7514	7674	7858	8046	8241
West Bengal	23207	24803	26533	28410	30447	32659
Sikkim	195	205	215	226	237	249
Eastern Region	45861	48563	51340	54258	57390	60752
Assam	2315	2468	2626	2789	2956	3128
Manipur	15	17	18	21	21	22
Meghalaya	708	726	745	763	782	802
Nagaland	0	0	0	0	0	0
Tripura	31	33	35	36	38	40
Arunachal Pradesh	0	0	0	0	0	0
Mizoram	12	13	14	15	17	18
North Eastern Region	3082	3258	3437	3625	3815	4011
Andaman & Nicobar	0	0	0	0	0	0
Lakshadweep	0	0	0	0	0	0
All India	303845	322743	342675	363477	385504	408867

Table 4.14

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN RAILWAY TRACTION (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	89	92	96	100	104	108	112
Haryana	321	334	347	361	375	390	406
Himachal Pradesh	0	0	0	0	0	0	0
Jammu & Kashmir	0	0	0	0	0	0	0
Punjab	156	162	169	175	182	190	197
Rajasthan	437	454	472	491	511	531	552
Uttar Pradesh	1669	1736	1805	1877	1953	2031	2112
Uttarakhand	12	12	13	13	14	15	15
Chandigarh	0	0	0	0	0	0	0
Northern Region	2683	2790	2902	3018	3139	3264	3395
Goa	0	0	0	0	0	0	0
Gujarat	768	798	830	864	898	934	971
Chhattisgarh	890	926	963	1001	1041	1083	1126
Madhya Pradesh	1963	2042	2123	2208	2296	2388	2484
Maharashtra	2585	2687	2794	2906	3021	3141	3266
D. & N. Haveli	0	0	0	0	0	0	0
Daman & Diu	0	0	0	0	0	0	0
Western Region	6206	6453	6710	6978	7257	7546	7848
Andhra Pradesh	1458	1516	1577	1640	1706	1774	1845
Telangana	633	659	685	713	741	771	802
Karnataka	68	83	89	97	105	115	135
Kerala	214	222	231	240	250	260	270
Tamil Nadu	970	1009	1050	1091	1135	1181	1228
Puducherry	0	0	0	0	0	0	0
Southern Region	3343	3489	3632	3781	3937	4100	4279
Bihar	567	590	614	638	664	690	718
Jharkhand	1237	1287	1337	1390	1445	1502	1561
Odisha	1073	1116	1160	1207	1255	1305	1357
West Bengal	1435	1492	1552	1614	1679	1746	1816
Sikkim	0	0	0	0	0	0	0
Eastern Region	4312	4485	4663	4849	5042	5243	5452
Assam	0	0	0	0	35	50	70
Manipur	0	0	0	0	0	0	0
Meghalaya	0	0	0	0	0	0	0
Nagaland	0	0	0	0	0	0	0
Tripura	0	0	0	0	0	0	0
Arunachal Pradesh	0	0	0	0	0	0	0
Mizoram	0	0	0	0	0	0	0
North Eastern Region	0	0	0	0	35	50	70
Andaman & Nicobar	0	0	0	0	0	0	0
Lakshadweep	0	0	0	0	0	0	0
All India	16544	17217	17907	18626	19409	20203	21043

Table 4.14 (Contd.)

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN RAILWAY TRACTION (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	112	117	121	126	132	139
Haryana	406	422	439	457	479	503
Himachal Pradesh	0	0	0	0	0	0
Jammu & Kashmir	0	0	0	0	0	0
Punjab	197	205	213	222	233	245
Rajasthan	552	574	597	621	652	685
Uttar Pradesh	2112	2196	2284	2376	2494	2619
Uttarakhand	15	16	16	17	18	19
Chandigarh	0	0	0	0	0	0
Northern Region	3395	3530	3672	3818	4009	4210
Goa	0	0	0	0	0	0
Gujarat	971	1010	1051	1093	1147	1205
Chhattisgarh	1126	1171	1218	1267	1330	1397
Madhya Pradesh	2484	2583	2687	2794	2934	3080
Maharashtra	3266	3397	3532	3673	3855	4047
D. & N. Haveli	0	0	0	0	0	0
Daman & Diu	0	0	0	0	0	0
Western Region	7848	8162	8487	8826	9266	9729
Andhra Pradesh	1845	1919	1995	2075	2179	2288
Telangana	802	834	867	902	947	994
Karnataka	135	148	163	180	200	214
Kerala	270	281	292	304	319	335
Tamil Nadu	1228	1277	1328	1381	1450	1523
Puducherry	0	0	0	0	0	0
Southern Region	4279	4458	4645	4842	5095	5353
Bihar	718	747	776	807	848	890
Jharkhand	1561	1623	1688	1756	1836	1919
Odisha	1357	1412	1468	1527	1603	1683
West Bengal	1816	1888	1964	2043	2145	2252
Sikkim	0	0	0	0	0	0
Eastern Region	5452	5670	5896	6132	6431	6744
Assam	70	73	76	79	83	87
Manipur	0	0	0	0	0	0
Meghalaya	0	0	0	0	0	0
Nagaland	0	0	0	0	0	0
Tripura	0	0	0	0	0	0
Arunachal Pradesh	0	0	0	0	0	0
Mizoram	0	0	0	0	0	0
North Eastern Region	70	73	76	79	83	87
Andaman & Nicobar	0	0	0	0	0	0
Lakshadweep	0	0	0	0	0	0
All India	21043	21892	22776	23697	24884	26123

Table 4.15

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN BULK SUPPLY (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	1457	1521	1586	1629	1673	1719	1767
Haryana	838	1243	1397	1572	1769	1991	2242
Himachal Pradesh	175	180	186	191	197	203	209
Jammu & Kashmir	982	1095	1224	1366	1525	1703	1785
Punjab	642	693	749	809	874	943	1019
Rajasthan	657	676	698	717	737	759	780
Uttar Pradesh	5151	5343	5526	5718	5919	6130	6354
Uttarakhand	523	568	615	668	704	743	783
Chandigarh	86	96	103	111	119	128	138
Northern Region	10511	11414	12085	12780	13516	14320	15078
Goa	40	42	44	46	49	51	54
Gujarat	5850	6026	6207	6393	6584	6782	6982
Chhattisgarh	40	41	42	44	45	46	48
Madhya Pradesh	2559	2644	2728	2814	2901	2993	3082
Maharashtra	8616	9342	9712	10088	10539	10976	11428
D. & N. Haveli	3	3	3	3	3	3	3
Daman & Diu	1	2	0	0	0	0	0
Western Region	17108	18100	18736	19387	20121	20851	21595
Andhra Pradesh	767	856	911	969	1032	1098	1169
Telangana	2793	3089	3596	4018	4250	4497	4761
Karnataka	760	793	834	853	902	954	1006
Kerala	1244	1311	1380	1451	1525	1601	1679
Tamil Nadu	1828	1881	1935	1991	2048	2107	2168
Puducherry	320	327	333	338	342	345	349
Southern Region	7712	8257	8988	9620	10098	10602	11132
Bihar	2052	2116	2389	2734	2960	3210	3448
Jharkhand	522	517	509	513	508	519	536
Odisha	338	330	337	355	373	392	413
West Bengal	162	169	183	189	195	201	207
Sikkim	22	23	24	25	26	27	28
Eastern Region	3096	3156	3442	3816	4062	4349	4633
Assam	579	602	626	651	677	704	732
Manipur	106	267	313	343	373	375	380
Meghalaya	117	142	151	160	170	181	191
Nagaland	87	95	101	110	117	130	140
Tripura	102	103	107	110	113	116	120
Arunachal Pradesh	60	68	76	85	95	106	119
Mizoram	18	20	21	23	25	27	29
North Eastern Region	1071	1298	1395	1482	1570	1639	1711
Andaman & Nicobar	33	34	35	36	37	38	39
Lakshadweep	0	0	0	0	0	0	0
All India	39532	42259	44681	47121	49403	51798	54188

Table 4.15 (Contd.)

ALL INDIA & STATE WISE / UT WISE ELECTRICAL ENERGY CONSUMPTION IN BULK SUPPLY (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	1767	1818	1871	1925	1982	2042
Haryana	2242	2527	2848	3211	3623	4088
Himachal Pradesh	209	215	222	228	235	242
Jammu & Kashmir	1785	1869	1942	2018	2099	2183
Punjab	1019	1100	1189	1284	1386	1497
Rajasthan	780	802	825	848	872	896
Uttar Pradesh	6354	6526	6711	6909	7123	7357
Uttarakhand	783	826	871	918	968	1021
Chandigarh	138	149	160	172	186	200
Northern Region	15078	15832	16637	17515	18474	19526
Goa	54	56	59	62	65	68
Gujarat	6982	7192	7408	7631	7860	8097
Chhattisgarh	48	49	50	52	54	55
Madhya Pradesh	3082	3177	3271	3369	3469	3573
Maharashtra	11428	11897	12383	12887	13410	13952
D. & N. Haveli	3	3	3	3	3	3
Daman & Diu	0	0	0	0	0	0
Western Region	21595	22374	23175	24005	24861	25749
Andhra Pradesh	1169	1246	1327	1394	1465	1539
Telangana	4761	5043	5345	5666	6009	6375
Karnataka	1006	1061	1122	1185	1253	1325
Kerala	1679	1759	1839	1921	2003	2086
Tamil Nadu	2168	2230	2294	2360	2429	2499
Puducherry	349	352	356	359	363	366
Southern Region	11132	11691	12282	12885	13521	14190
Bihar	3448	3715	4036	4388	4673	4977
Jharkhand	536	554	573	592	613	634
Odisha	413	431	449	469	488	508
West Bengal	207	214	220	226	232	238
Sikkim	28	29	30	32	33	34
Eastern Region	4633	4944	5309	5706	6038	6391
Assam	732	761	791	823	856	890
Manipur	380	385	390	400	410	420
Meghalaya	191	203	214	228	242	257
Nagaland	140	150	173	189	203	216
Tripura	120	124	127	131	135	139
Arunachal Pradesh	119	133	149	167	187	209
Mizoram	29	31	34	37	40	43
North Eastern Region	1711	1787	1879	1975	2073	2174
Andaman & Nicobar	39	40	41	42	43	44
Lakshadweep	0	0	0	0	0	0
All India	54188	56669	59323	62128	65011	68074

Table 4.16 (Contd.)

ALL INDIA & STATE WISE / UT WISE TOTAL ELECTRICAL ENERGY CONSUMPTION (2015-16 to 2021-22) (Utilities Only)

in Million Units

State/UTs	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Delhi	25848	26930	28006	29087	30197	31326	32473
Haryana	32168	35766	38445	41344	44483	47881	51391
Himachal Pradesh	8025	8355	8700	9061	9438	9833	10246
Jammu & Kashmir	7144	7902	8716	9610	10600	11692	12765
Punjab	40759	43600	46589	49686	52913	56266	59746
Rajasthan	48017	51971	55872	59573	63962	68648	73709
Uttar Pradesh	70963	78439	84953	92091	99564	107507	115928
Uttarakhand	10296	11155	12048	12981	13936	14933	15978
Chandigarh	1497	1579	1615	1680	1748	1819	1894
Northern Region	244716	265697	284945	305113	326840	349905	374128
Goa	3243	3574	3826	4063	4295	4527	4757
Gujarat	79413	83745	90612	97448	104445	111625	118943
Chhattisgarh	18603	21075	22823	24649	26548	28536	30607
Madhya Pradesh	46999	52032	57700	63420	69079	74849	80177
Maharashtra	117691	124129	131218	138895	147280	155055	163362
D. & N. Haveli	5548	6021	6527	7035	7547	8066	8588
Daman & Diu	1692	1757	1925	2057	2166	2281	2402
Western Region	273189	292333	314631	337567	361361	384940	408836
Andhra Pradesh	44342	48826	52623	56686	61031	65671	70679
Telangana	40814	44608	51747	57386	63807	68613	72052
Karnataka	51135	54720	58023	61491	65042	68783	72740
Kerala	19723	20791	21900	23049	24236	25460	26722
Tamil Nadu	79298	84654	90128	95888	101943	108301	114968
Puducherry	2473	2583	2705	2827	2951	3077	3202
Southern Region	237785	256183	277125	297327	319011	339905	360363
Bihar	12336	14210	19446	22151	25841	29286	32006
Jharkhand	16810	18256	19527	20983	22470	23955	25496
Odisha	16056	17602	19074	20597	21900	23048	24157
West Bengal	41304	44710	46572	48866	51334	53952	56644
Sikkim	289	317	347	372	398	426	455
Eastern Region	86795	95095	104966	112969	121944	130667	138759
Assam	6074	6689	7416	8223	9124	10042	10999
Manipur	559	807	941	1076	1218	1350	1502
Meghalaya	1283	1402	1494	1587	1676	1762	1852
Nagaland	550	588	628	678	728	781	837
Tripura	813	895	954	1017	1078	1146	1216
Arunachal Pradesh	346	441	508	585	673	775	892
Mizoram	339	392	435	483	536	594	658
North Eastern Region	9964	11215	12377	13650	15033	16450	17956
Andaman & Nicobar	245	266	288	312	337	363	388
Lakshadweep	46	48	50	51	53	55	57
All India	852741	920837	994382	1066989	1144579	1222286	1300486

Table 4.16 (Contd.)

ALL INDIA & STATE WISE / UT WISE TOTAL ELECTRICAL ENERGY CONSUMPTION (2021-22 to 2026-27) (Utilities Only)

in Million Units

State/UTs	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Delhi	32473	33639	34821	36020	37235	38467
Haryana	51391	54851	58560	62538	66809	71391
Himachal Pradesh	10246	10678	11131	11605	12101	12621
Jammu & Kashmir	12765	13933	15183	16536	18006	19604
Punjab	59746	63557	67475	71508	75644	79889
Rajasthan	73709	79184	85025	91399	98449	106051
Uttar Pradesh	115928	123921	131833	140221	149120	158529
Uttarakhand	15978	17073	18224	19436	20713	22062
Chandigarh	1894	1972	2054	2141	2232	2328
Northern Region	374128	398809	424307	451403	480309	510941
Goa	4757	4989	5225	5465	5707	5951
Gujarat	118943	126500	134320	142371	150657	159167
Chhattisgarh	30607	32779	35089	37545	40164	42942
Madhya Pradesh	80177	85073	90108	95307	100603	106068
Maharashtra	163362	172236	181723	191869	202761	214415
D. & N. Haveli	8588	9119	9664	10222	10793	11374
Daman & Diu	2402	2530	2666	2809	2960	3120
Western Region	408836	433226	458795	485588	513644	543036
Andhra Pradesh	70679	76098	81964	87861	94235	101101
Telangana	72052	75231	78578	82082	85794	89714
Karnataka	72740	76844	81160	85690	90449	95441
Kerala	26722	28024	29363	30740	32160	33718
Tamil Nadu	114968	121993	129396	137193	145417	154071
Puducherry	3202	3328	3459	3595	3739	3887
Southern Region	360363	381518	403920	427162	451793	477932
Bihar	32006	34332	36596	38937	42255	45292
Jharkhand	25496	27055	28704	30447	32306	34276
Odisha	24157	25267	26386	27575	28826	30116
West Bengal	56644	59493	62516	65733	69176	72848
Sikkim	455	485	518	552	588	626
Eastern Region	138759	146632	154720	163244	173150	183157
Assam	10999	11988	13058	14216	15467	16819
Manipur	1502	1671	1859	2076	2309	2565
Meghalaya	1852	1947	2047	2152	2265	2382
Nagaland	837	895	955	1021	1091	1159
Tripura	1216	1284	1358	1428	1504	1576
Arunachal Pradesh	892	1027	1182	1361	1567	1803
Mizoram	658	729	805	889	980	1080
North Eastern Region	17956	19541	21264	23144	25183	27384
Andaman & Nicobar	388	412	437	464	490	518
Lakshadweep	57	59	61	63	65	67
All India	1300486	1380197	1463505	1551066	1644635	1743036

CHAPTER – 5

Category-wise projection of electricity demand for Distribution companies, States and UTs for the years 2016-17 to 2026-27

Chapter-5

Category wise Projection of Electricity Demand for Distribution Companies, States and UTs for the years 2016-17 to 2026-27

5.0 Introduction

This Chapter covers the projection of electricity demand in different consumption categories viz. domestic, commercial, public lighting, public water works, irrigation, industries, railway traction and bulk supply as well as the electrical energy requirement, T&D losses, load factor and peak electricity demand for Distribution Companies, states and UT's.

5.1 Methodology

Following methodology has been adopted for the electricity demand projection of Distribution Companies (Discoms), States, UTs:

- Electrical energy consumption of different consumer categories in each Discom worked out by Partial End Use Method.
- Electrical energy consumption of a Discom worked out as the summation of electrical energy consumption of different consumer categories in the Discom.
- Electrical energy requirement of each Discom worked out by adding the corresponding transmission losses (intra-state) & distribution losses, keeping into account the projected reduction in the losses.
- Electrical energy consumption of State worked out by summation of electrical energy consumption of Discoms in the State.
- Electrical energy requirement of the State worked out by summation of electrical energy requirement of Discoms in the State.
- Peak electricity demand for Discoms worked out by assuming suitable load factor depending on the consumer mix.
- Peak electricity demand of the state obtained by applying suitable diversity factor to the peak electricity demand of Discoms.
- In states where peak electricity demand of individual Discoms was not available, suitable assumptions have been made for load factor and diversity in demand amongst Discoms.
- Ex-bus electrical energy requirement of the state obtained by adding the inter-state/regional transmission losses to the electrical energy requirement of the state.

5.2 Category-wise projection of electricity demand for Distribution Companies, States and UT's

Projection of electricity consumption in different consumer categories, electrical energy requirement, T&D losses, load factor and peak electricity demand for the years 2016-17 to 2026-27 for Discoms, states, UT's is given in Tables 5.1- 5.87.

Table 5.1

DELHI - NDMC

19TH ELECTRIC POWER SURVEY PROJECTION

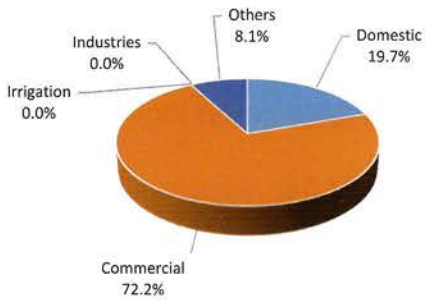
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

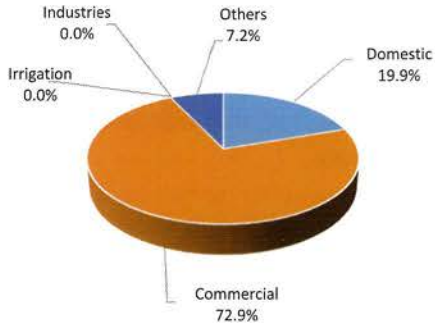
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	266	272	277	283	288	294	300
Commercial	978	998	1018	1038	1059	1080	1101
Public lighting	8	8	8	8	8	8	8
Public Water Works	3	3	3	3	3	3	3
Irrigation	0	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0	0
Industries HT	0	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0	0
Bulk Supply	99	99	99	99	99	99	99
Total Energy Consumption	**1354**	**1379**	**1404**	**1430**	**1456**	**1483**	**1511**
T&D losses -MU	219	221	223	225	228	230	232
T&D losses - %	13.92	13.82	13.72	13.62	13.52	13.42	13.32
Energy Requirement - MU	1573	1600	1627	1655	1684	1713	1743
Annual Load Factor - %	46.00	46.00	46.00	46.00	46.00	46.00	46.00
Peak Electricity Demand - MW	**390**	**397**	**404**	**411**	**418**	**425**	**433**
Pattern of Utilisation							
Category	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Domestic	19.7	19.7	19.7	19.8	19.8	19.8	19.9
Commercial	72.2	72.4	72.5	72.6	72.7	72.8	72.9
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	8.1	7.9	7.8	7.6	7.5	7.4	7.2
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.1 (Contd.)

DELHI - NDMC

19TH ELECTRIC POWER SURVEY PROJECTION

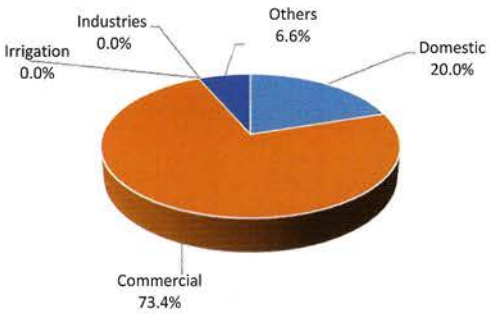
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	300	306	312	318	325	331
Commercial	1101	1123	1146	1169	1192	1216
Public lighting	8	8	8	8	8	8
Public Water Works	3	3	3	3	3	3
Irrigation	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0
Industries HT	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0
Bulk Supply	99	99	99	99	99	99
Total Energy Consumption	**1511**	**1539**	**1567**	**1596**	**1626**	**1657**
T&D losses -MU	232	234	237	239	241	244
T&D losses - %	13.32	13.22	13.12	13.02	12.92	12.82
Energy Requirement - MU	1743	1773	1804	1835	1867	1900
Annual Load Factor - %	46.00	46.00	46.00	46.00	46.00	46.00
Peak Electricity Demand - MW	**433**	**440**	**448**	**455**	**463**	**472**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	19.9	19.9	19.9	19.9	20.0	20.0
Commercial	72.9	73.0	73.1	73.2	73.3	73.4
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	0.0	0.0	0.0	0.0	0.0	0.0
Others	7.2	7.1	7.0	6.8	6.7	6.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.2

DELHI - BYPL

19TH ELECTRIC POWER SURVEY PROJECTION

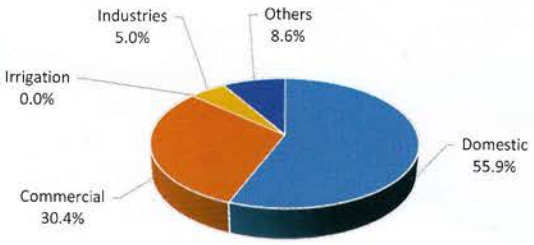
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

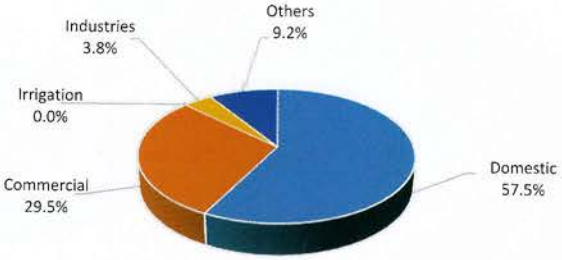
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	3160	3319	3487	3662	3847	4035	4224
Commercial	1721	1789	1859	1932	2008	2087	2169
Public lighting	101	101	101	101	101	101	101
Public Water Works	147	153	159	166	173	180	187
Irrigation	0	0	0	0	0	0	0
Industries LT	247	247	247	247	247	247	247
Industries HT	35	35	35	35	35	35	35
Railway traction	0	0	0	0	0	0	0
Bulk Supply	240	261	283	307	332	358	386
Total Energy Consumption	**5652**	**5906**	**6172**	**6451**	**6744**	**7044**	**7350**
T&D losses -MU	1333	1353	1372	1391	1410	1426	1441
T&D losses - %	19.09	18.64	18.19	17.74	17.29	16.84	16.39
Energy Requirement - MU	6985	7259	7545	7842	8153	8470	8790
Annual Load Factor - %	51.00	51.00	51.00	51.00	51.00	51.00	51.00
Peak Electricity Demand - MW	**1564**	**1625**	**1689**	**1755**	**1825**	**1896**	**1968**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	55.9	56.2	56.5	56.8	57.0	57.3	57.5
Commercial	30.4	30.3	30.1	30.0	29.8	29.6	29.5
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	5.0	4.8	4.6	4.4	4.2	4.0	3.8
Others	8.6	8.7	8.8	8.9	9.0	9.1	9.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.2 (Contd.)

DELHI - BYPL

19TH ELECTRIC POWER SURVEY PROJECTION

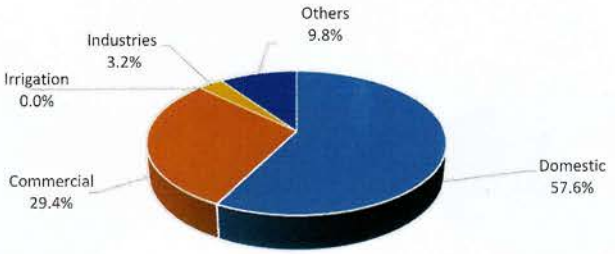
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	4224	4413	4601	4788	4973	5155
Commercial	2169	2255	2344	2436	2532	2631
Public lighting	101	101	101	101	101	101
Public Water Works	187	194	201	208	216	223
Irrigation	0	0	0	0	0	0
Industries LT	247	247	247	247	247	247
Industries HT	35	35	35	35	35	35
Railway traction	0	0	0	0	0	0
Bulk Supply	386	416	447	480	515	551
Total Energy Consumption	**7350**	**7661**	**7977**	**8296**	**8619**	**8945**
T&D losses -MU	1441	1453	1462	1469	1472	1473
T&D losses - %	16.39	15.94	15.49	15.04	14.59	14.14
Energy Requirement - MU	8790	9113	9438	9765	10091	10418
Annual Load Factor - %	51.00	51.00	51.00	51.00	51.00	51.00
Peak Electricity Demand - MW	**1968**	**2040**	**2113**	**2186**	**2259**	**2332**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	57.5	57.6	57.7	57.7	57.7	57.6
Commercial	29.5	29.4	29.4	29.4	29.4	29.4
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	3.8	3.7	3.5	3.4	3.3	3.2
Others	9.2	9.3	9.4	9.5	9.6	9.8
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.3

DELHI - BRPL

19TH ELECTRIC POWER SURVEY PROJECTION

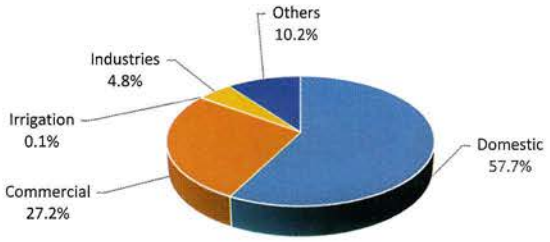
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

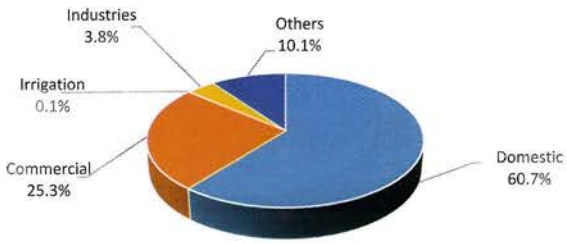
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	6130	6436	6752	7082	7425	7775	8135
Commercial	2889	2968	3049	3133	3219	3307	3398
Public lighting	206	213	221	231	241	252	263
Public Water Works	221	239	258	278	299	322	347
Irrigation	16	16	16	16	16	16	16
Industries LT	396	396	396	396	396	396	396
Industries HT	111	111	111	111	111	111	111
Railway traction	25	26	27	28	29	30	31
Bulk Supply	634	645	657	669	681	693	706
Total Energy Consumption	**10626**	**11049**	**11487**	**11943**	**12417**	**12903**	**13403**
T&D losses -MU	1759	1754	1747	1737	1725	1710	1690
T&D losses - %	14.20	13.70	13.20	12.70	12.20	11.70	11.20
Energy Requirement - MU	12385	12803	13234	13680	14143	14613	15093
Annual Load Factor - %	56.00	56.00	56.00	56.00	56.00	56.00	56.00
Peak Electricity Demand - MW	**2525**	**2610**	**2698**	**2789**	**2883**	**2979**	**3077**
Pattern of Utilisation							
Category	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Domestic	57.7	58.2	58.8	59.3	59.8	60.3	60.7
Commercial	27.2	26.9	26.5	26.2	25.9	25.6	25.3
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Industries	4.8	4.6	4.4	4.2	4.1	3.9	3.8
Others	10.2	10.2	10.1	10.1	10.1	10.1	10.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.3 (Contd.)

DELHI - BRPL

19TH ELECTRIC POWER SURVEY PROJECTION

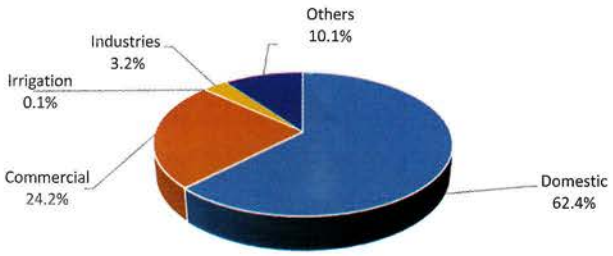
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	8135	8504	8879	9262	9652	10049
Commercial	3398	3491	3587	3685	3786	3890
Public lighting	263	275	287	300	313	327
Public Water Works	347	373	400	429	460	492
Irrigation	16	16	16	16	16	16
Industries LT	396	396	396	396	396	396
Industries HT	111	111	111	111	111	111
Railway traction	31	33	34	35	37	39
Bulk Supply	706	719	732	746	760	774
Total Energy Consumption	**13403**	**13916**	**14442**	**14980**	**15531**	**16094**
T&D losses -MU	1690	1667	1640	1702	1764	1828
T&D losses - %	11.20	10.70	10.20	10.20	10.20	10.20
Energy Requirement - MU	15093	15584	16082	16682	17295	17922
Annual Load Factor - %	56.00	56.00	56.00	56.00	56.00	56.00
Peak Electricity Demand - MW	**3077**	**3177**	**3278**	**3401**	**3525**	**3653**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	60.7	61.1	61.5	61.8	62.1	62.4
Commercial	25.3	25.1	24.8	24.6	24.4	24.2
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1
Industries	3.8	3.6	3.5	3.4	3.3	3.2
Others	10.1	10.1	10.1	10.1	10.1	10.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.4

DELHI - TPDDL

19TH ELECTRIC POWER SURVEY PROJECTION

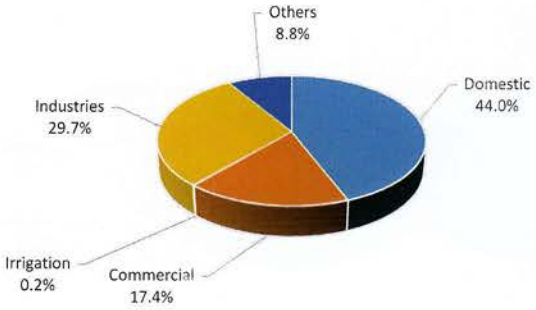
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

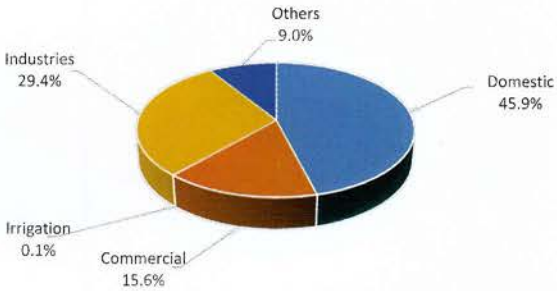
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	3515	3711	3882	4054	4226	4398	4569
Commercial	1391	1429	1457	1483	1507	1528	1548
Public lighting	160	177	194	211	228	244	261
Public Water Works	218	221	225	229	233	236	240
Irrigation	12	11	11	10	10	9	9
Industries LT	2008	2096	2183	2271	2358	2446	2533
Industries HT	365	370	374	379	383	388	393
Railway traction	64	66	69	72	75	78	81
Bulk Supply	264	289	314	314	314	314	314
Total Energy Consumption	**7996**	**8370**	**8710**	**9023**	**9333**	**9641**	**9948**
T&D losses -MU	879	899	914	925	957	989	1020
T&D losses - %	9.90	9.70	9.50	9.30	9.30	9.30	9.30
Energy Requirement - MU	8875	9269	9625	9948	10290	10630	10968
Annual Load Factor - %	57.00	57.00	57.00	57.00	57.00	57.00	57.00
Peak Electricity Demand - MW	**1777**	**1856**	**1928**	**1992**	**2061**	**2129**	**2197**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	44.0	44.3	44.6	44.9	45.3	45.6	45.9
Commercial	17.4	17.1	16.7	16.4	16.1	15.9	15.6
Irrigation	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Industries	29.7	29.5	29.4	29.4	29.4	29.4	29.4
Others	8.8	9.0	9.2	9.1	9.1	9.0	9.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.4 (Contd.)

DELHI - TPDDL

19TH ELECTRIC POWER SURVEY PROJECTION

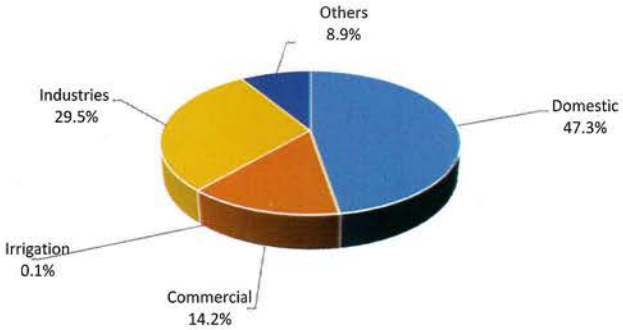
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	4569	4741	4913	5085	5256	5428
Commercial	1548	1566	1584	1600	1615	1629
Public lighting	261	278	295	312	328	345
Public Water Works	240	244	247	251	255	259
Irrigation	9	8	8	7	7	6
Industries LT	2533	2621	2708	2795	2883	2970
Industries HT	393	397	402	407	411	416
Railway traction	81	84	87	91	95	100
Bulk Supply	314	314	314	314	314	314
Total Energy Consumption	**9948**	**10253**	**10558**	**10861**	**11164**	**11467**
T&D losses -MU	1020	1051	1083	1114	1145	1176
T&D losses - %	9.30	9.30	9.30	9.30	9.30	9.30
Energy Requirement - MU	10968	11305	11640	11975	12309	12643
Annual Load Factor - %	57.00	57.00	57.00	57.00	57.00	57.00
Peak Electricity Demand - MW	**2197**	**2264**	**2331**	**2398**	**2465**	**2532**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	45.9	46.2	46.5	46.8	47.1	47.3
Commercial	15.6	15.3	15.0	14.7	14.5	14.2
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1
Industries	29.4	29.4	29.5	29.5	29.5	29.5
Others	9.0	9.0	8.9	8.9	8.9	8.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.5

DELHI - MES

19TH ELECTRIC POWER SURVEY PROJECTION

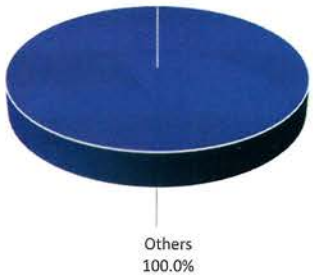
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

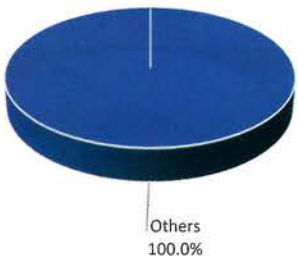
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Energy Consumption in MUs							
Domestic	0	0	0	0	0	0	0
Commercial	0	0	0	0	0	0	0
Public lighting	0	0	0	0	0	0	0
Public Water Works	0	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0	0
Industries HT	0	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0	0
Bulk Supply	220	226	233	240	247	255	262
Total Energy Consumption	**220**	**226**	**233**	**240**	**247**	**255**	**262**
T&D losses -MU	24	24	24	25	26	27	27
T&D losses - %	10.00	9.43	9.44	9.43	9.43	9.44	9.43
Energy Requirement - MU	244	250	257	265	273	281	289
Annual Load Factor - %	56.00	56.00	56.00	56.00	56.00	56.00	56.00
Peak Electricity Demand - MW	**50**	**51**	**52**	**54**	**56**	**57**	**59**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: MES takes bulk supply from Delhi Utilities. It has not furnished Category wise consumption details.

Table 5.5 (Contd.)

DELHI - MES

19TH ELECTRIC POWER SURVEY PROJECTION

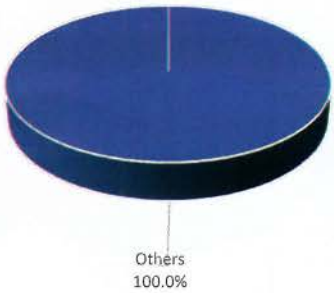
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	0	0	0	0	0	0
Commercial	0	0	0	0	0	0
Public lighting	0	0	0	0	0	0
Public Water Works	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0
Industries HT	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0
Bulk Supply	262	270	278	286	295	304
Total Energy Consumption	**262**	**270**	**278**	**286**	**295**	**304**
T&D losses -MU	27	28	29	30	31	32
T&D losses - %	9.43	9.43	9.43	9.43	9.43	9.43
Energy Requirement - MU	289	298	307	316	326	336
Annual Load Factor - %	56.00	56.00	56.00	56.00	56.00	56.00
Peak Electricity Demand - MW	**59**	**61**	**63**	**64**	**66**	**68**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.0	0.0	0.0	0.0	0.0	0.0
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	0.0	0.0	0.0	0.0	0.0	0.0
Others	100.0	100.0	100.0	100.0	100.0	100.0
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: MES takes bulk supply from Delhi Utilities. It has not furnished Category wise consumption details.

Table 5.6

DELHI

19TH ELECTRIC POWER SURVEY PROJECTION

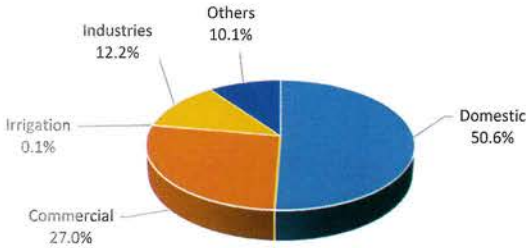
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

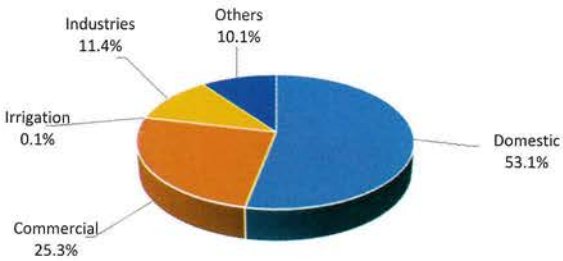
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Energy Consumption in MUs							
Domestic	13071	13737	14398	15081	15786	16502	17228
Commercial	6978	7183	7383	7586	7792	8002	8216
Public lighting	475	499	524	550	577	605	633
Public Water Works	588	616	645	675	707	741	776
Irrigation	28	28	27	26	26	25	25
Industries LT	2652	2739	2827	2914	3001	3089	3176
Industries HT	511	516	521	525	530	535	539
Railway traction	89	92	96	100	104	108	112
Bulk Supply	1457	1521	1586	1629	1673	1719	1767
Total Energy Consumption	**25848**	**26930**	**28006**	**29087**	**30197**	**31326**	**32473**
T&D losses -MU	4214	4251	4281	4304	4345	4381	4411
T&D losses - %	14.02	13.63	13.26	12.89	12.58	12.27	11.96
Energy Requirement - MU	30062	31181	32287	33391	34542	35707	36884
Annual Load Factor - %	58.70	56.34	56.35	56.35	56.35	56.36	56.36
Peak Electricity Demand - MW	**5846**	**6318**	**6541**	**6764**	**6997**	**7233**	**7471**
Energy Requirement (Ex Bus) - MU	**30791**	**31937**	**33070**	**34201**	**35380**	**36573**	**37778**
T&D losses (Ex Bus) -%	16.05	15.68	15.31	14.95	14.65	14.35	14.04
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	50.6	51.0	51.4	51.8	52.3	52.7	53.1
Commercial	27.0	26.7	26.4	26.1	25.8	25.5	25.3
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Industries	12.2	12.1	12.0	11.8	11.7	11.6	11.4
Others	10.1	10.1	10.2	10.2	10.1	10.1	10.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.6 (Contd.)

DELHI

19TH ELECTRIC POWER SURVEY PROJECTION

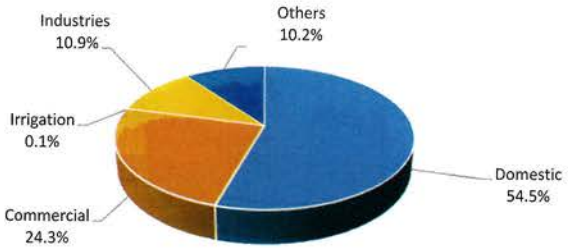
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	17228	17963	18705	19454	20206	20964
Commercial	8216	8435	8660	8889	9125	9366
Public lighting	633	662	691	720	751	781
Public Water Works	776	813	851	891	933	976
Irrigation	25	24	24	23	23	22
Industries LT	3176	3264	3351	3439	3526	3614
Industries HT	539	544	549	553	558	562
Railway traction	112	117	121	126	132	139
Bulk Supply	1767	1818	1871	1925	1982	2042
Total Energy Consumption	**32473**	**33639**	**34821**	**36020**	**37235**	**38467**
T&D losses -MU	4411	4434	4450	4553	4653	4752
T&D losses - %	11.96	11.65	11.33	11.22	11.11	11.00
Energy Requirement - MU	36884	38073	39272	40573	41888	43219
Annual Load Factor - %	56.36	56.36	56.36	56.37	56.37	56.38
Peak Electricity Demand - MW	**7471**	**7712**	**7954**	**8217**	**8482**	**8751**
Energy Requirement (Ex Bus) - MU	**37778**	**38997**	**40224**	**41557**	**42904**	**44267**
T&D losses (Ex Bus) -%	14.04	13.74	13.43	13.32	13.21	13.10
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	53.1	53.4	53.7	54.0	54.3	54.5
Commercial	25.3	25.1	24.9	24.7	24.5	24.3
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1
Industries	11.4	11.3	11.2	11.1	11.0	10.9
Others	10.1	10.1	10.1	10.2	10.2	10.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.7

HARYANA-DHBVN

19TH ELECTRIC POWER SURVEY PROJECTION

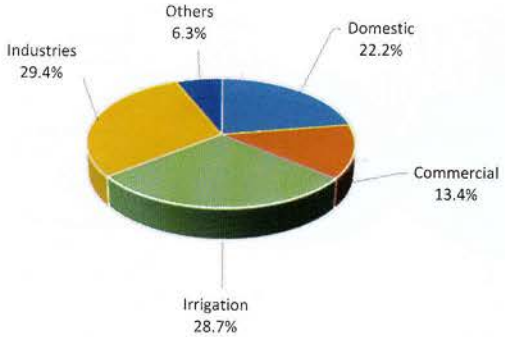
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

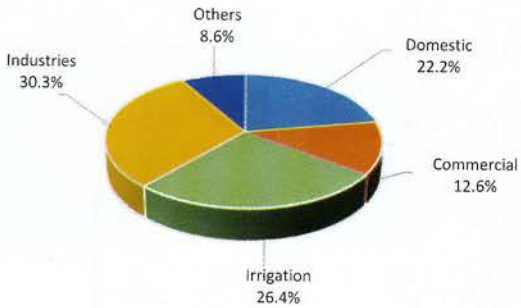
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	4139	4584	4982	5409	5868	6359	6884
Commercial	2498	2601	2824	3066	3329	3614	3924
Public lighting	42	50	52	55	57	60	63
Public Water Works	418	493	531	571	614	659	707
Irrigation	5362	5938	6330	6750	7197	7675	8185
Industries LT	875	915	967	1021	1079	1140	1204
Industries HT	4625	5088	5596	6156	6771	7449	8193
Railway traction	167	173	180	187	195	203	211
Bulk Supply	551	871	993	1132	1290	1471	1677
Total Energy Consumption	**18677**	**20711**	**22455**	**24347**	**26400**	**28629**	**31049**
T&D losses -MU	5772	5842	5614	5711	5795	5864	5914
T&D losses - %	23.61	22.00	20.00	19.00	18.00	17.00	16.00
Energy Requirement - MU	24449	26553	28068	30058	32196	34493	36963
Annual Load Factor - %	56.50	56.50	56.50	56.50	56.50	56.50	56.50
Peak Electricity Demand - MW	**4940**	**5365**	**5671**	**6073**	**6505**	**6969**	**7468**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	22.2	22.1	22.2	22.2	22.2	22.2	22.2
Commercial	13.4	12.6	12.6	12.6	12.6	12.6	12.6
Irrigation	28.7	28.7	28.2	27.7	27.3	26.8	26.4
Industries	29.4	29.0	29.2	29.5	29.7	30.0	30.3
Others	6.3	7.7	7.8	8.0	8.2	8.4	8.6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.7 (Contd.)

HARYANA-DHBVN

19TH ELECTRIC POWER SURVEY PROJECTION

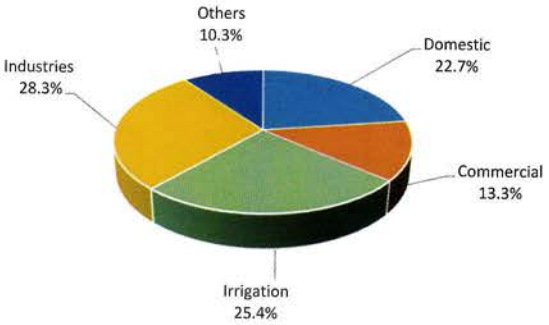
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	6884	7446	8046	8686	9367	10092
Commercial	3924	4261	4626	5023	5453	5921
Public lighting	63	66	70	73	77	81
Public Water Works	707	757	810	866	925	987
Irrigation	8185	8730	9311	9931	10593	11300
Industries LT	1204	1272	1344	1420	1500	1585
Industries HT	8193	8685	9206	9759	10344	10965
Railway traction	211	219	228	237	249	262
Bulk Supply	1677	1912	2180	2485	2833	3229
Total Energy Consumption	**31049**	**33349**	**35821**	**38480**	**41343**	**44423**
T&D losses -MU	5914	5885	6321	6791	7296	7839
T&D losses - %	16.00	15.00	15.00	15.00	15.00	15.00
Energy Requirement - MU	36963	39234	42142	45271	48639	52262
Annual Load Factor - %	56.50	56.50	56.50	56.50	56.50	56.50
Peak Electricity Demand - MW	**7468**	**7927**	**8515**	**9147**	**9827**	**10559**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	22.2	22.3	22.5	22.6	22.7	22.7
Commercial	12.6	12.8	12.9	13.1	13.2	13.3
Irrigation	26.4	26.2	26.0	25.8	25.6	25.4
Industries	30.3	29.9	29.5	29.1	28.6	28.3
Others	8.6	8.9	9.2	9.5	9.9	10.3
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.8

HARYANA-UHBVN

19TH ELECTRIC POWER SURVEY PROJECTION

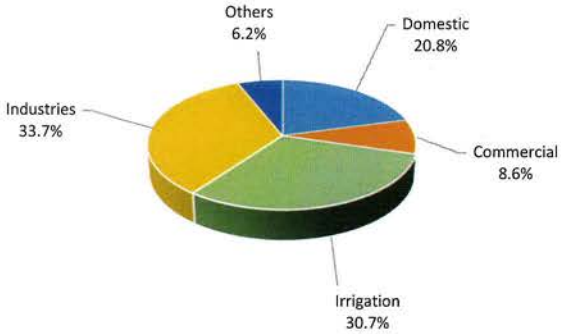
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

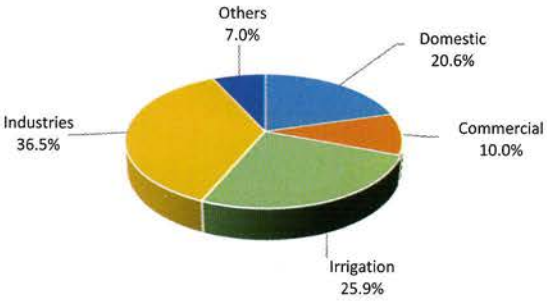
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	2810	3133	3320	3519	3729	3952	4188
Commercial	1158	1340	1457	1583	1721	1870	2033
Public lighting	42	48	52	56	60	64	69
Public Water Works	350	427	458	489	523	559	596
Irrigation	4144	4654	4770	4889	5010	5135	5263
Industries LT	747	741	766	791	818	846	874
Industries HT	3799	4179	4597	5057	5562	6119	6558
Railway traction	154	160	167	173	180	188	195
Bulk Supply	287	372	405	440	478	520	565
Total Energy Consumption	**13491**	**15055**	**15990**	**16997**	**18082**	**19252**	**20341**
T&D losses -MU	6282	6382	6148	5901	5638	5357	5012
T&D losses - %	31.77	29.77	27.77	25.77	23.77	21.77	19.77
Energy Requirement - MU	19773	21436	22138	22898	23721	24609	25354
Annual Load Factor - %	54.10	54.10	54.10	54.10	54.10	54.10	54.10
Peak Electricity Demand - MW	**4172**	**4523**	**4671**	**4832**	**5005**	**5193**	**5350**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	20.8	20.8	20.8	20.7	20.6	20.5	20.6
Commercial	8.6	8.9	9.1	9.3	9.5	9.7	10.0
Irrigation	30.7	30.9	29.8	28.8	27.7	26.7	25.9
Industries	33.7	32.7	33.5	34.4	35.3	36.2	36.5
Others	6.2	6.7	6.8	6.8	6.9	6.9	7.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.8 (Contd.)

HARYANA-UHBVN

19TH ELECTRIC POWER SURVEY PROJECTION

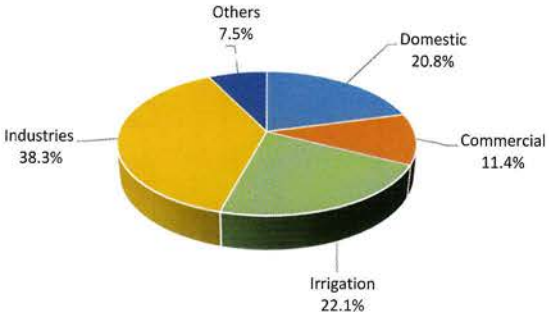
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	4188	4438	4703	4985	5283	5598
Commercial	2033	2209	2401	2610	2836	3083
Public lighting	69	73	78	84	90	96
Public Water Works	596	636	678	722	768	816
Irrigation	5263	5394	5528	5666	5807	5952
Industries LT	874	904	934	966	998	1032
Industries HT	6558	7030	7537	8080	8664	9290
Railway traction	195	203	211	219	230	242
Bulk Supply	565	615	668	726	790	859
Total Energy Consumption	**20341**	**21502**	**22739**	**24058**	**25466**	**26968**
T&D losses -MU	5012	4647	4013	4245	4494	4759
T&D losses - %	19.77	17.77	15.00	15.00	15.00	15.00
Energy Requirement - MU	25354	26149	26752	28303	29960	31727
Annual Load Factor - %	54.10	54.10	54.10	54.10	54.10	54.10
Peak Electricity Demand - MW	**5350**	**5518**	**5645**	**5972**	**6322**	**6695**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	20.6	20.6	20.7	20.7	20.7	20.8
Commercial	10.0	10.3	10.6	10.8	11.1	11.4
Irrigation	25.9	25.1	24.3	23.6	22.8	22.1
Industries	36.5	36.9	37.3	37.6	37.9	38.3
Others	7.0	7.1	7.2	7.3	7.4	7.5
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.9

HARYANA

19TH ELECTRIC POWER SURVEY PROJECTION

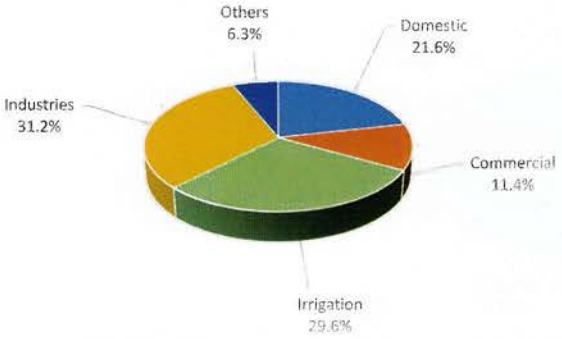
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

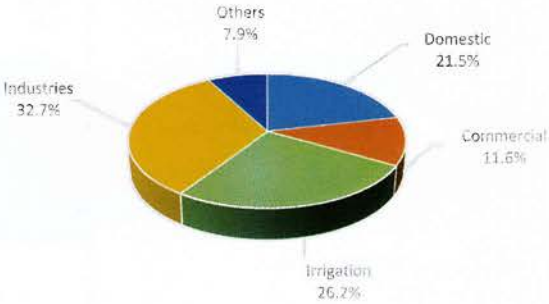
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	6949	7717	8302	8928	9597	10311	11072
Commercial	3656	3941	4280	4649	5050	5484	5957
Public lighting	84	98	104	111	117	124	132
Public Water Works	768	920	988	1060	1137	1218	1303
Irrigation	9506	10591	11100	11638	12208	12810	13448
Industries LT	1622	1656	1732	1813	1897	1986	2079
Industries HT	8424	9267	10193	11213	12334	13567	14752
Railway traction	321	334	347	361	375	390	406
Bulk Supply	838	1243	1397	1572	1769	1991	2242
Total Energy Consumption	**32168**	**35766**	**38445**	**41344**	**44483**	**47881**	**51391**
T&D losses -MU	12054	12223	11761	11612	11434	11221	10927
T&D losses - %	27.26	25.47	23.43	21.93	20.45	18.99	17.53
Energy Requirement - MU	44222	47989	50206	52956	55916	59103	62317
Annual Load Factor - %	55.40	58.11	58.12	58.14	58.16	58.18	58.21
Peak Electricity Demand - MW	**9112**	**9428**	**9861**	**10397**	**10975**	**11596**	**12222**
Energy Requirement (Ex Bus) - MU	**45145**	**48991**	**51254**	**54062**	**57083**	**60336**	**63618**
T&D losses (Ex Bus) -%	28.75	26.99	24.99	23.52	22.07	20.64	19.22
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	21.6	21.6	21.6	21.6	21.6	21.5	21.5
Commercial	11.4	11.0	11.1	11.2	11.4	11.5	11.6
Irrigation	29.6	29.6	28.9	28.1	27.4	26.8	26.2
Industries	31.2	30.5	31.0	31.5	32.0	32.5	32.7
Others	6.3	7.3	7.4	7.5	7.6	7.8	7.9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.9 (Contd.)

HARYANA

19TH ELECTRIC POWER SURVEY PROJECTION

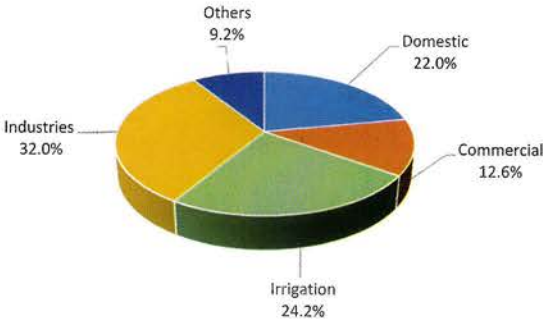
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	11072	11884	12749	13670	14650	15691
Commercial	5957	6470	7027	7632	8290	9004
Public lighting	132	140	148	157	167	177
Public Water Works	1303	1393	1488	1588	1693	1803
Irrigation	13448	14124	14839	15597	16401	17252
Industries LT	2079	2176	2278	2386	2499	2617
Industries HT	14752	15715	16743	17839	19008	20255
Railway traction	406	422	439	457	479	503
Bulk Supply	2242	2527	2848	3211	3623	4088
Total Energy Consumption	**51391**	**54851**	**58560**	**62538**	**66809**	**71391**
T&D losses -MU	10927	10532	10334	11036	11790	12598
T&D losses - %	17.53	16.11	15.00	15.00	15.00	15.00
Energy Requirement - MU	62317	65383	68894	73574	78598	83989
Annual Load Factor - %	58.21	58.22	58.25	58.26	58.27	58.28
Peak Electricity Demand - MW	**12222**	**12819**	**13501**	**14415**	**15398**	**16451**
Energy Requirement (Ex Bus) - MU	**63618**	**66747**	**70333**	**75110**	**80239**	**85743**
T&D losses (Ex Bus) -%	19.22	17.82	16.74	16.74	16.74	16.74
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	21.5	21.7	21.8	21.9	21.9	22.0
Commercial	11.6	11.8	12.0	12.2	12.4	12.6
Irrigation	26.2	25.7	25.3	24.9	24.5	24.2
Industries	32.7	32.6	32.5	32.3	32.2	32.0
Others	7.9	8.2	8.4	8.7	8.9	9.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.10

HIMACHAL PRADESH

19TH ELECTRIC POWER SURVEY PROJECTION

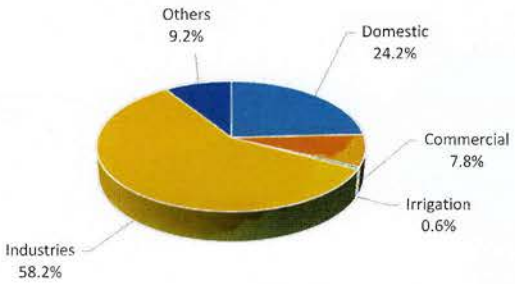
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

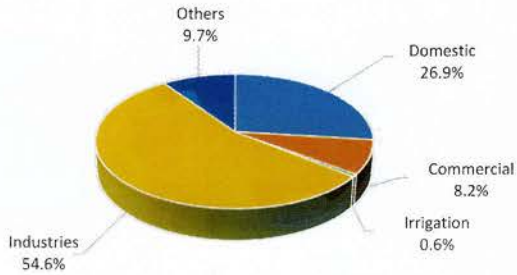
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1942	2059	2182	2313	2452	2599	2755
Commercial	626	657	690	725	761	799	839
Public lighting	13	13	13	13	14	14	14
Public Water Works	546	579	614	651	690	731	775
Irrigation	52	54	55	57	59	60	62
Industries LT	210	218	227	236	246	256	266
Industries HT	4461	4595	4732	4874	5021	5171	5326
Railway traction	0	0	0	0	0	0	0
Bulk Supply	175	180	186	191	197	203	209
Total Energy Consumption	**8025**	**8355**	**8700**	**9061**	**9438**	**9833**	**10246**
T&D losses -MU	1055	1183	1220	1259	1299	1341	1391
T&D losses - %	11.62	12.40	12.30	12.20	12.10	12.00	11.95
Energy Requirement - MU	9080	9538	9920	10320	10737	11173	11636
Annual Load Factor - %	69.66	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**1488**	**1555**	**1618**	**1683**	**1751**	**1822**	**1898**
Energy Requirement (Ex Bus) - MU	**9378**	**9726**	**10116**	**10523**	**10949**	**11394**	**11866**
T&D losses (Ex Bus) -%	14.42	14.10	14.00	13.90	13.80	13.70	13.65
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	24.2	24.6	25.1	25.5	26.0	26.4	26.9
Commercial	7.8	7.9	7.9	8.0	8.1	8.1	8.2
Irrigation	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Industries	58.2	57.6	57.0	56.4	55.8	55.2	54.6
Others	9.2	9.2	9.3	9.4	9.5	9.6	9.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.10 (Contd.)

HIMACHAL PRADESH

19TH ELECTRIC POWER SURVEY PROJECTION

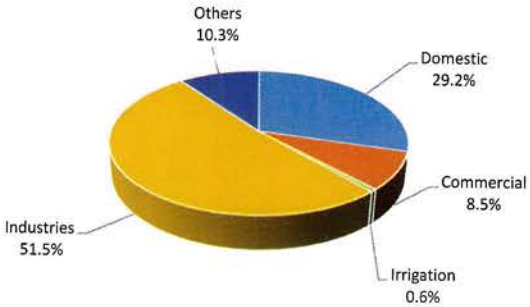
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	2755	2920	3096	3281	3478	3687
Commercial	839	881	925	971	1020	1071
Public lighting	14	14	14	14	14	15
Public Water Works	775	821	871	923	978	1037
Irrigation	62	64	66	68	70	72
Industries LT	266	276	287	299	311	323
Industries HT	5326	5486	5651	5820	5995	6175
Railway traction	0	0	0	0	0	0
Bulk Supply	209	215	222	228	235	242
Total Energy Consumption	**10246**	**10678**	**11131**	**11605**	**12101**	**12621**
T&D losses -MU	1391	1442	1496	1553	1611	1672
T&D losses - %	11.95	11.90	11.85	11.80	11.75	11.70
Energy Requirement - MU	11636	12121	12627	13158	13713	14294
Annual Load Factor - %	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**1898**	**1977**	**2059**	**2146**	**2236**	**2331**
Energy Requirement (Ex Bus) - MU	**11866**	**12360**	**12876**	**13417**	**13983**	**14576**
T&D losses (Ex Bus) -%	13.65	13.61	13.56	13.51	13.46	13.41
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	26.9	27.3	27.8	28.3	28.7	29.2
Commercial	8.2	8.2	8.3	8.4	8.4	8.5
Irrigation	0.6	0.6	0.6	0.6	0.6	0.6
Industries	54.6	54.0	53.3	52.7	52.1	51.5
Others	9.7	9.8	9.9	10.0	10.1	10.3
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.11

JAMMU & KASHMIR

19TH ELECTRIC POWER SURVEY PROJECTION

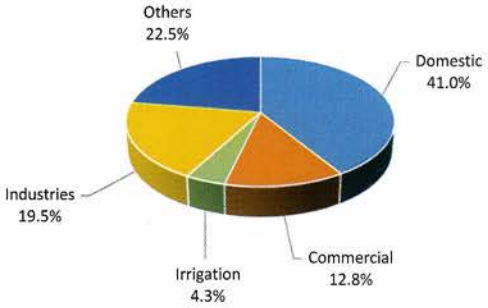
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

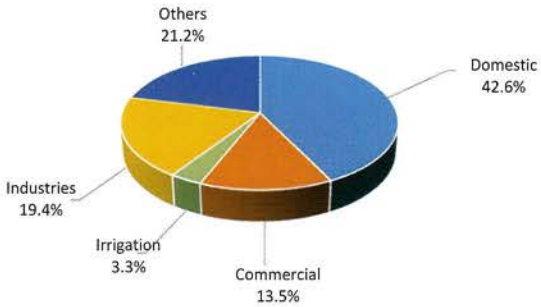
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	2927	3272	3624	4013	4446	4921	5440
Commercial	912	1024	1138	1263	1401	1553	1721
Public lighting	50	53	56	59	63	67	70
Public Water Works	577	615	657	701	748	799	855
Irrigation	305	313	331	349	368	388	419
Industries LT	475	514	556	601	650	703	760
Industries HT	915	1017	1130	1256	1399	1559	1715
Railway traction	0	0	0	0	0	0	0
Bulk Supply	982	1095	1224	1366	1525	1703	1785
Total Energy Consumption	**7144**	**7902**	**8716**	**9610**	**10600**	**11692**	**12765**
T&D losses -MU	6795	6664	6509	6340	6159	5956	5668
T&D losses - %	48.75	45.75	42.75	39.75	36.75	33.75	30.75
Energy Requirement - MU	13939	14567	15225	15950	16759	17649	18434
Annual Load Factor - %	73.74	73.00	72.00	71.00	70.00	69.00	68.00
Peak Electricity Demand - MW	**2158**	**2278**	**2414**	**2565**	**2733**	**2920**	**3095**
Energy Requirement (Ex Bus) - MU	**14230**	**14871**	**15543**	**16283**	**17109**	**18017**	**18819**
T&D losses (Ex Bus) -%	49.80	46.86	43.92	40.98	38.04	35.10	32.17
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	41.0	41.4	41.6	41.8	41.9	42.1	42.6
Commercial	12.8	13.0	13.1	13.1	13.2	13.3	13.5
Irrigation	4.3	4.0	3.8	3.6	3.5	3.3	3.3
Industries	19.5	19.4	19.3	19.3	19.3	19.3	19.4
Others	22.5	22.3	22.2	22.1	22.0	22.0	21.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.11 (Contd.)

JAMMU & KASHMIR

19TH ELECTRIC POWER SURVEY PROJECTION

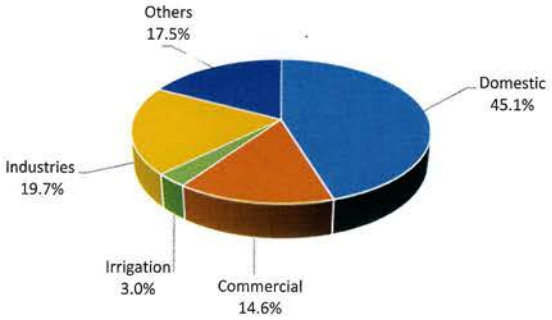
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	5440	6008	6628	7304	8038	8837
Commercial	1721	1907	2112	2339	2590	2868
Public lighting	70	74	78	83	87	92
Public Water Works	855	915	979	1038	1100	1166
Irrigation	419	453	484	518	554	593
Industries LT	760	821	886	955	1028	1105
Industries HT	1715	1886	2075	2282	2510	2761
Railway traction	0	0	0	0	0	0
Bulk Supply	1785	1869	1942	2018	2099	2183
Total Energy Consumption	**12765**	**13933**	**15183**	**16536**	**18006**	**19604**
T&D losses -MU	5668	5622	5545	5439	5303	5133
T&D losses - %	30.75	28.75	26.75	24.75	22.75	20.75
Energy Requirement - MU	18434	19555	20728	21975	23308	24737
Annual Load Factor - %	68.00	67.00	66.00	65.00	64.00	63.00
Peak Electricity Demand - MW	**3095**	**3332**	**3585**	**3859**	**4157**	**4482**
Energy Requirement (Ex Bus) - MU	**18819**	**19963**	**21161**	**22433**	**23795**	**25254**
T&D losses (Ex Bus) -%	32.17	30.21	28.25	26.29	24.33	22.37
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	42.6	43.1	43.7	44.2	44.6	45.1
Commercial	13.5	13.7	13.9	14.1	14.4	14.6
Irrigation	3.3	3.2	3.2	3.1	3.1	3.0
Industries	19.4	19.4	19.5	19.6	19.6	19.7
Others	21.2	20.5	19.8	19.0	18.2	17.5
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.12

PUNJAB

19TH ELECTRIC POWER SURVEY PROJECTION

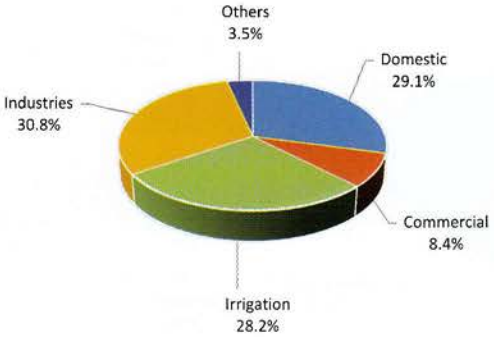
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

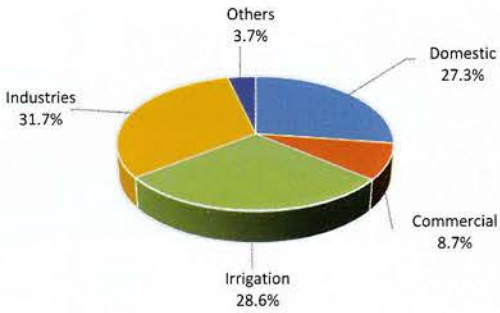
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	11859	12745	13454	14152	14862	15576	16291
Commercial	3414	3678	3940	4221	4521	4844	5188
Public lighting	177	195	206	217	229	241	254
Public Water Works	462	521	562	606	653	703	756
Irrigation	11514	12159	13070	14020	15010	16037	17103
Industries LT	2999	3147	3337	3539	3751	3978	4219
Industries HT	9537	10299	11103	11947	12831	13755	14717
Railway traction	156	162	169	175	182	190	197
Bulk Supply	642	693	749	809	874	943	1019
Total Energy Consumption	**40759**	**43600**	**46589**	**49686**	**52913**	**56266**	**59746**
T&D losses -MU	9252	9636	10020	10394	10761	11119	11465
T&D losses - %	18.50	18.10	17.70	17.30	16.90	16.50	16.10
Energy Requirement - MU	50011	53235	56609	60080	63674	67385	71211
Annual Load Factor - %	52.61	52.61	52.61	53.11	53.61	54.11	54.61
Peak Electricity Demand - MW	**10852**	**11551**	**12283**	**12914**	**13559**	**14216**	**14886**
Energy Requirement (Ex Bus) - MU	**50840**	**54118**	**57548**	**61076**	**64730**	**68502**	**72392**
T&D losses (Ex Bus) -%	19.83	19.44	19.04	18.65	18.26	17.86	17.47
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	29.1	29.2	28.9	28.5	28.1	27.7	27.3
Commercial	8.4	8.4	8.5	8.5	8.5	8.6	8.7
Irrigation	28.2	27.9	28.1	28.2	28.4	28.5	28.6
Industries	30.8	30.8	31.0	31.2	31.3	31.5	31.7
Others	3.5	3.6	3.6	3.6	3.7	3.7	3.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.12 (Contd.)

PUNJAB

19TH ELECTRIC POWER SURVEY PROJECTION

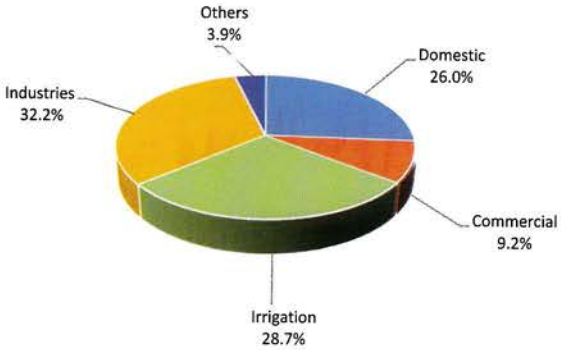
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	16291	17218	18127	19028	19907	20769
Commercial	5188	5558	5954	6378	6832	7318
Public lighting	254	265	276	288	298	309
Public Water Works	756	813	873	936	1003	1073
Irrigation	17103	18206	19344	20517	21723	22960
Industries LT	4219	4474	4744	5028	5330	5649
Industries HT	14717	15718	16756	17828	18933	20069
Railway traction	197	205	213	222	233	245
Bulk Supply	1019	1100	1189	1284	1386	1497
Total Energy Consumption	**59746**	**63557**	**67475**	**71508**	**75644**	**79889**
T&D losses -MU	11465	12016	12567	13117	13664	14209
T&D losses - %	16.10	15.90	15.70	15.50	15.30	15.10
Energy Requirement - MU	71211	75573	80042	84624	89308	94098
Annual Load Factor - %	54.61	55.11	55.61	56.11	56.61	57.11
Peak Electricity Demand - MW	**14886**	**15654**	**16431**	**17217**	**18009**	**18809**
Energy Requirement (Ex Bus) - MU	**72392**	**76826**	**81369**	**86027**	**90789**	**95658**
T&D losses (Ex Bus) -%	17.47	17.27	17.07	16.88	16.68	16.48
Pattern of Utilisation						
Category	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Domestic	27.3	27.1	26.9	26.6	26.3	26.0
Commercial	8.7	8.7	8.8	8.9	9.0	9.2
Irrigation	28.6	28.6	28.7	28.7	28.7	28.7
Industries	31.7	31.8	31.9	32.0	32.1	32.2
Others	3.7	3.8	3.8	3.8	3.9	3.9
Total	100	100	100	100	100	100

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.13

RAJASTHAN-AVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

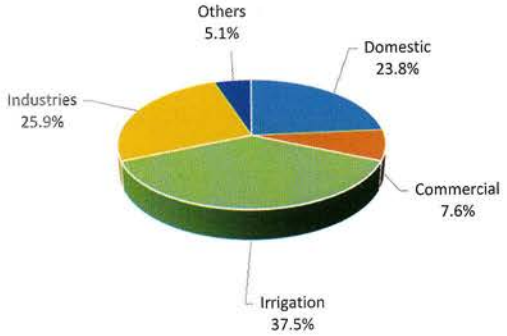
(CATEGORY WISE & YEAR WISE SUMMARY)

(2015-16 to 2021-22) (Utilities Only)

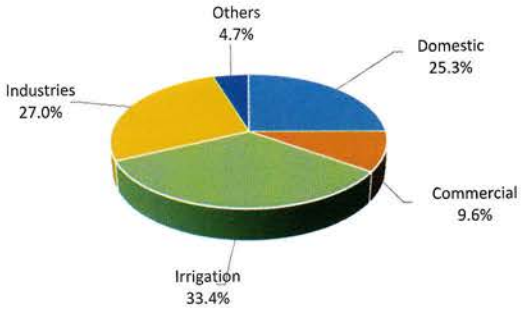
Consumption Categories	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Energy Consumption in MUs							
Domestic	3133	3404	3684	3975	4298	4616	4945
Commercial	1004	1119	1241	1370	1524	1695	1878
Public lighting	82	71	56	61	67	74	81
Public Water Works	478	507	538	574	611	652	694
Irrigation	4939	5293	5592	5768	5966	6241	6539
Industries LT	1089	1159	1233	1313	1397	1486	1582
Industries HT	2319	2508	2713	2934	3173	3432	3712
Railway traction	0	0	0	0	0	0	0
Bulk Supply	109	116	121	127	133	140	147
Total Energy Consumption	**13153**	**14177**	**15178**	**16122**	**17170**	**18335**	**19578**
T&D losses -MU	5207	5058	4855	4593	4321	4037	3724
T&D losses - %	28.36	26.30	24.23	22.17	20.11	18.04	15.98
Energy Requirement - MU	18361	19236	20032	20715	21491	22372	23302
Annual Load Factor - %	62.48	62.78	63.08	63.38	63.68	63.98	64.28
Peak Electricity Demand - MW	**3355**	**3498**	**3625**	**3731**	**3853**	**3992**	**4138**

Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	23.8	24.0	24.3	24.7	25.0	25.2	25.3
Commercial	7.6	7.9	8.2	8.5	8.9	9.2	9.6
Irrigation	37.5	37.3	36.8	35.8	34.7	34.0	33.4
Industries	25.9	25.9	26.0	26.3	26.6	26.8	27.0
Others	5.1	4.9	4.7	4.7	4.7	4.7	4.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.13 (Contd.)

RAJASTHAN-AVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

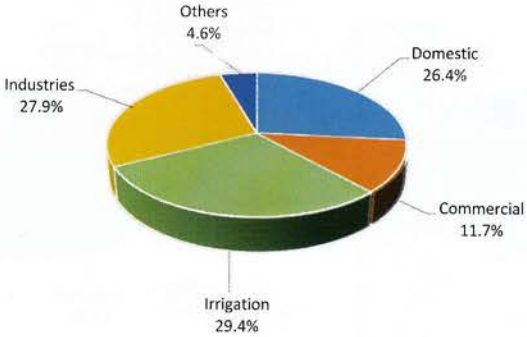
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	4945	5346	5763	6194	6708	7240
Commercial	1878	2096	2329	2582	2879	3198
Public lighting	81	89	98	108	119	130
Public Water Works	694	739	787	839	894	952
Irrigation	6539	6822	7099	7400	7725	8062
Industries LT	1582	1683	1791	1906	2028	2158
Industries HT	3712	4015	4342	4696	5079	5494
Railway traction	0	0	0	0	0	0
Bulk Supply	147	154	162	170	179	188
Total Energy Consumption	**19578**	**20944**	**22372**	**23895**	**25610**	**27423**
T&D losses -MU	3724	3386	3009	3213	3444	3688
T&D losses - %	15.98	13.92	11.85	11.85	11.85	11.85
Energy Requirement - MU	23302	24330	25380	27108	29054	31111
Annual Load Factor - %	64.28	64.58	64.88	65.18	65.48	65.78
Peak Electricity Demand - MW	**4138**	**4301**	**4466**	**4748**	**5065**	**5399**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	25.3	25.5	25.8	25.9	26.2	26.4
Commercial	9.6	10.0	10.4	10.8	11.2	11.7
Irrigation	33.4	32.6	31.7	31.0	30.2	29.4
Industries	27.0	27.2	27.4	27.6	27.8	27.9
Others	4.7	4.7	4.7	4.7	4.7	4.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.14

RAJASTHAN-JdVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

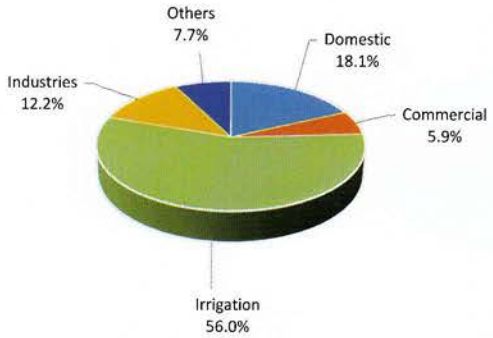
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

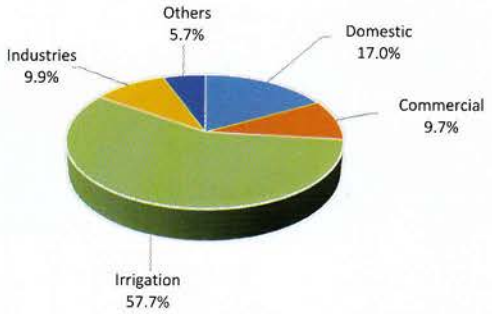
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	3002	3293	3593	3834	4117	4384	4659
Commercial	986	1161	1366	1609	1908	2258	2665
Public lighting	137	118	87	98	110	124	139
Public Water Works	796	824	857	896	936	979	1021
Irrigation	9274	10324	11350	12273	13327	14478	15827
Industries LT	846	895	947	1001	1059	1121	1186
Industries HT	1183	1233	1285	1339	1396	1455	1516
Railway traction	0	0	0	0	0	0	0
Bulk Supply	351	357	368	375	383	392	400
Total Energy Consumption	**16575**	**18204**	**19853**	**21425**	**23236**	**25190**	**27413**
T&D losses -MU	5527	5580	5571	5479	5386	5259	5115
T&D losses - %	25.01	23.46	21.91	20.37	18.82	17.27	15.72
Energy Requirement - MU	22102	23785	25424	26905	28622	30449	32527
Annual Load Factor - %	79.30	78.80	78.30	77.80	77.30	76.80	76.30
Peak Electricity Demand - MW	**3182**	**3446**	**3707**	**3948**	**4227**	**4526**	**4867**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	18.1	18.1	18.1	17.9	17.7	17.4	17.0
Commercial	5.9	6.4	6.9	7.5	8.2	9.0	9.7
Irrigation	56.0	56.7	57.2	57.3	57.4	57.5	57.7
Industries	12.2	11.7	11.2	10.9	10.6	10.2	9.9
Others	7.7	7.1	6.6	6.4	6.1	5.9	5.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.14 (Contd.)

RAJASTHAN-JdVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

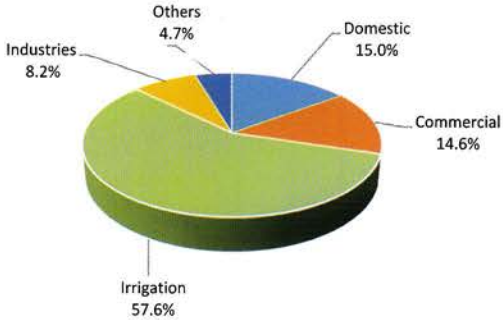
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	4659	4962	5273	5593	5944	6306
Commercial	2665	3147	3719	4397	5196	6135
Public lighting	139	156	175	197	221	249
Public Water Works	1021	1066	1114	1164	1216	1271
Irrigation	15827	17239	18742	20398	22211	24196
Industries LT	1186	1255	1327	1404	1486	1572
Industries HT	1516	1580	1647	1716	1789	1865
Railway traction	0	0	0	0	0	0
Bulk Supply	400	409	418	427	436	446
Total Energy Consumption	**27413**	**29813**	**32415**	**35296**	**38499**	**42038**
T&D losses -MU	5115	5004	5440	5924	6461	7055
T&D losses - %	15.72	14.37	14.37	14.37	14.37	14.37
Energy Requirement - MU	32527	34816	37855	41220	44960	49093
Annual Load Factor - %	76.30	75.80	75.30	74.80	74.30	73.80
Peak Electricity Demand - MW	**4867**	**5243**	**5739**	**6291**	**6908**	**7594**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	17.0	16.6	16.3	15.8	15.4	15.0
Commercial	9.7	10.6	11.5	12.5	13.5	14.6
Irrigation	57.7	57.8	57.8	57.8	57.7	57.6
Industries	9.9	9.5	9.2	8.8	8.5	8.2
Others	5.7	5.5	5.3	5.1	4.9	4.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.15

RAJASTHAN-JVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

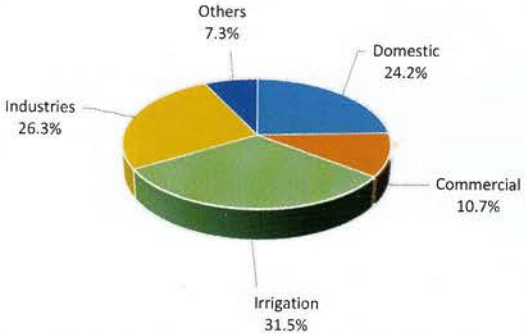
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

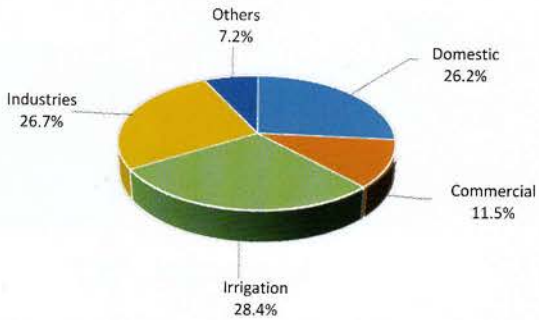
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	4418	4838	5271	5717	6148	6568	7000
Commercial	1966	2117	2275	2441	2642	2856	3084
Public lighting	175	155	122	131	141	152	163
Public Water Works	529	585	642	703	782	875	980
Irrigation	5755	6101	6366	6473	6861	7240	7580
Industries LT	1036	1107	1182	1261	1347	1438	1535
Industries HT	3775	4030	4303	4594	4905	5237	5591
Railway traction	437	454	472	491	511	531	552
Bulk Supply	197	203	209	215	221	227	233
Total Energy Consumption	**18289**	**19589**	**20842**	**22026**	**23556**	**25122**	**26718**
T&D losses -MU	8725	8364	7920	7399	6945	6435	5869
T&D losses - %	32.30	29.92	27.54	25.15	22.77	20.39	18.01
Energy Requirement - MU	27014	27954	28762	29425	30502	31557	32587
Annual Load Factor - %	69.70	69.50	69.30	69.10	68.90	68.70	68.50
Peak Electricity Demand - MW	**4424**	**4591**	**4738**	**4861**	**5054**	**5244**	**5431**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	24.2	24.7	25.3	26.0	26.1	26.1	26.2
Commercial	10.7	10.8	10.9	11.1	11.2	11.4	11.5
Irrigation	31.5	31.1	30.5	29.4	29.1	28.8	28.4
Industries	26.3	26.2	26.3	26.6	26.5	26.6	26.7
Others	7.3	7.1	6.9	7.0	7.0	7.1	7.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.15 (Contd.)

RAJASTHAN-JVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

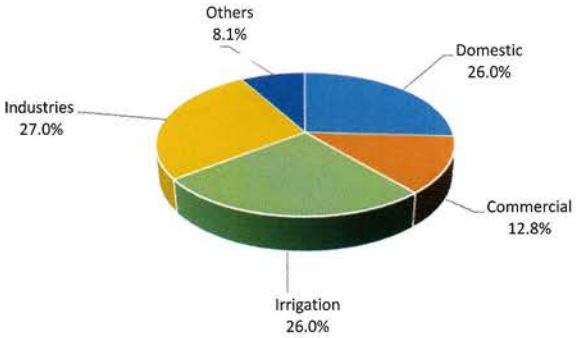
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	7000	7466	7946	8441	8973	9522
Commercial	3084	3351	3636	3942	4296	4675
Public lighting	163	176	189	204	220	236
Public Water Works	980	1097	1233	1393	1580	1795
Irrigation	7580	7916	8268	8683	9102	9528
Industries LT	1535	1639	1750	1869	1995	2130
Industries HT	5591	5969	6373	6804	7264	7755
Railway traction	552	574	597	621	652	685
Bulk Supply	233	239	245	251	257	263
Total Energy Consumption	**26718**	**28428**	**30239**	**32208**	**34339**	**36590**
T&D losses -MU	5869	5267	4620	4932	5266	5619
T&D losses - %	18.01	15.63	13.25	13.28	13.30	13.31
Energy Requirement - MU	32587	33695	34858	37140	39606	42209
Annual Load Factor - %	68.50	68.30	68.10	67.90	67.70	67.50
Peak Electricity Demand - MW	**5431**	**5632**	**5843**	**6244**	**6678**	**7138**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	26.2	26.3	26.3	26.2	26.1	26.0
Commercial	11.5	11.8	12.0	12.2	12.5	12.8
Irrigation	28.4	27.8	27.3	27.0	26.5	26.0
Industries	26.7	26.8	26.9	26.9	27.0	27.0
Others	7.2	7.3	7.5	7.7	7.9	8.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.16

RAJASTHAN

19TH ELECTRIC POWER SURVEY PROJECTION

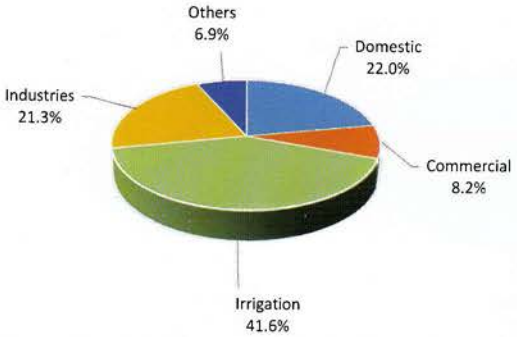
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

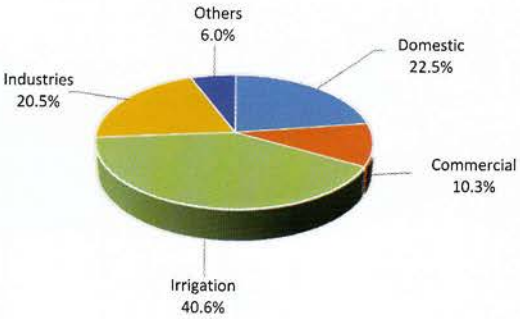
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	10553	11534	12548	13526	14563	15568	16603
Commercial	3956	4398	4883	5420	6075	6808	7628
Public lighting	394	345	265	290	318	349	384
Public Water Works	1803	1916	2037	2173	2328	2506	2694
Irrigation	19969	21717	23308	24514	26154	27958	29946
Industries LT	2971	3160	3362	3575	3803	4045	4303
Industries HT	7277	7771	8300	8867	9474	10123	10819
Railway traction	437	454	472	491	511	531	552
Bulk Supply	657	676	698	717	737	759	780
Total Energy Consumption	**48017**	**51971**	**55872**	**59573**	**63962**	**68648**	**73709**
T&D losses -MU	19460	19003	18346	17472	16653	15731	14707
T&D losses - %	28.84	26.77	24.72	22.68	20.66	18.64	16.63
Energy Requirement - MU	67477	70974	74218	77045	80615	84378	88416
Annual Load Factor - %	70.27	70.24	70.20	70.14	70.07	69.99	69.92
Peak Electricity Demand - MW	**10961**	**11535**	**12070**	**12540**	**13133**	**13761**	**14435**
Energy Requirement (Ex Bus) - MU	**69614**	**73222**	**76569**	**79485**	**83168**	**87051**	**91216**
T&D losses (Ex Bus) -%	31.02	29.02	27.03	25.05	23.09	21.14	19.19
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	22.0	22.2	22.5	22.7	22.8	22.7	22.5
Commercial	8.2	8.5	8.7	9.1	9.5	9.9	10.3
Irrigation	41.6	41.8	41.7	41.1	40.9	40.7	40.6
Industries	21.3	21.0	20.9	20.9	20.8	20.6	20.5
Others	6.9	6.5	6.2	6.2	6.1	6.0	6.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.16 (Contd.)

RAJASTHAN

19TH ELECTRIC POWER SURVEY PROJECTION

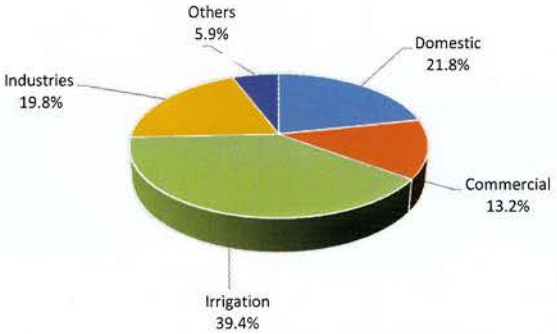
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	16603	17774	18982	20228	21626	23068
Commercial	7628	8594	9685	10921	12370	14008
Public lighting	384	421	463	509	560	615
Public Water Works	2694	2902	3134	3396	3690	4018
Irrigation	29946	31977	34109	36481	39038	41786
Industries LT	4303	4577	4869	5179	5509	5860
Industries HT	10819	11564	12362	13216	14132	15113
Railway traction	552	574	597	621	652	685
Bulk Supply	780	802	825	848	872	896
Total Energy Consumption	**73709**	**79184**	**85025**	**91399**	**98449**	**106051**
T&D losses -MU	14707	13657	13068	14069	15172	16362
T&D losses - %	16.63	14.71	13.32	13.34	13.35	13.37
Energy Requirement - MU	88416	92841	98093	105468	113620	122413
Annual Load Factor - %	69.92	69.84	69.78	69.66	69.54	69.42
Peak Electricity Demand - MW	**14435**	**15176**	**16048**	**17282**	**18651**	**20131**
Energy Requirement (Ex Bus) - MU	**91216**	**95782**	**101200**	**108808**	**117219**	**126290**
T&D losses (Ex Bus) -%	19.19	17.33	15.98	16.00	16.01	16.03
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	22.5	22.4	22.3	22.1	22.0	21.8
Commercial	10.3	10.9	11.4	11.9	12.6	13.2
Irrigation	40.6	40.4	40.1	39.9	39.7	39.4
Industries	20.5	20.4	20.3	20.1	20.0	19.8
Others	6.0	5.9	5.9	5.9	5.9	5.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.17

UTTAR PRADESH - MVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

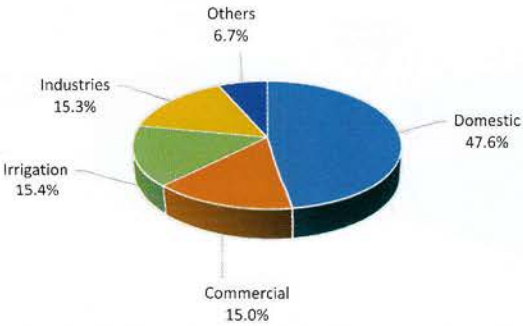
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

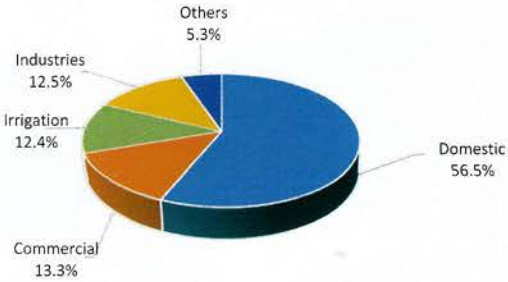
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	6055	6963	7973	9089	10316	11657	13114
Commercial	1911	2070	2244	2432	2636	2856	3096
Public lighting	277	305	332	362	393	425	460
Public Water Works	388	429	451	474	498	524	550
Irrigation	1957	2089	2260	2442	2578	2721	2870
Industries LT	523	549	581	615	651	689	730
Industries HT	1427	1539	1656	1779	1907	2042	2185
Railway traction	121	126	131	136	142	148	153
Bulk Supply	65	66	67	68	69	70	71
Total Energy Consumption	**12724**	**14136**	**15695**	**17396**	**19189**	**21132**	**23229**
T&D losses -MU	4471	4737	5011	5285	5539	5788	6027
T&D losses - %	26.00	25.10	24.20	23.30	22.40	21.50	20.60
Energy Requirement - MU	17195	18874	20706	22681	24728	26919	29256
Annual Load Factor - %	75.69	74.89	74.09	73.29	72.49	71.69	70.89
Peak Electricity Demand - MW	**2593**	**2877**	**3190**	**3533**	**3894**	**4287**	**4711**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	47.6	49.3	50.8	52.2	53.8	55.2	56.5
Commercial	15.0	14.6	14.3	14.0	13.7	13.5	13.3
Irrigation	15.4	14.8	14.4	14.0	13.4	12.9	12.4
Industries	15.3	14.8	14.3	13.8	13.3	12.9	12.5
Others	6.7	6.6	6.3	6.0	5.7	5.5	5.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.17 (Contd.)

UTTAR PRADESH - MVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

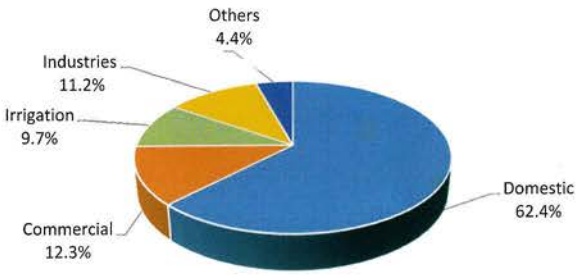
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	13114	14688	16377	18178	20087	22096
Commercial	3096	3332	3563	3811	4075	4358
Public lighting	460	493	525	558	591	627
Public Water Works	550	571	593	615	638	662
Irrigation	2870	2978	3089	3204	3324	3448
Industries LT	730	766	803	842	883	926
Industries HT	2185	2336	2495	2662	2838	3022
Railway traction	153	160	166	173	181	190
Bulk Supply	71	72	73	75	76	77
Total Energy Consumption	**23229**	**25395**	**27684**	**30117**	**32693**	**35405**
T&D losses -MU	6027	6230	6410	6566	6696	6794
T&D losses - %	20.60	19.70	18.80	17.90	17.00	16.10
Energy Requirement - MU	29256	31626	34094	36683	39389	42199
Annual Load Factor - %	70.89	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**4711**	**5157**	**5560**	**5982**	**6424**	**6882**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	56.5	57.8	59.2	60.4	61.4	62.4
Commercial	13.3	13.1	12.9	12.7	12.5	12.3
Irrigation	12.4	11.7	11.2	10.6	10.2	9.7
Industries	12.5	12.2	11.9	11.6	11.4	11.2
Others	5.3	5.1	4.9	4.7	4.5	4.4
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.18

UTTAR PRADESH - PUVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

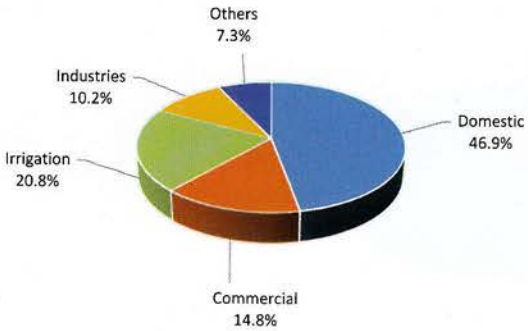
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

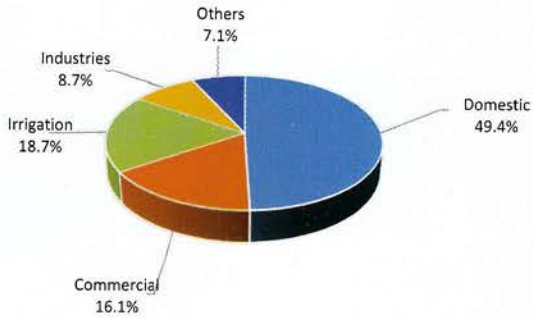
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	7456	8574	9432	10375	11308	12213	13068
Commercial	2350	2816	3058	3321	3607	3917	4254
Public lighting	166	197	219	242	268	296	327
Public Water Works	522	664	712	764	819	879	943
Irrigation	3305	3507	3793	4098	4369	4655	4957
Industries LT	514	545	576	609	643	678	716
Industries HT	1103	1174	1248	1325	1406	1490	1578
Railway traction	477	496	516	537	558	581	604
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**15894**	**17972**	**19553**	**21271**	**22979**	**24710**	**26447**
T&D losses -MU	5819	6315	6587	6865	7098	7298	7459
T&D losses - %	26.80	26.00	25.20	24.40	23.60	22.80	22.00
Energy Requirement - MU	21713	24287	26140	28136	30077	32007	33906
Annual Load Factor - %	75.69	74.89	74.09	73.29	72.49	71.69	70.89
Peak Electricity Demand - MW	**3275**	**3702**	**4028**	**4383**	**4737**	**5097**	**5460**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	46.9	47.7	48.2	48.8	49.2	49.4	49.4
Commercial	14.8	15.7	15.6	15.6	15.7	15.9	16.1
Irrigation	20.8	19.5	19.4	19.3	19.0	18.8	18.7
Industries	10.2	9.6	9.3	9.1	8.9	8.8	8.7
Others	7.3	7.6	7.4	7.3	7.2	7.1	7.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.18 (Contd.)

UTTAR PRADESH - PUVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

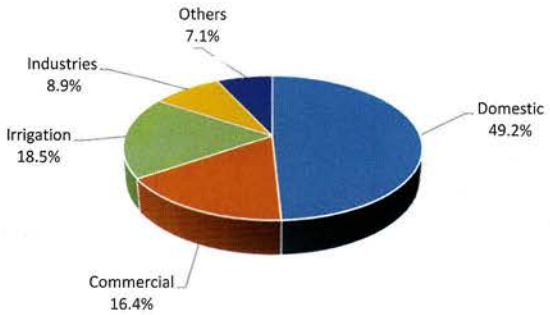
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	13068	13852	14545	15272	16036	16837
Commercial	4254	4498	4756	5029	5318	5623
Public lighting	327	357	385	416	449	484
Public Water Works	943	998	1042	1089	1138	1189
Irrigation	4957	5206	5467	5741	6028	6329
Industries LT	716	755	797	841	887	935
Industries HT	1578	1672	1770	1875	1985	2102
Railway traction	604	628	653	679	713	749
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**26447**	**27965**	**29416**	**30941**	**32553**	**34248**
T&D losses -MU	7459	7524	7539	7543	7537	7518
T&D losses - %	22.00	21.20	20.40	19.60	18.80	18.00
Energy Requirement - MU	33906	35489	36954	38484	40090	41766
Annual Load Factor - %	70.89	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**5460**	**5788**	**6026**	**6276**	**6538**	**6811**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	49.4	49.5	49.4	49.4	49.3	49.2
Commercial	16.1	16.1	16.2	16.3	16.3	16.4
Irrigation	18.7	18.6	18.6	18.6	18.5	18.5
Industries	8.7	8.7	8.7	8.8	8.8	8.9
Others	7.1	7.1	7.1	7.1	7.1	7.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.19

UTTAR PRADESH - PVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

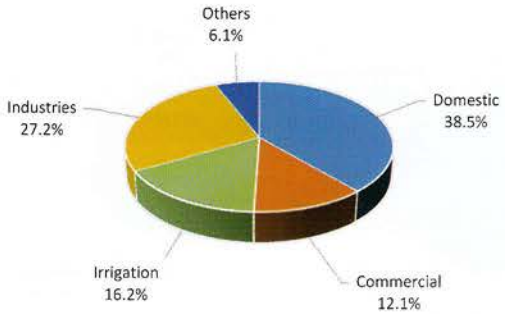
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

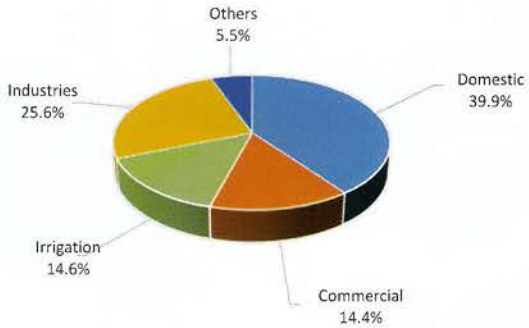
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	8717	9474	10297	11192	12164	13220	14367
Commercial	2733	3266	3582	3928	4308	4724	5181
Public lighting	213	221	243	265	290	316	345
Public Water Works	353	406	443	484	529	577	630
Irrigation	3665	3946	4185	4437	4702	4982	5277
Industries LT	1010	1094	1186	1285	1393	1510	1637
Industries HT	5149	5509	5884	6278	6692	7127	7583
Railway traction	804	836	869	904	940	978	1017
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**22644**	**24752**	**26689**	**28773**	**31018**	**33434**	**36037**
T&D losses -MU	7956	8383	8708	9036	9370	9707	10046
T&D losses - %	26.00	25.30	24.60	23.90	23.20	22.50	21.80
Energy Requirement - MU	30600	33136	35397	37809	40388	43141	46083
Annual Load Factor - %	75.69	74.89	74.09	73.29	72.49	71.69	70.89
Peak Electricity Demand - MW	**4615**	**5051**	**5454**	**5889**	**6360**	**6870**	**7421**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	38.5	38.3	38.6	38.9	39.2	39.5	39.9
Commercial	12.1	13.2	13.4	13.7	13.9	14.1	14.4
Irrigation	16.2	15.9	15.7	15.4	15.2	14.9	14.6
Industries	27.2	26.7	26.5	26.3	26.1	25.8	25.6
Others	6.1	5.9	5.8	5.7	5.7	5.6	5.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.19 (Contd.)

UTTAR PRADESH - PVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

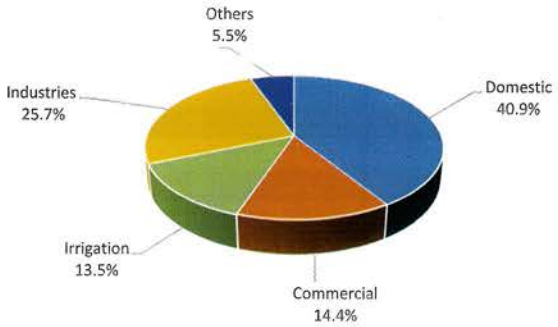
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	14367	15440	16419	17459	18563	19737
Commercial	5181	5496	5829	6183	6559	6957
Public lighting	345	374	406	446	486	530
Public Water Works	630	673	718	766	817	872
Irrigation	5277	5501	5734	5976	6229	6492
Industries LT	1637	1738	1846	1960	2081	2210
Industries HT	7583	8061	8561	9083	9628	10196
Railway traction	1017	1058	1100	1144	1201	1261
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**36037**	**38340**	**40612**	**43017**	**45564**	**48254**
T&D losses -MU	10046	10253	10408	10553	10688	10808
T&D losses - %	21.80	21.10	20.40	19.70	19.00	18.30
Energy Requirement - MU	46083	48593	51021	53570	56252	59063
Annual Load Factor - %	70.89	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**7421**	**7924**	**8320**	**8736**	**9174**	**9632**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	39.9	40.3	40.4	40.6	40.7	40.9
Commercial	14.4	14.3	14.4	14.4	14.4	14.4
Irrigation	14.6	14.3	14.1	13.9	13.7	13.5
Industries	25.6	25.6	25.6	25.7	25.7	25.7
Others	5.5	5.5	5.5	5.5	5.5	5.5
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.20

UTTAR PRADESH - DVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

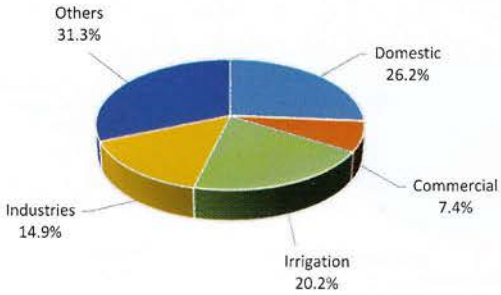
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

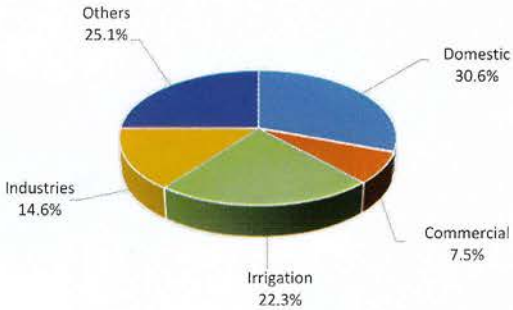
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	4801	5478	5986	6542	7150	7811	8535
Commercial	1363	1499	1634	1765	1888	2002	2082
Public lighting	114	113	117	122	127	132	138
Public Water Works	309	372	385	399	414	429	444
Irrigation	3702	4170	4525	4905	5314	5753	6224
Industries LT	529	561	595	630	668	708	751
Industries HT	2193	2355	2527	2709	2901	3104	3318
Railway traction	267	277	288	300	312	325	337
Bulk Supply	5048	5209	5376	5548	5726	5909	6098
Total Energy Consumption	**18324**	**20035**	**21433**	**22921**	**24500**	**26173**	**27927**
T&D losses -MU	8233	8545	8670	8782	8879	8959	9013
T&D losses - %	31.00	29.90	28.80	27.70	26.60	25.50	24.40
Energy Requirement - MU	26557	28580	30103	31702	33379	35132	36940
Annual Load Factor - %	75.69	74.89	74.09	73.29	72.49	71.69	70.89
Peak Electricity Demand - MW	**4005**	**4357**	**4638**	**4938**	**5257**	**5594**	**5949**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	26.2	27.3	27.9	28.5	29.2	29.8	30.6
Commercial	7.4	7.5	7.6	7.7	7.7	7.6	7.5
Irrigation	20.2	20.8	21.1	21.4	21.7	22.0	22.3
Industries	14.9	14.6	14.6	14.6	14.6	14.6	14.6
Others	31.3	29.8	28.8	27.8	26.9	26.0	25.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.20 (Contd.)

UTTAR PRADESH - DVVNL

19TH ELECTRIC POWER SURVEY PROJECTION

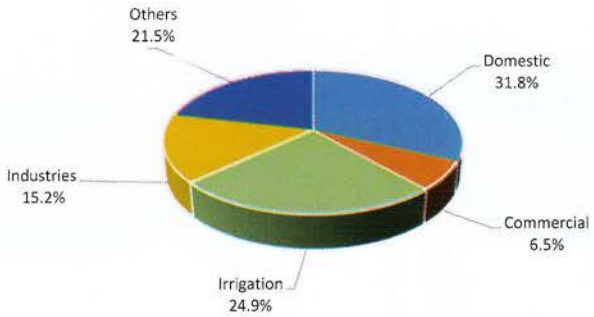
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	8535	9270	9816	10394	11006	11654
Commercial	2082	2157	2226	2288	2343	2390
Public lighting	138	143	148	154	159	165
Public Water Works	444	457	470	483	497	511
Irrigation	6224	6726	7264	7841	8459	9121
Industries LT	751	796	844	894	948	1005
Industries HT	3318	3544	3782	4031	4293	4568
Railway traction	337	351	365	380	399	419
Bulk Supply	6098	6229	6362	6499	6638	6780
Total Energy Consumption	**27927**	**29672**	**31276**	**32964**	**34742**	**36613**
T&D losses -MU	9013	9014	8925	8815	8686	8532
T&D losses - %	24.40	23.30	22.20	21.10	20.00	18.90
Energy Requirement - MU	36940	38686	40201	41779	43428	45145
Annual Load Factor - %	70.89	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**5949**	**6309**	**6556**	**6813**	**7082**	**7362**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	30.6	31.2	31.4	31.5	31.7	31.8
Commercial	7.5	7.3	7.1	6.9	6.7	6.5
Irrigation	22.3	22.7	23.2	23.8	24.3	24.9
Industries	14.6	14.6	14.8	14.9	15.1	15.2
Others	25.1	24.2	23.5	22.8	22.1	21.5
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

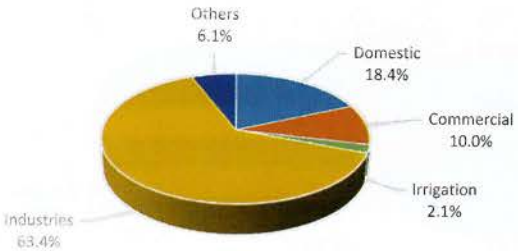
Table 5.21

UTTAR PRADESH - NPC

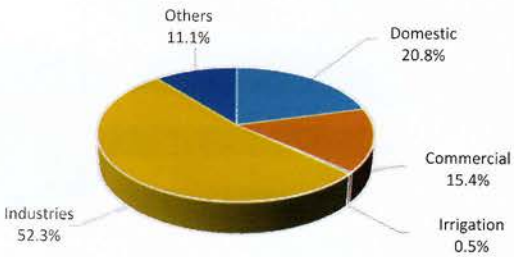
19TH ELECTRIC POWER SURVEY PROJECTION
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND
(CATEGORY WISE & YEAR WISE SUMMARY)
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Energy Consumption in MUs							
Domestic	253	289	311	334	375	422	475
Commercial	137	156	231	268	275	298	352
Public lighting	30	39	41	42	43	44	44
Public Water Works	15	16	18	19	21	22	24
Irrigation	29	21	19	16	15	13	11
Industries LT	873	954	879	950	1026	1108	1196
Industries HT	0	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0	0
Bulk Supply	39	68	83	102	124	151	185
Total Energy Consumption	**1376**	**1544**	**1582**	**1730**	**1878**	**2058**	**2288**
T&D losses -MU	122	145	148	166	181	200	224
T&D losses - %	8.14	8.56	8.57	8.75	8.80	8.85	8.90
Energy Requirement - MU	1498	1688	1730	1896	2059	2258	2511
Annual Load Factor - %	60.43	60.00	60.00	60.00	60.00	60.00	60.00
Peak Electricity Demand - MW	**283**	**321**	**329**	**361**	**392**	**430**	**478**
Pattern of Utilisation							
Category	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Domestic	18.4	18.7	19.7	19.3	20.0	20.5	20.8
Commercial	10.0	10.1	14.6	15.5	14.6	14.5	15.4
Irrigation	2.1	1.4	1.2	0.9	0.8	0.6	0.5
Industries	63.4	61.8	55.6	54.9	54.6	53.8	52.3
Others	6.1	8.0	9.0	9.4	10.0	10.6	11.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.21 (Contd.)

UTTAR PRADESH - NPC

19TH ELECTRIC POWER SURVEY PROJECTION

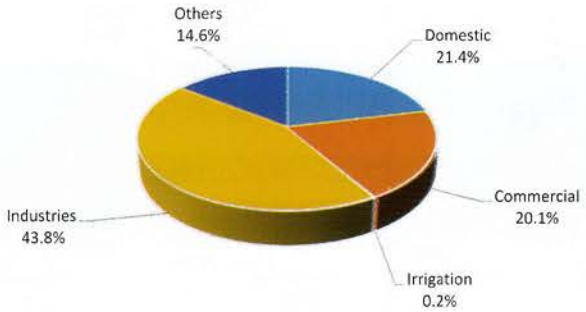
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	475	535	601	676	761	856
Commercial	352	415	490	578	682	805
Public lighting	44	45	46	47	48	49
Public Water Works	24	26	28	30	33	35
Irrigation	11	10	9	8	7	6
Industries LT	1196	1292	1395	1507	1627	1758
Industries HT	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0
Bulk Supply	185	225	275	335	409	499
Total Energy Consumption	**2288**	**2548**	**2845**	**3182**	**3568**	**4009**
T&D losses -MU	224	251	281	321	361	421
T&D losses - %	8.90	8.95	9.00	9.15	9.20	9.50
Energy Requirement - MU	2511	2799	3126	3503	3929	4429
Annual Load Factor - %	60.00	60.00	60.00	60.00	60.00	60.00
Peak Electricity Demand - MW	**478**	**533**	**595**	**666**	**748**	**843**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	20.8	21.0	21.1	21.3	21.3	21.4
Commercial	15.4	16.3	17.2	18.2	19.1	20.1
Irrigation	0.5	0.4	0.3	0.2	0.2	0.2
Industries	52.3	50.7	49.0	47.4	45.6	43.8
Others	11.1	11.6	12.3	13.0	13.7	14.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

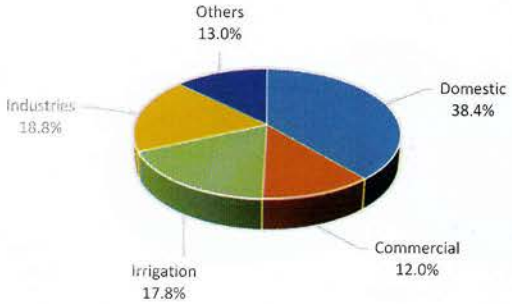
Table 5.22

UTTAR PRADESH

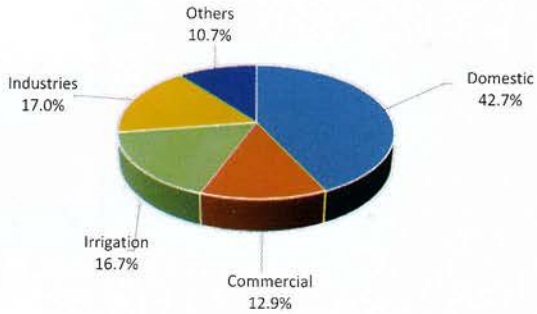
19TH ELECTRIC POWER SURVEY PROJECTION
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND
(CATEGORY WISE & YEAR WISE SUMMARY)
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Energy Consumption in MUs							
Domestic	27281	30778	33999	37531	41313	45323	49559
Commercial	8494	9807	10748	11714	12713	13798	14964
Public lighting	800	876	952	1033	1120	1213	1314
Public Water Works	1587	1887	2010	2140	2281	2431	2592
Irrigation	12658	13734	14781	15899	16978	18123	19339
Industries LT	3450	3702	3817	4089	4381	4694	5030
Industries HT	9872	10577	11315	12091	12906	13764	14665
Railway traction	1669	1736	1805	1877	1953	2031	2112
Bulk Supply	5151	5343	5526	5718	5919	6130	6354
Total Energy Consumption	**70963**	**78439**	**84953**	**92091**	**99564**	**107507**	**115928**
T&D losses -MU	26600	28125	29124	30134	31067	31950	32769
T&D losses - %	27.26	26.39	25.53	24.65	23.78	22.91	22.04
Energy Requirement - MU	97563	106565	114077	122225	130631	139457	148697
Annual Load Factor - %	76.53	75.71	74.93	74.13	73.34	72.53	71.73
Peak Electricity Demand - MW	**14554**	**16067**	**17379**	**18821**	**20334**	**21948**	**23664**
Energy Requirement (Ex Bus) - MU	**98941**	**108070**	**115688**	**123951**	**132476**	**141426**	**150797**
T&D losses (Ex Bus) -%	28.28	27.42	26.57	25.70	24.84	23.98	23.12
Pattern of Utilisation							
Category	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Domestic	38.4	39.2	40.0	40.8	41.5	42.2	42.7
Commercial	12.0	12.5	12.7	12.7	12.8	12.8	12.9
Irrigation	17.8	17.5	17.4	17.3	17.1	16.9	16.7
Industries	18.8	18.2	17.8	17.6	17.4	17.2	17.0
Others	13.0	12.5	12.1	11.7	11.3	11.0	10.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.22 (Contd.)

UTTAR PRADESH

19TH ELECTRIC POWER SURVEY PROJECTION

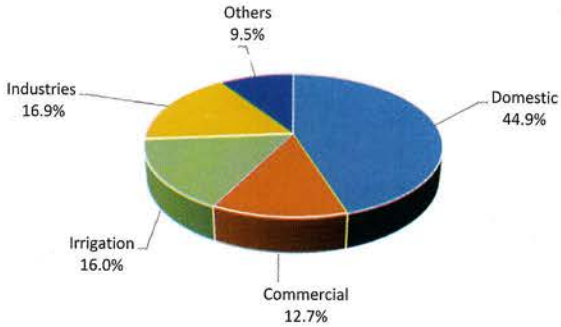
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	49559	53785	57758	61979	66453	71180
Commercial	14964	15898	16865	17889	18977	20132
Public lighting	1314	1412	1511	1621	1734	1855
Public Water Works	2592	2724	2850	2983	3122	3269
Irrigation	19339	20420	21563	22770	24047	25396
Industries LT	5030	5347	5685	6044	6426	6833
Industries HT	14665	15613	16608	17651	18744	19888
Railway traction	2112	2196	2284	2376	2494	2619
Bulk Supply	6354	6526	6711	6909	7123	7357
Total Energy Consumption	**115928**	**123921**	**131833**	**140221**	**149120**	**158529**
T&D losses -MU	32769	33271	33562	33798	33968	34074
T&D losses - %	22.04	21.17	20.29	19.42	18.55	17.69
Energy Requirement - MU	148697	157192	165396	174019	183088	192603
Annual Load Factor - %	71.73	70.84	70.83	70.81	70.80	70.78
Peak Electricity Demand - MW	**23664**	**25331**	**26658**	**28053**	**29522**	**31064**
Energy Requirement (Ex Bus) - MU	**150797**	**159412**	**167731**	**176477**	**185674**	**195323**
T&D losses (Ex Bus) -%	23.12	22.26	21.40	20.54	19.69	18.84
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	42.7	43.4	43.8	44.2	44.6	44.9
Commercial	12.9	12.8	12.8	12.8	12.7	12.7
Irrigation	16.7	16.5	16.4	16.2	16.1	16.0
Industries	17.0	16.9	16.9	16.9	16.9	16.9
Others	10.7	10.4	10.1	9.9	9.7	9.5
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.23

UTTARAKHAND

19TH ELECTRIC POWER SURVEY PROJECTION

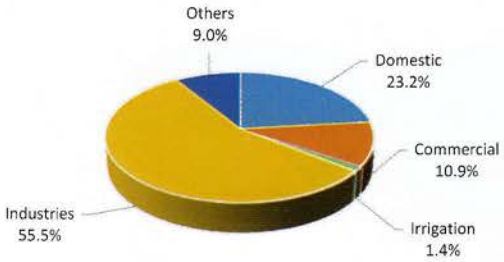
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

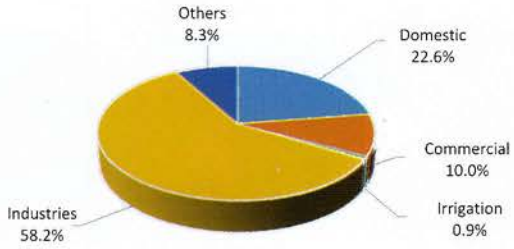
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	2392	2595	2798	3001	3204	3407	3610
Commercial	1118	1198	1278	1358	1438	1518	1598
Public lighting	45	47	48	50	52	53	55
Public Water Works	346	366	386	406	426	446	466
Irrigation	141	142	142	143	144	145	145
Industries LT	282	311	340	369	398	427	456
Industries HT	5437	5916	6427	6973	7556	8180	8849
Railway traction	12	12	13	13	14	15	15
Bulk Supply	523	568	615	668	704	743	783
Total Energy Consumption	**10296**	**11155**	**12048**	**12981**	**13936**	**14933**	**15978**
T&D losses -MU	2532	2309	2450	2612	2764	2919	3077
T&D losses - %	19.74	17.15	16.90	16.75	16.55	16.35	16.15
Energy Requirement - MU	12828	13464	14499	15593	16699	17852	19055
Annual Load Factor - %	72.00	71.40	70.80	70.20	69.60	69.00	68.40
Peak Electricity Demand - MW	**2034**	**2153**	**2338**	**2536**	**2739**	**2953**	**3180**
Energy Requirement (Ex Bus) - MU	**13065**	**13712**	**14766**	**15880**	**17007**	**18181**	**19406**
T&D losses (Ex Bus) -%	21.19	18.65	18.40	18.26	18.06	17.86	17.67
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	23.2	23.3	23.2	23.1	23.0	22.8	22.6
Commercial	10.9	10.7	10.6	10.5	10.3	10.2	10.0
Irrigation	1.4	1.3	1.2	1.1	1.0	1.0	0.9
Industries	55.5	55.8	56.2	56.6	57.1	57.6	58.2
Others	9.0	8.9	8.8	8.8	8.6	8.4	8.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.23 (Contd.)

UTTARAKHAND

19TH ELECTRIC POWER SURVEY PROJECTION

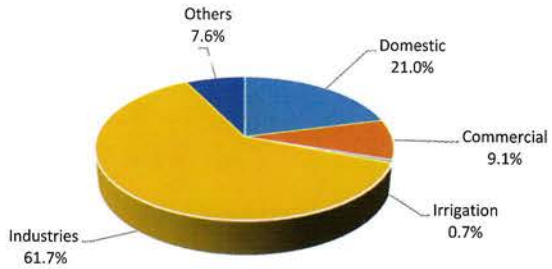
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	3610	3813	4016	4219	4422	4625
Commercial	1598	1678	1758	1838	1918	1998
Public lighting	55	57	58	60	62	63
Public Water Works	466	486	506	526	546	566
Irrigation	145	146	147	147	148	149
Industries LT	456	485	514	543	572	601
Industries HT	8849	9567	10338	11167	12059	13020
Railway traction	15	16	16	17	18	19
Bulk Supply	783	826	871	918	968	1021
Total Energy Consumption	**15978**	**17073**	**18224**	**19436**	**20713**	**22062**
T&D losses -MU	3077	3240	3407	3579	3756	3939
T&D losses - %	16.15	15.95	15.75	15.55	15.35	15.15
Energy Requirement - MU	19055	20313	21631	23014	24469	26001
Annual Load Factor - %	68.40	67.80	67.20	66.60	66.00	65.40
Peak Electricity Demand - MW	**3180**	**3420**	**3675**	**3945**	**4232**	**4538**
Energy Requirement (Ex Bus) - MU	**19406**	**20687**	**22029**	**23438**	**24920**	**26480**
T&D losses (Ex Bus) -%	17.67	17.47	17.27	17.08	16.88	16.68
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	22.6	22.3	22.0	21.7	21.3	21.0
Commercial	10.0	9.8	9.6	9.5	9.3	9.1
Irrigation	0.9	0.9	0.8	0.8	0.7	0.7
Industries	58.2	58.9	59.5	60.2	61.0	61.7
Others	8.3	8.1	8.0	7.8	7.7	7.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.24

CHANDIGARH

19TH ELECTRIC POWER SURVEY PROJECTION

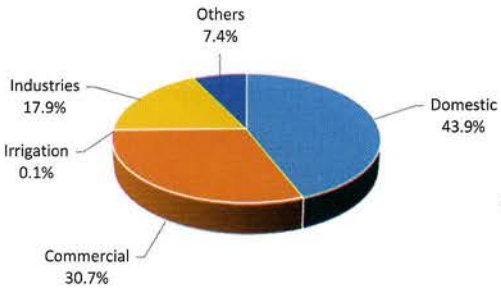
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

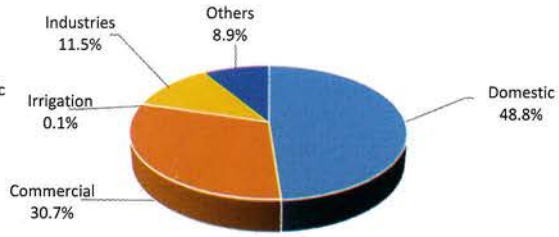
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	657	720	756	795	836	878	923
Commercial	459	495	510	527	545	562	581
Public lighting	25	24	25	27	28	29	31
Public Water Works	0	0	0	0	0	0	0
Irrigation	2	2	2	2	2	2	2
Industries LT	136	126	117	117	117	117	117
Industries HT	132	117	102	102	102	102	102
Railway traction	0	0	0	0	0	0	0
Bulk Supply	86	96	103	111	119	128	138
Total Energy Consumption	**1497**	**1579**	**1615**	**1680**	**1748**	**1819**	**1894**
T&D losses -MU	261	241	322	328	333	338	342
T&D losses - %	14.85	13.25	16.62	16.34	16.02	15.68	15.30
Energy Requirement - MU	1758	1820	1937	2008	2081	2157	2236
Annual Load Factor - %	53.59	52.00	52.00	52.00	52.00	52.00	52.00
Peak Electricity Demand - MW	**374**	**400**	**425**	**441**	**457**	**474**	**491**
Energy Requirement (Ex Bus) - MU	**1812**	**1876**	**1997**	**2070**	**2145**	**2223**	**2304**
T&D losses (Ex Bus) -%	17.39	15.83	19.10	18.83	18.52	18.19	17.82
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	43.9	45.6	46.8	47.3	47.8	48.3	48.8
Commercial	30.7	31.3	31.6	31.4	31.2	30.9	30.7
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Industries	17.9	15.4	13.5	13.0	12.5	12.0	11.5
Others	7.4	7.6	7.9	8.2	8.4	8.7	8.9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.24 (Contd.)

CHANDIGARH

19TH ELECTRIC POWER SURVEY PROJECTION

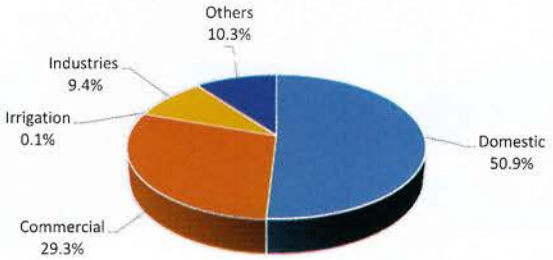
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	923	971	1020	1072	1127	1185
Commercial	581	600	620	640	661	683
Public lighting	31	33	34	36	38	40
Public Water Works	0	0	0	0	0	0
Irrigation	2	2	2	2	2	2
Industries LT	117	117	117	117	117	117
Industries HT	102	102	102	102	102	102
Railway traction	0	0	0	0	0	0
Bulk Supply	138	149	160	172	186	200
Total Energy Consumption	**1894**	**1972**	**2054**	**2141**	**2232**	**2328**
T&D losses -MU	342	345	347	348	348	346
T&D losses - %	15.30	14.89	14.46	13.99	13.48	12.95
Energy Requirement - MU	2236	2317	2402	2489	2580	2674
Annual Load Factor - %	52.00	52.00	52.00	52.00	52.00	52.00
Peak Electricity Demand - MW	**491**	**509**	**527**	**546**	**566**	**587**
Energy Requirement (Ex Bus) - MU	**2304**	**2388**	**2475**	**2566**	**2659**	**2756**
T&D losses (Ex Bus) -%	17.82	17.43	17.00	16.55	16.06	15.54
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	48.8	49.2	49.7	50.1	50.5	50.9
Commercial	30.7	30.4	30.2	29.9	29.6	29.3
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1
Industries	11.5	11.1	10.6	10.2	9.8	9.4
Others	8.9	9.2	9.5	9.7	10.0	10.3
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.25

GOA

19TH ELECTRIC POWER SURVEY PROJECTION

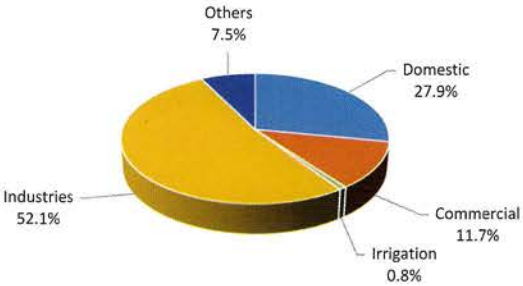
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

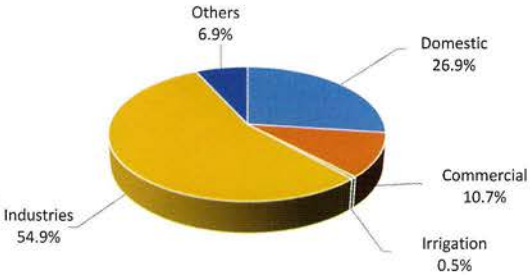
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	906	980	1050	1111	1168	1225	1280
Commercial	380	399	419	440	462	485	509
Public lighting	39	39	39	39	39	39	39
Public Water Works	164	176	190	202	214	226	237
Irrigation	25	25	25	25	25	25	25
Industries LT	100	104	108	112	117	122	127
Industries HT	1589	1808	1951	2087	2221	2355	2486
Railway traction	0	0	0	0	0	0	0
Bulk Supply	40	42	44	46	49	51	54
Total Energy Consumption	**3243**	**3574**	**3826**	**4063**	**4295**	**4527**	**4757**
T&D losses -MU	515	563	597	627	654	680	705
T&D losses - %	13.71	13.61	13.50	13.36	13.21	13.06	12.90
Energy Requirement - MU	3758	4136	4423	4689	4949	*5207	5462
Annual Load Factor - %	76.61	75.72	74.91	74.25	73.67	73.14	72.65
Peak Electricity Demand - MW	**560**	**624**	**674**	**721**	**767**	**813**	**858**
Energy Requirement (Ex Bus) - MU	**3848**	**4236**	**4529**	**4802**	**5068**	**5332**	**5593**
T&D losses (Ex Bus) -%	15.73	15.63	15.52	15.39	15.25	15.10	14.94
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	27.9	27.4	27.4	27.3	27.2	27.1	26.9
Commercial	11.7	11.2	10.9	10.8	10.8	10.7	10.7
Irrigation	0.8	0.7	0.7	0.6	0.6	0.6	0.5
Industries	52.1	53.5	53.8	54.1	54.4	54.7	54.9
Others	7.5	7.2	7.1	7.1	7.0	7.0	6.9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.25 (Contd.)

GOA

19TH ELECTRIC POWER SURVEY PROJECTION

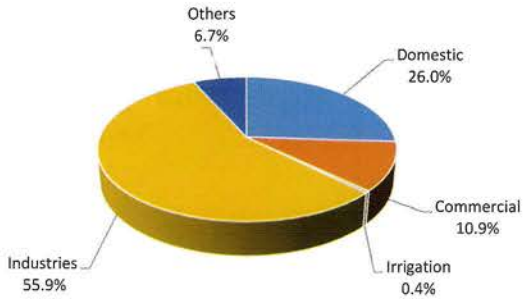
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	1280	1335	1389	1443	1496	1548
Commercial	509	535	561	590	619	650
Public lighting	39	39	39	39	39	39
Public Water Works	237	249	260	271	283	294
Irrigation	25	25	25	25	25	25
Industries LT	127	132	137	142	148	154
Industries HT	2486	2619	2754	2892	3032	3173
Railway traction	0	0	0	0	0	0
Bulk Supply	54	56	59	62	65	68
Total Energy Consumption	**4757**	**4989**	**5225**	**5465**	**5707**	**5951**
T&D losses -MU	705	728	752	774	797	818
T&D losses - %	12.90	12.74	12.58	12.41	12.25	12.09
Energy Requirement - MU	5462	5718	5977	6239	6503	6769
Annual Load Factor - %	72.65	72.19	71.75	71.32	70.92	70.53
Peak Electricity Demand - MW	**858**	**904**	**951**	**999**	**1047**	**1096**
Energy Requirement (Ex Bus) - MU	**5593**	**5855**	**6120**	**6389**	**6660**	**6932**
T&D losses (Ex Bus) -%	14.94	14.78	14.62	14.47	14.31	14.15
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	26.9	26.8	26.6	26.4	26.2	26.0
Commercial	10.7	10.7	10.7	10.8	10.8	10.9
Irrigation	0.5	0.5	0.5	0.5	0.4	0.4
Industries	54.9	55.1	55.3	55.5	55.7	55.9
Others	6.9	6.9	6.9	6.8	6.8	6.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.26

GUJARAT-MGVCL

19TH ELECTRIC POWER SURVEY PROJECTION

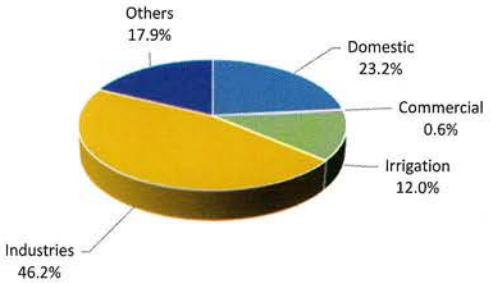
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

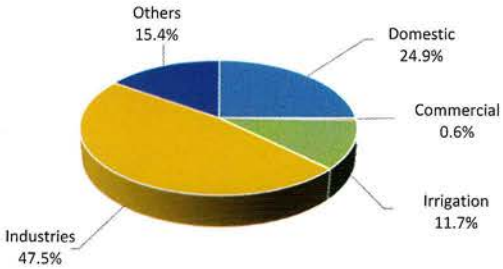
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	2287	2454	2693	2926	3163	3406	3654
Commercial	57	61	66	70	74	78	82
Public lighting	62	77	82	86	89	92	95
Public Water Works	245	270	298	324	350	378	406
Irrigation	1182	1271	1360	1449	1536	1624	1712
Industries LT	1326	1437	1581	1730	1885	2045	2211
Industries HT	3225	3108	3418	3738	4068	4411	4764
Railway traction	409	425	442	460	478	497	517
Bulk Supply	1048	1080	1112	1145	1179	1214	1250
Total Energy Consumption	**9842**	**10184**	**11052**	**11927**	**12823**	**13746**	**14692**
T&D losses -MU	1849	1829	1897	1958	2014	2065	2113
T&D losses - %	15.82	15.22	14.65	14.10	13.57	13.06	12.57
Energy Requirement - MU	11691	12013	12949	13886	14837	15812	16805
Annual Load Factor - %	73.65	73.24	72.44	71.71	71.03	70.39	69.79
Peak Electricity Demand - MW	**1812**	**1872**	**2041**	**2211**	**2384**	**2564**	**2749**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	23.2	24.1	24.4	24.5	24.7	24.8	24.9
Commercial	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Irrigation	12.0	12.5	12.3	12.2	12.0	11.8	11.7
Industries	46.2	44.6	45.2	45.8	46.4	47.0	47.5
Others	17.9	18.2	17.5	16.9	16.3	15.9	15.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.26 (Contd.)

GUJARAT-MGVCL

19TH ELECTRIC POWER SURVEY PROJECTION

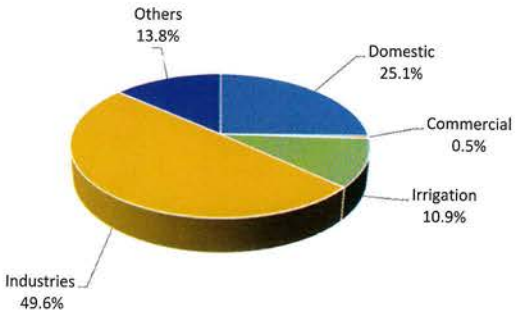
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	3654	3910	4176	4452	4736	5029
Commercial	82	86	89	93	97	100
Public lighting	95	98	101	104	106	109
Public Water Works	406	435	466	498	531	565
Irrigation	1712	1802	1894	1988	2086	2186
Industries LT	2211	2383	2564	2753	2951	3157
Industries HT	4764	5132	5517	5919	6339	6776
Railway traction	517	538	559	582	611	641
Bulk Supply	1250	1288	1327	1367	1408	1450
Total Energy Consumption	**14692**	**15672**	**16694**	**17757**	**18866**	**20013**
T&D losses -MU	2113	2157	2200	2241	2281	2318
T&D losses - %	12.57	12.10	11.65	11.21	10.79	10.38
Energy Requirement - MU	16805	17829	18894	19998	21147	22332
Annual Load Factor - %	69.79	69.23	68.68	68.15	67.64	67.14
Peak Electricity Demand - MW	**2749**	**2940**	**3141**	**3350**	**3569**	**3797**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	24.9	25.0	25.0	25.1	25.1	25.1
Commercial	0.6	0.5	0.5	0.5	0.5	0.5
Irrigation	11.7	11.5	11.3	11.2	11.1	10.9
Industries	47.5	48.0	48.4	48.8	49.2	49.6
Others	15.4	15.1	14.7	14.4	14.1	13.8
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.27

GUJARAT-DGVCL

19TH ELECTRIC POWER SURVEY PROJECTION

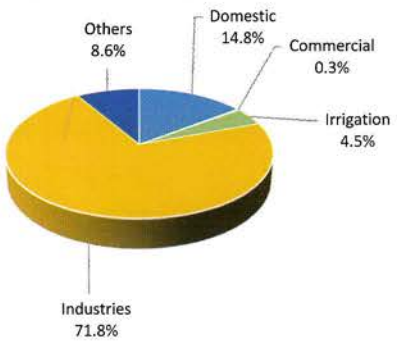
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

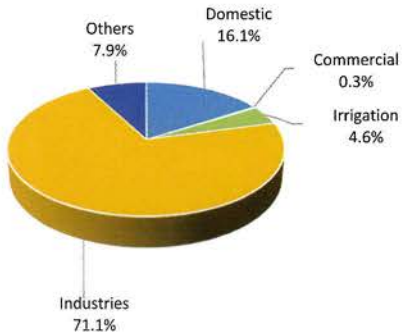
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	2542	2751	3004	3249	3507	3774	4050
Commercial	45	49	53	58	62	66	70
Public lighting	53	58	62	66	70	74	78
Public Water Works	326	358	397	434	472	512	553
Irrigation	765	834	900	958	1019	1081	1146
Industries LT	4670	5096	5557	6013	6479	6961	7458
Industries HT	7671	6331	7082	7851	8656	9506	10400
Railway traction	342	356	370	385	401	417	433
Bulk Supply	764	787	811	835	860	886	913
Total Energy Consumption	**17179**	**16622**	**18236**	**19849**	**21525**	**23277**	**25101**
T&D losses -MU	1751	1689	1847	2005	2167	2336	2511
T&D losses - %	9.25	9.22	9.20	9.17	9.15	9.12	9.09
Energy Requirement - MU	18930	18312	20083	21854	23692	25613	27612
Annual Load Factor - %	74.00	73.50	73.00	72.50	72.00	71.50	71.00
Peak Electricity Demand - MW	**2920**	**2844**	**3141**	**3441**	**3756**	**4089**	**4440**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	14.8	16.6	16.5	16.4	16.3	16.2	16.1
Commercial	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Irrigation	4.5	5.0	4.9	4.8	4.7	4.6	4.6
Industries	71.8	68.7	69.3	69.8	70.3	70.7	71.1
Others	8.6	9.4	9.0	8.7	8.4	8.1	7.9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.27 (Contd.)

GUJARAT-DGVCL

19TH ELECTRIC POWER SURVEY PROJECTION

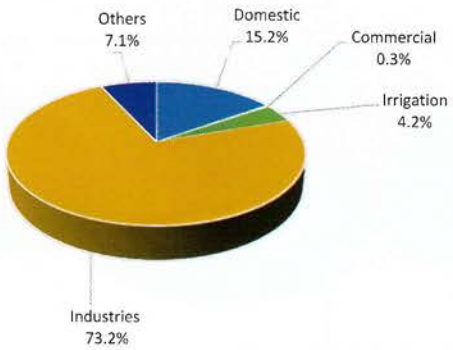
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	4050	4328	4602	4870	5129	5375
Commercial	70	75	79	84	89	94
Public lighting	78	81	85	89	92	96
Public Water Works	553	597	643	692	743	797
Irrigation	1146	1209	1275	1344	1414	1487
Industries LT	7458	7971	8503	9035	9591	10171
Industries HT	10400	11346	12348	13405	14515	15675
Railway traction	433	451	469	487	512	537
Bulk Supply	913	940	968	997	1027	1058
Total Energy Consumption	**25101**	**26997**	**28972**	**31002**	**33112**	**35291**
T&D losses -MU	2511	2693	2881	3073	3272	3476
T&D losses - %	9.09	9.07	9.04	9.02	8.99	8.97
Energy Requirement - MU	27612	29690	31853	34075	36384	38767
Annual Load Factor - %	71.00	70.50	70.00	69.50	69.00	68.50
Peak Electricity Demand - MW	**4440**	**4807**	**5194**	**5597**	**6019**	**6461**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	16.1	16.0	15.9	15.7	15.5	15.2
Commercial	0.3	0.3	0.3	0.3	0.3	0.3
Irrigation	4.6	4.5	4.4	4.3	4.3	4.2
Industries	71.1	71.5	72.0	72.4	72.8	73.2
Others	7.9	7.7	7.5	7.3	7.2	7.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.28

GUJARAT-UGVCL

19TH ELECTRIC POWER SURVEY PROJECTION

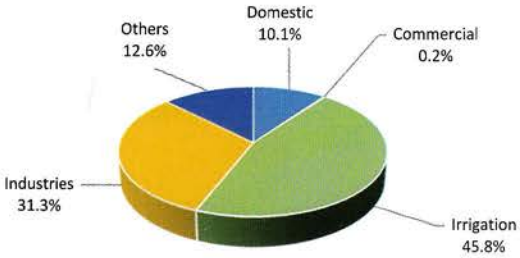
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

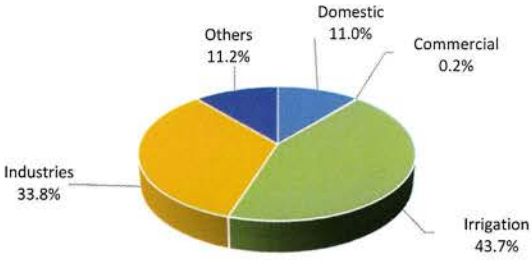
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1879	2063	2280	2495	2717	2947	3184
Commercial	41	45	49	54	58	63	68
Public lighting	52	56	60	64	67	71	75
Public Water Works	873	951	1051	1150	1251	1353	1456
Irrigation	8548	9290	10000	10661	11321	11976	12619
Industries LT	1557	1744	1954	2154	2355	2563	2776
Industries HT	4287	4721	5175	5623	6075	6531	6988
Railway traction	17	17	18	19	19	20	21
Bulk Supply	1418	1460	1504	1549	1595	1643	1692
Total Energy Consumption	**18671**	**20347**	**22090**	**23768**	**25459**	**27168**	**28879**
T&D losses -MU	2317	2480	2644	2792	2936	3074	3205
T&D losses - %	11.04	10.86	10.69	10.51	10.34	10.16	9.99
Energy Requirement - MU	20988	22827	24733	26560	28394	30241	32084
Annual Load Factor - %	73.99	73.29	72.64	72.05	71.50	70.97	70.48
Peak Electricity Demand - MW	**3238**	**3555**	**3887**	**4208**	**4534**	**4864**	**5197**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	10.1	10.1	10.3	10.5	10.7	10.8	11.0
Commercial	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Irrigation	45.8	45.7	45.3	44.9	44.5	44.1	43.7
Industries	31.3	31.8	32.3	32.7	33.1	33.5	33.8
Others	12.6	12.2	11.9	11.7	11.5	11.4	11.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.28 (Contd.)

GUJARAT-UGVCL

19TH ELECTRIC POWER SURVEY PROJECTION

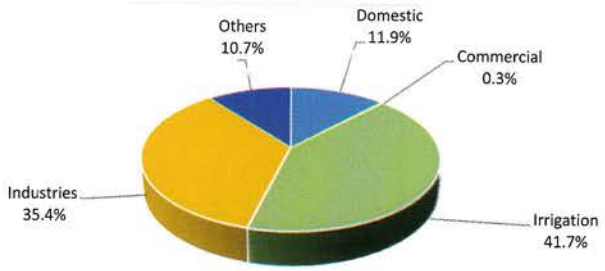
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	3184	3432	3693	3965	4249	4545
Commercial	68	74	79	85	91	98
Public lighting	75	78	82	85	89	92
Public Water Works	1456	1561	1668	1779	1891	2005
Irrigation	12619	13271	13929	14592	15256	15920
Industries LT	2776	2998	3232	3477	3733	4001
Industries HT	6988	7458	7944	8445	8960	9488
Railway traction	21	22	23	24	25	26
Bulk Supply	1692	1743	1795	1849	1904	1961
Total Energy Consumption	**28879**	**30636**	**32444**	**34300**	**36198**	**38135**
T&D losses -MU	3205	3334	3461	3585	3707	3824
T&D losses - %	9.99	9.81	9.64	9.46	9.29	9.11
Energy Requirement - MU	32084	33970	35905	37885	39905	41959
Annual Load Factor - %	70.48	70.00	69.53	69.08	68.64	68.21
Peak Electricity Demand - MW	**5197**	**5540**	**5895**	**6260**	**6636**	**7022**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	11.0	11.2	11.4	11.6	11.7	11.9
Commercial	0.2	0.2	0.2	0.2	0.3	0.3
Irrigation	43.7	43.3	42.9	42.5	42.1	41.7
Industries	33.8	34.1	34.4	34.8	35.1	35.4
Others	11.2	11.1	11.0	10.9	10.8	10.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.29

GUJARAT-PGVCL

19TH ELECTRIC POWER SURVEY PROJECTION

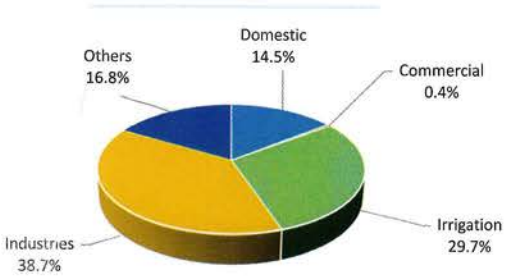
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

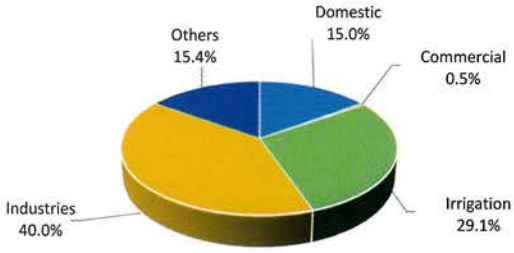
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Energy Consumption in MUs							
Domestic	3421	3747	4101	4446	4795	5151	5512
Commercial	104	114	126	136	146	156	166
Public lighting	93	101	108	116	123	131	139
Public Water Works	1280	1449	1628	1816	2011	2211	2413
Irrigation	7030	7962	8474	8992	9532	10094	10677
Industries LT	3039	3343	3657	3955	4254	4558	4865
Industries HT	6110	6625	7218	7836	8479	9139	9812
Railway traction	0	0	0	0	0	0	0
Bulk Supply	2593	2671	2751	2834	2919	3007	3097
Total Energy Consumption	**23670**	**26011**	**28062**	**30130**	**32259**	**34447**	**36681**
T&D losses -MU	6904	7113	7202	7263	7309	7342	7358
T&D losses - %	22.58	21.47	20.42	19.42	18.47	17.57	16.71
Energy Requirement - MU	30574	33124	35265	37393	39568	41788	44039
Annual Load Factor - %	70.52	68.00	68.00	68.00	68.00	68.00	68.00
Peak Electricity Demand - MW	**4949**	**5561**	**5920**	**6277**	**6643**	**7015**	**7393**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	14.5	14.4	14.6	14.8	14.9	15.0	15.0
Commercial	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Irrigation	29.7	30.6	30.2	29.8	29.5	29.3	29.1
Industries	38.7	38.3	38.8	39.1	39.5	39.8	40.0
Others	16.8	16.2	16.0	15.8	15.7	15.5	15.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.29 (Contd.)

GUJARAT-PGVCL

19TH ELECTRIC POWER SURVEY PROJECTION

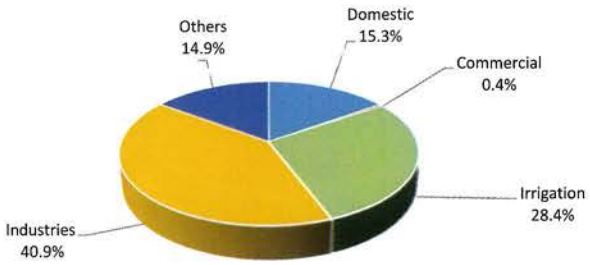
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	5512	5885	6270	6668	7077	7497
Commercial	166	175	185	195	205	216
Public lighting	139	147	155	163	171	179
Public Water Works	2413	2623	2843	3069	3303	3541
Irrigation	10677	11283	11911	12560	13232	13924
Industries LT	4865	5181	5506	5840	6170	6513
Industries HT	9812	10510	11235	11984	12755	13548
Railway traction	0	0	0	0	0	0
Bulk Supply	3097	3190	3286	3385	3487	3592
Total Energy Consumption	**36681**	**38994**	**41390**	**43865**	**46401**	**49011**
T&D losses -MU	7358	7367	7369	7363	7347	7324
T&D losses - %	16.71	15.89	15.11	14.37	13.67	13.00
Energy Requirement - MU	44039	46361	48759	51228	53748	56335
Annual Load Factor - %	68.00	68.00	68.00	68.00	68.00	68.00
Peak Electricity Demand - MW	**7393**	**7783**	**8185**	**8600**	**9023**	**9457**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	15.0	15.1	15.1	15.2	15.3	15.3
Commercial	0.5	0.4	0.4	0.4	0.4	0.4
Irrigation	29.1	28.9	28.8	28.6	28.5	28.4
Industries	40.0	40.2	40.4	40.6	40.8	40.9
Others	15.4	15.3	15.2	15.1	15.0	14.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.30

GUJARAT-TORRENT

19TH ELECTRIC POWER SURVEY PROJECTION

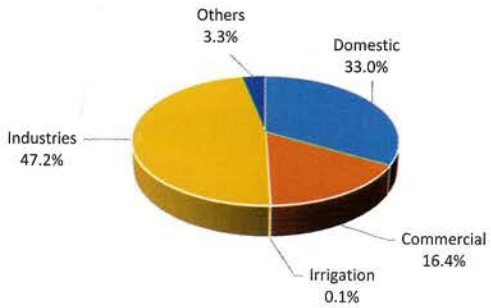
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

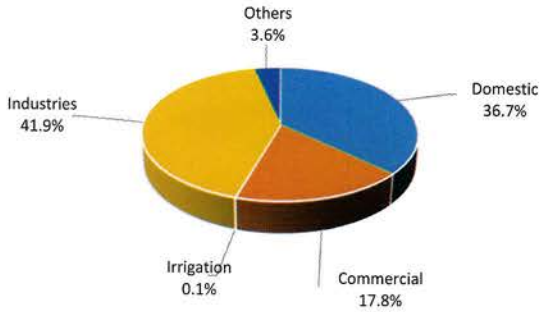
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Energy Consumption in MUs							
Domestic	3321	3567	3829	4107	4395	4690	4990
Commercial	1649	1767	1896	2027	2159	2291	2421
Public lighting	*71*	*81*	*88*	*96*	*104*	*113*	*122*
Public Water Works	230	250	267	283	299	316	332
Irrigation	6	7	7	7	7	7	8
Industries LT	2954	3039	3115	3181	3238	3287	3326
Industries HT	1793	1842	1942	2043	2146	2252	2361
Railway traction	0	0	0	0	0	0	0
Bulk Supply	27	28	29	30	31	32	30
Total Energy Consumption	**10051**	**10580**	**11172**	**11774**	**12380**	**12988**	**13590**
T&D losses -MU	714	752	794	836	879	923	965
T&D losses - %	6.63	6.63	6.63	6.63	6.63	6.63	6.63
Energy Requirement - MU	10765	11331	11966	12610	13260	13910	14555
Annual Load Factor - %	51.73	52.51	53.30	54.10	54.91	55.73	56.57
Peak Electricity Demand - MW	**2375**	**2463**	**2563**	**2661**	**2757**	**2849**	**2937**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	33.0	33.7	34.3	34.9	35.5	36.1	36.7
Commercial	16.4	16.7	17.0	17.2	17.4	17.6	17.8
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Industries	47.2	46.1	45.3	44.4	43.5	42.6	41.9
Others	3.3	3.4	3.4	3.5	3.5	3.5	3.6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.30 (Contd.)

GUJARAT-TORRENT

19TH ELECTRIC POWER SURVEY PROJECTION

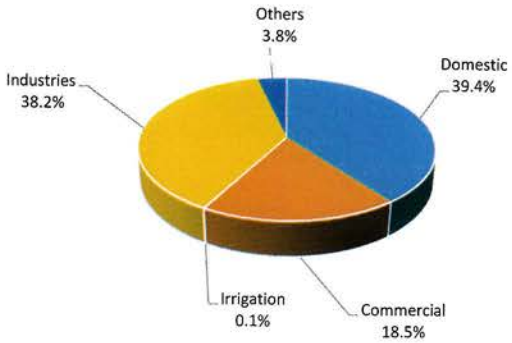
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	4990	5296	5611	5932	6259	6592
Commercial	2421	2552	2685	2820	2955	3091
Public lighting	122	131	142	152	164	176
Public Water Works	332	349	366	384	402	420
Irrigation	8	8	8	8	9	9
Industries LT	3326	3360	3388	3412	3431	3444
Industries HT	2361	2474	2589	2706	2827	2950
Railway traction	0	0	0	0	0	0
Bulk Supply	30	31	32	33	34	36
Total Energy Consumption	**13590**	**14201**	**14820**	**15447**	**16080**	**16717**
T&D losses -MU	965	1009	1053	1097	1142	1187
T&D losses - %	6.63	6.63	6.63	6.63	6.63	6.63
Energy Requirement - MU	14555	15209	15873	16545	17222	17904
Annual Load Factor - %	56.57	57.42	58.28	59.15	60.04	60.94
Peak Electricity Demand - MW	**2937**	**3024**	**3109**	**3193**	**3274**	**3354**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	36.7	37.3	37.9	38.4	38.9	39.4
Commercial	17.8	18.0	18.1	18.3	18.4	18.5
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1
Industries	41.9	41.1	40.3	39.6	38.9	38.2
Others	3.6	3.6	3.6	3.7	3.7	3.8
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.31

GUJARAT

19TH ELECTRIC POWER SURVEY PROJECTION

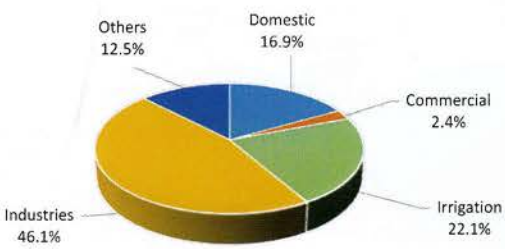
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

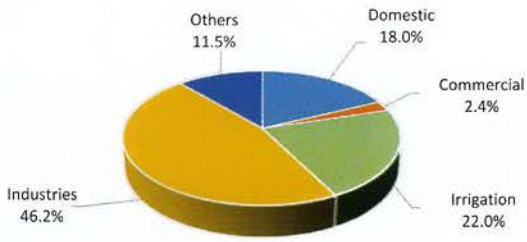
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	13450	14583	15906	17223	18577	19969	21391
Commercial	1896	2037	2190	2345	2500	2654	2807
Public lighting	332	373	400	427	454	481	508
Public Water Works	2954	3279	3640	4006	4383	4769	5160
Irrigation	17531	19364	20741	22067	23416	24782	26162
Industries LT	13546	14658	15864	17032	18211	19414	20636
Industries HT	23086	22627	24834	27091	29423	31839	34325
Railway traction	768	798	830	864	898	934	971
Bulk Supply	5850	6026	6207	6393	6584	6782	6982
Total Energy Consumption	**79413**	**83745**	**90612**	**97448**	**104445**	**111625**	**118943**
T&D losses -MU	13535	13863	14384	14855	15305	15739	16152
T&D losses - %	14.56	14.20	13.70	13.23	12.78	12.36	11.96
Energy Requirement - MU	92948	97608	104996	112303	119750	127365	135095
Annual Load Factor - %	73.54	72.48	72.39	72.29	72.19	72.08	71.97
Peak Electricity Demand - MW	**14429**	**15373**	**16558**	**17734**	**18937**	**20172**	**21429**
Energy Requirement (Ex Bus) - MU	**93680**	**98376**	**105823**	**113187**	**120693**	**128368**	**136159**
T&D losses (Ex Bus) -%	15.23	14.87	14.37	13.91	13.46	13.04	12.64
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	16.9	17.4	17.6	17.7	17.8	17.9	18.0
Commercial	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Irrigation	22.1	23.1	22.9	22.6	22.4	22.2	22.0
Industries	46.1	44.5	44.9	45.3	45.6	45.9	46.2
Others	12.5	12.5	12.2	12.0	11.8	11.6	11.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.31 (Contd.)

GUJARAT

19TH ELECTRIC POWER SURVEY PROJECTION

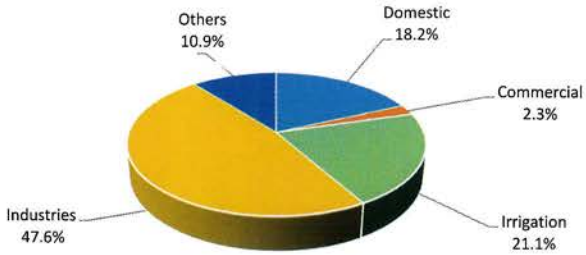
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	21391	22852	24352	25887	27451	29039
Commercial	2807	2962	3118	3277	3438	3598
Public lighting	508	536	564	593	622	651
Public Water Works	5160	5565	5986	6421	6869	7327
Irrigation	26162	27573	29017	30493	31997	33526
Industries LT	20636	21893	23193	24517	25876	27286
Industries HT	34325	36919	39631	42459	45396	48437
Railway traction	971	1010	1051	1093	1147	1205
Bulk Supply	6982	7192	7408	7631	7860	8097
Total Energy Consumption	**118943**	**126500**	**134320**	**142371**	**150657**	**159167**
T&D losses -MU	16152	16559	16963	17360	17749	18130
T&D losses - %	11.96	11.58	11.21	10.87	10.54	10.23
Energy Requirement - MU	135095	143060	151284	159731	168405	177297
Annual Load Factor - %	71.97	71.85	71.72	71.59	71.45	71.30
Peak Electricity Demand - MW	**21429**	**22730**	**24079**	**25471**	**26908**	**28387**
Energy Requirement (Ex Bus) - MU	**136159**	**144186**	**152475**	**160989**	**169732**	**178693**
T&D losses (Ex Bus) -%	12.64	12.27	11.91	11.56	11.24	10.93
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	18.0	18.1	18.1	18.2	18.2	18.2
Commercial	2.4	2.3	2.3	2.3	2.3	2.3
Irrigation	22.0	21.8	21.6	21.4	21.2	21.1
Industries	46.2	46.5	46.8	47.0	47.3	47.6
Others	11.5	11.3	11.2	11.1	11.0	10.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.32

CHHATTISGARH

19TH ELECTRIC POWER SURVEY PROJECTION

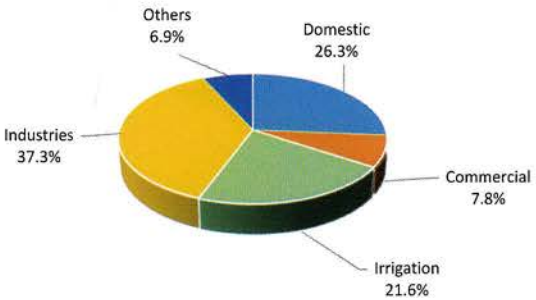
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

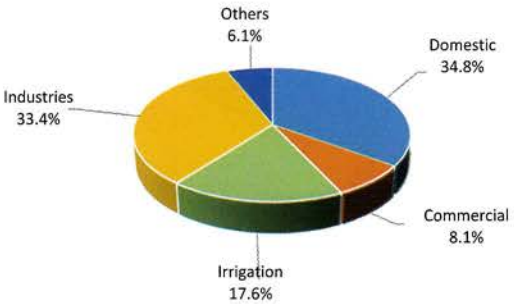
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	4886	6065	6869	7722	8635	9610	10645
Commercial	1459	1627	1780	1940	2109	2288	2478
Public lighting	101	122	134	146	157	169	181
Public Water Works	253	302	341	381	424	469	517
Irrigation	4025	4227	4438	4660	4893	5137	5394
Industries LT	532	594	639	682	724	768	812
Industries HT	6416	7171	7617	8074	8521	8966	9406
Railway traction	890	926	963	1001	1041	1083	1126
Bulk Supply	40	41	42	44	45	46	48
Total Energy Consumption	**18603**	**21075**	**22823**	**24649**	**26548**	**28536**	**30607**
T&D losses -MU	5816	5690	5917	6270	6420	6497	6674
T&D losses - %	23.82	21.26	20.59	20.28	19.47	18.55	17.90
Energy Requirement - MU	24419	26765	28740	30919	32968	35033	37281
Annual Load Factor - %	68.57	70.28	69.86	69.48	69.15	68.84	68.55
Peak Electricity Demand - MW	**4065**	**4348**	**4697**	**5080**	**5442**	**5809**	**6208**
Energy Requirement (Ex Bus) - MU	**24785**	**27167**	**29171**	**31383**	**33463**	**35559**	**37840**
T&D losses (Ex Bus) -%	24.94	22.42	21.76	21.46	20.66	19.75	19.11
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	26.3	28.8	30.1	31.3	32.5	33.7	34.8
Commercial	7.8	7.7	7.8	7.9	7.9	8.0	8.1
Irrigation	21.6	20.1	19.4	18.9	18.4	18.0	17.6
Industries	37.3	36.8	36.2	35.5	34.8	34.1	33.4
Others	6.9	6.6	6.5	6.4	6.3	6.2	6.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.32 (Contd.)

CHHATTISGARH

19TH ELECTRIC POWER SURVEY PROJECTION

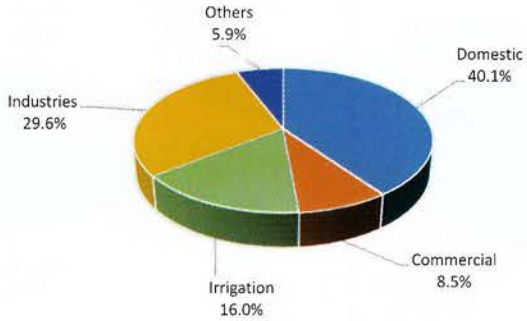
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	10645	11763	12974	14283	15694	17211
Commercial	2478	2680	2896	3127	3373	3634
Public lighting	181	194	207	222	237	252
Public Water Works	517	569	625	685	749	817
Irrigation	5394	5664	5947	6244	6557	6885
Industries LT	812	857	903	951	1000	1051
Industries HT	9406	9831	10268	10715	11172	11640
Railway traction	1126	1171	1218	1267	1330	1397
Bulk Supply	48	49	50	52	54	55
Total Energy Consumption	**30607**	**32779**	**35089**	**37545**	**40164**	**42942**
T&D losses -MU	6674	6783	6941	7100	7270	7391
T&D losses - %	17.90	17.14	16.51	15.90	15.33	14.68
Energy Requirement - MU	37281	39561	42030	44645	47434	50333
Annual Load Factor - %	68.55	68.29	68.05	67.83	67.63	67.45
Peak Electricity Demand - MW	**6208**	**6613**	**7050**	**7513**	**8006**	**8518**
Energy Requirement (Ex Bus) - MU	**37840**	**40155**	**42661**	**45315**	**48146**	**51088**
T&D losses (Ex Bus) -%	19.11	18.37	17.75	17.15	16.58	15.94
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	34.8	35.9	37.0	38.0	39.1	40.1
Commercial	8.1	8.2	8.3	8.3	8.4	8.5
Irrigation	17.6	17.3	16.9	16.6	16.3	16.0
Industries	33.4	32.6	31.8	31.1	30.3	29.6
Others	6.1	6.1	6.0	5.9	5.9	5.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.33

MADHYA PRADESH - CENTRAL DISCOM

19TH ELECTRIC POWER SURVEY PROJECTION

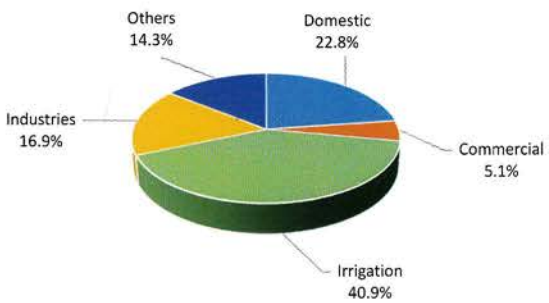
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

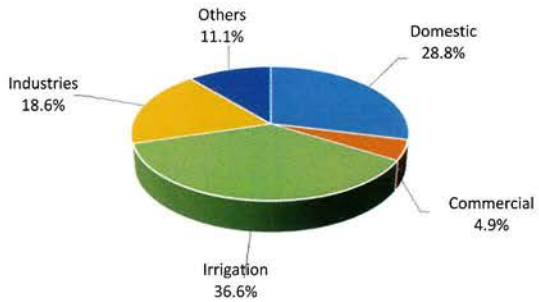
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	3454	3841	4354	4947	5666	6641	7480
Commercial	767	834	910	992	1077	1169	1263
Public lighting	99	104	111	116	122	127	132
Public Water Works	369	391	419	446	470	489	508
Irrigation	6183	6981	7642	8227	8778	9196	9512
Industries LT	239	257	277	298	319	344	370
Industries HT	2318	2693	3086	3461	3815	4144	4453
Railway traction	929	966	1005	1045	1087	1130	1175
Bulk Supply	769	825	873	920	971	1024	1073
Total Energy Consumption	**15126**	**16891**	**18676**	**20452**	**22305**	**24263**	**25965**
T&D losses -MU	4799	4821	5063	5251	5410	5545	5572
T&D losses - %	24.09	22.20	21.33	20.43	19.52	18.60	17.67
Energy Requirement - MU	19925	21712	23738	25702	27715	29808	31538
Annual Load Factor - %	69.00	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**3297**	**3541**	**3871**	**4192**	**4520**	**4861**	**5143**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	22.8	22.7	23.3	24.2	25.4	27.4	28.8
Commercial	5.1	4.9	4.9	4.9	4.8	4.8	4.9
Irrigation	40.9	41.3	40.9	40.2	39.4	37.9	36.6
Industries	16.9	17.5	18.0	18.4	18.5	18.5	18.6
Others	14.3	13.5	12.9	12.4	11.9	11.4	11.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.33 (Contd.)

MADHYA PRADESH - CENTRAL DISCOM

19TH ELECTRIC POWER SURVEY PROJECTION

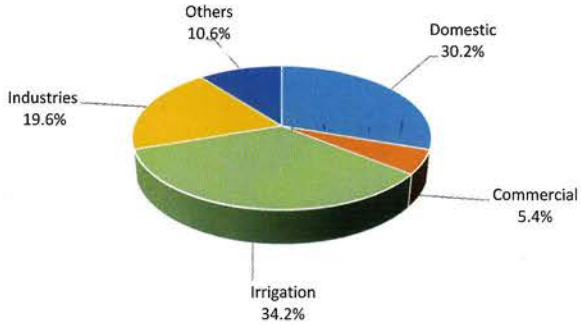
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	7480	7998	8496	9001	9523	10075
Commercial	1263	1364	1469	1573	1683	1800
Public lighting	132	138	143	149	154	159
Public Water Works	508	527	546	566	586	608
Irrigation	9512	9934	10300	10680	11048	11402
Industries LT	370	399	430	463	499	538
Industries HT	4453	4755	5068	5375	5680	6003
Railway traction	1175	1222	1271	1322	1388	1458
Bulk Supply	1073	1124	1171	1221	1273	1328
Total Energy Consumption	**25965**	**27460**	**28894**	**30348**	**31834**	**33371**
T&D losses -MU	5572	5514	5411	5280	5122	4943
T&D losses - %	17.67	16.72	15.77	14.82	13.86	12.90
Energy Requirement - MU	31538	32974	34305	35628	36956	38314
Annual Load Factor - %	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**5143**	**5377**	**5594**	**5810**	**6027**	**6248**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	28.8	29.1	29.4	29.7	29.9	30.2
Commercial	4.9	5.0	5.1	5.2	5.3	5.4
Irrigation	36.6	36.2	35.6	35.2	34.7	34.2
Industries	18.6	18.8	19.0	19.2	19.4	19.6
Others	11.1	11.0	10.8	10.7	10.7	10.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.34

MADHYA PRADESH - EASTERN DISCOM

19TH ELECTRIC POWER SURVEY PROJECTION

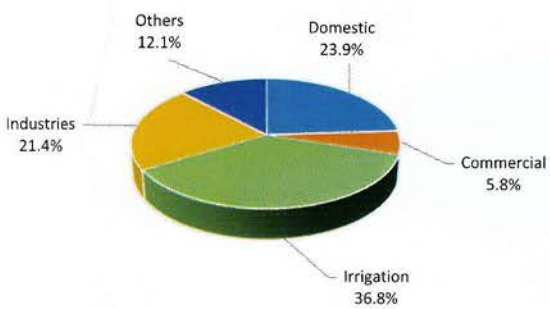
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

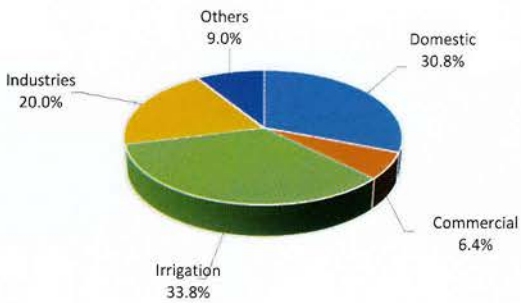
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	3423	3838	4417	5113	5915	6895	7671
Commercial	827	965	1092	1217	1337	1458	1588
Public lighting	112	136	153	168	178	186	194
Public Water Works	259	297	338	377	410	443	476
Irrigation	5253	5836	6464	7036	7554	8018	8434
Industries LT	294	328	365	403	444	487	532
Industries HT	2768	2988	3355	3681	3940	4191	4452
Railway traction	583	606	631	656	682	709	738
Bulk Supply	771	784	795	807	816	828	840
Total Energy Consumption	**14291**	**15778**	**17609**	**19457**	**21276**	**23216**	**24924**
T&D losses -MU	4099	4146	4379	4566	4696	4804	4818
T&D losses - %	22.29	20.81	19.92	19.01	18.08	17.15	16.20
Energy Requirement - MU	18391	19924	21989	24023	25972	28020	29742
Annual Load Factor - %	70.00	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**2999**	**3249**	**3586**	**3918**	**4236**	**4569**	**4850**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	23.9	24.3	25.1	26.3	27.8	29.7	30.8
Commercial	5.8	6.1	6.2	6.3	6.3	6.3	6.4
Irrigation	36.8	37.0	36.7	36.2	35.5	34.5	33.8
Industries	21.4	21.0	21.1	21.0	20.6	20.1	20.0
Others	12.1	11.6	10.9	10.3	9.8	9.3	9.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.34 (Contd.)

MADHYA PRADESH - EASTERN DISCOM

19TH ELECTRIC POWER SURVEY PROJECTION

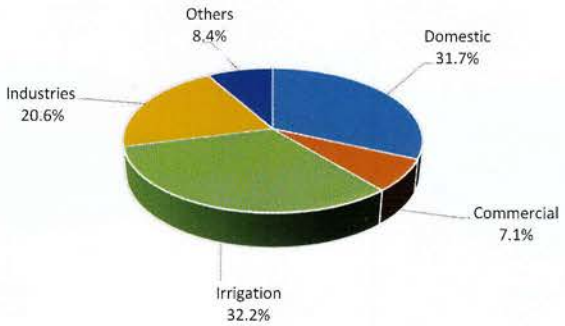
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	7671	8138	8634	9159	9717	10309
Commercial	1588	1728	1874	2027	2172	2322
Public lighting	194	202	210	218	226	233
Public Water Works	476	508	543	578	612	645
Irrigation	8434	8847	9274	9698	10097	10488
Industries LT	532	583	637	695	757	823
Industries HT	4452	4723	5010	5286	5576	5883
Railway traction	738	767	798	830	871	915
Bulk Supply	840	856	873	890	908	926
Total Energy Consumption	**24924**	**26352**	**27853**	**29381**	**30935**	**32543**
T&D losses -MU	4818	4738	4640	4514	4457	4383
T&D losses - %	16.20	15.24	14.28	13.32	12.59	11.87
Energy Requirement - MU	29742	31089	32493	33895	35392	36925
Annual Load Factor - %	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**4850**	**5070**	**5299**	**5528**	**5772**	**6022**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	30.8	30.9	31.0	31.2	31.4	31.7
Commercial	6.4	6.6	6.7	6.9	7.0	7.1
Irrigation	33.8	33.6	33.3	33.0	32.6	32.2
Industries	20.0	20.1	20.3	20.4	20.5	20.6
Others	9.0	8.9	8.7	8.6	8.5	8.4
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.35

MADHYA PRADESH - WESTERN DISCOM

19TH ELECTRIC POWER SURVEY PROJECTION

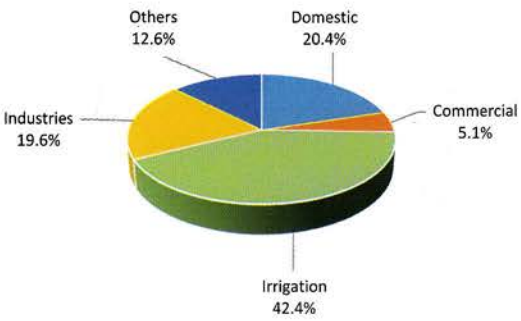
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

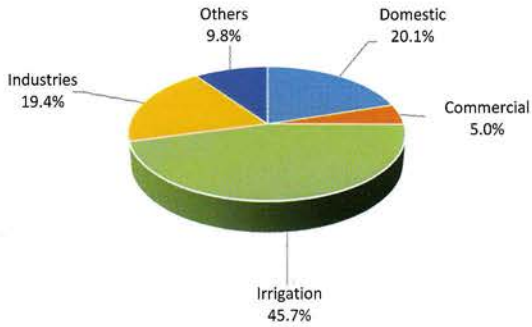
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	3582	3930	4311	4708	5110	5507	5899
Commercial	893	975	1061	1152	1247	1349	1458
Public lighting	147	164	196	235	251	262	273
Public Water Works	603	632	682	730	775	820	864
Irrigation	7446	8524	9501	10541	11529	12445	13371
Industries LT	547	585	629	673	715	763	820
Industries HT	2893	3048	3486	3878	4229	4535	4863
Railway traction	451	469	488	507	528	549	571
Bulk Supply	1018	1035	1061	1087	1114	1141	1168
Total Energy Consumption	**17582**	**19363**	**21415**	**23511**	**25498**	**27371**	**29287**
T&D losses -MU	4922	5016	5247	5432	5536	5566	5560
T&D losses - %	21.87	20.58	19.68	18.77	17.84	16.90	15.95
Energy Requirement - MU	22504	24380	26662	28942	31034	32937	34847
Annual Load Factor - %	69.00	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**3723**	**3976**	**4348**	**4720**	**5061**	**5371**	**5683**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	20.4	20.3	20.1	20.0	20.0	20.1	20.1
Commercial	5.1	5.0	5.0	4.9	4.9	4.9	5.0
Irrigation	42.4	44.0	44.4	44.8	45.2	45.5	45.7
Industries	19.6	18.8	19.2	19.4	19.4	19.4	19.4
Others	12.6	11.9	11.3	10.9	10.5	10.1	9.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.35 (Contd.)

MADHYA PRADESH - WESTERN DISCOM

19TH ELECTRIC POWER SURVEY PROJECTION

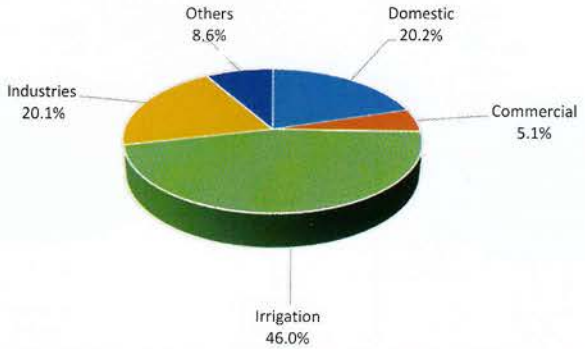
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	5899	6307	6744	7179	7630	8110
Commercial	1458	1573	1694	1820	1939	2065
Public lighting	273	284	294	306	316	325
Public Water Works	864	908	951	995	1039	1085
Irrigation	13371	14302	15299	16367	17426	18470
Industries LT	820	882	948	1027	1113	1206
Industries HT	4863	5214	5586	5983	6409	6865
Railway traction	571	594	617	642	674	708
Bulk Supply	1168	1197	1227	1259	1288	1319
Total Energy Consumption	**29287**	**31261**	**33361**	**35577**	**37834**	**40154**
T&D losses -MU	5560	5518	5454	5361	5344	5298
T&D losses - %	15.95	15.00	14.05	13.09	12.38	11.66
Energy Requirement - MU	34847	36780	38815	40938	43179	45452
Annual Load Factor - %	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**5683**	**5998**	**6330**	**6676**	**7042**	**7412**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	20.1	20.2	20.2	20.2	20.2	20.2
Commercial	5.0	5.0	5.1	5.1	5.1	5.1
Irrigation	45.7	45.8	45.9	46.0	46.1	46.0
Industries	19.4	19.5	19.6	19.7	19.9	20.1
Others	9.8	9.5	9.3	9.0	8.8	8.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.36

MADHYA PRADESH

19TH ELECTRIC POWER SURVEY PROJECTION

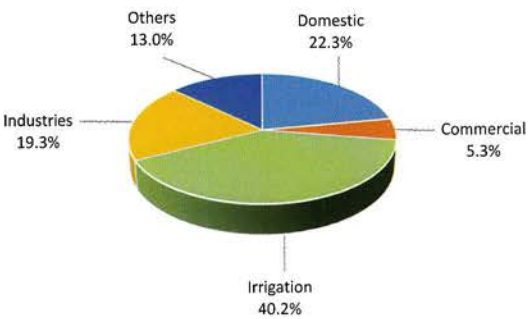
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

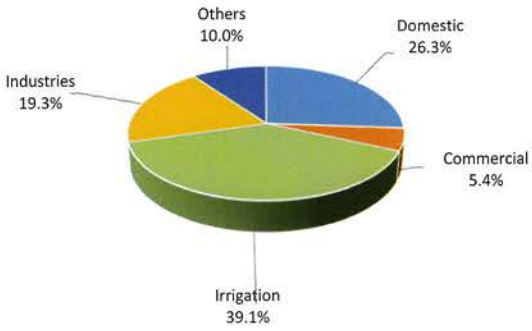
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	10458	11610	13083	14768	16691	19043	21050
Commercial	2487	2774	3063	3360	3662	3976	4309
Public lighting	359	404	460	519	550	575	600
Public Water Works	1232	1320	1439	1553	1655	1752	1847
Irrigation	18882	21341	23607	25803	27861	29659	31316
Industries LT	1080	1170	1270	1374	1479	1593	1722
Industries HT	7980	8729	9927	11020	11984	12869	13768
Railway traction	1963	2042	2123	2208	2296	2388	2484
Bulk Supply	2559	2644	2728	2814	2901	2993	3082
Total Energy Consumption	**46999**	**52032**	**57700**	**63420**	**69079**	**74849**	**80177**
T&D losses -MU	13820	13983	14689	15248	15642	15916	15949
T&D losses - %	22.72	21.18	20.29	19.38	18.46	17.54	16.59
Energy Requirement - MU	60820	66016	72389	78667	84721	90765	96126
Annual Load Factor - %	69.30	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**10019**	**10766**	**11805**	**12829**	**13816**	**14802**	**15676**
Energy Requirement (Ex Bus) - MU	**64166**	**68588**	**75209**	**81732**	**88022**	**94301**	**99871**
T&D losses (Ex Bus) -%	26.75	24.14	23.28	22.41	21.52	20.63	19.72
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	22.3	22.3	22.7	23.3	24.2	25.4	26.3
Commercial	5.3	5.3	5.3	5.3	5.3	5.3	5.4
Irrigation	40.2	41.0	40.9	40.7	40.3	39.6	39.1
Industries	19.3	19.0	19.4	19.5	19.5	19.3	19.3
Others	13.0	12.3	11.7	11.2	10.7	10.3	10.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.36 (Contd.)

MADHYA PRADESH

19TH ELECTRIC POWER SURVEY PROJECTION

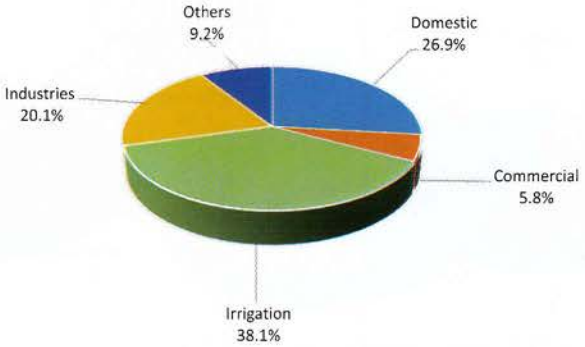
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	21050	22443	23873	25339	26870	28494
Commercial	4309	4665	5037	5420	5793	6187
Public lighting	600	623	647	672	696	718
Public Water Works	1847	1943	2041	2139	2237	2337
Irrigation	31316	33083	34874	36745	38570	40361
Industries LT	1722	1863	2014	2185	2368	2566
Industries HT	13768	14693	15664	16644	17666	18752
Railway traction	2484	2583	2687	2794	2934	3080
Bulk Supply	3082	3177	3271	3369	3469	3573
Total Energy Consumption	**80177**	**85073**	**90108**	**95307**	**100603**	**106068**
T&D losses -MU	15949	15770	15504	15155	14924	14624
T&D losses - %	16.59	15.64	14.68	13.72	12.92	12.12
Energy Requirement - MU	96126	100843	105612	110461	115526	120692
Annual Load Factor - %	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**15676**	**16445**	**17223**	**18014**	**18840**	**19682**
Energy Requirement (Ex Bus) - MU	**99871**	**104772**	**109727**	**114765**	**120027**	**125394**
T&D losses (Ex Bus) -%	19.72	18.80	17.88	16.95	16.18	15.41
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	26.3	26.4	26.5	26.6	26.7	26.9
Commercial	5.4	5.5	5.6	5.7	5.8	5.8
Irrigation	39.1	38.9	38.7	38.6	38.3	38.1
Industries	19.3	19.5	19.6	19.8	19.9	20.1
Others	10.0	9.8	9.6	9.4	9.3	9.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.37

MAHARASHTRA - BEST

19TH ELECTRIC POWER SURVEY PROJECTION

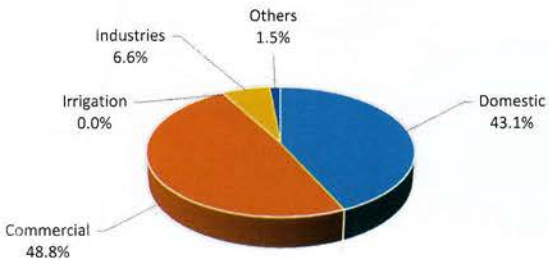
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

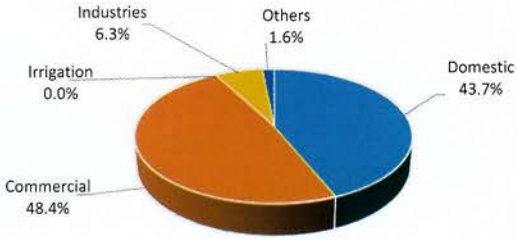
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1975	1950	1984	2019	2054	2090	2126
Commercial	2233	2228	2252	2277	2302	2327	2352
Public lighting	27	27	27	28	28	28	29
Public Water Works	42	48	48	48	48	48	48
Irrigation	0	0	0	0	0	0	0
Industries LT	136	142	145	148	151	155	158
Industries HT	165	146	147	147	147	148	148
Railway traction	0	0	0	0	0	0	0
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**4577**	**4541**	**4602**	**4666**	**4730**	**4795**	**4861**
T&D losses -MU	283	276	274	273	271	270	268
T&D losses - %	5.83	5.73	5.63	5.53	5.43	5.33	5.23
Energy Requirement - MU	4860	4816	4877	4939	5001	5065	5130
Annual Load Factor - %	62.33	61.17	60.98	61.15	61.31	61.14	61.32
Peak Electricity Demand - MW	**890**	**899**	**913**	**922**	**931**	**946**	**955**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	43.1	42.9	43.1	43.3	43.4	43.6	43.7
Commercial	48.8	49.1	48.9	48.8	48.7	48.5	48.4
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	6.6	6.3	6.3	6.3	6.3	6.3	6.3
Others	1.5	1.6	1.6	1.6	1.6	1.6	1.6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.37 (Contd.)

MAHARASHTRA - BEST

19TH ELECTRIC POWER SURVEY PROJECTION

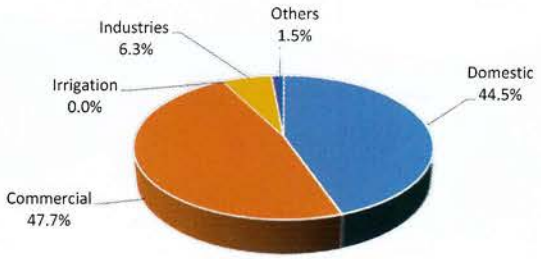
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	2126	2164	2201	2240	2279	2319
Commercial	2352	2378	2404	2430	2456	2483
Public lighting	29	29	29	29	30	30
Public Water Works	48	48	48	48	48	48
Irrigation	0	0	0	0	0	0
Industries LT	158	161	165	168	172	176
Industries HT	148	148	149	149	149	150
Railway traction	0	0	0	0	0	0
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**4861**	**4928**	**4996**	**5065**	**5135**	**5206**
T&D losses -MU	268	266	264	262	260	258
T&D losses - %	5.23	5.13	5.03	4.93	4.83	4.73
Energy Requirement - MU	5130	5194	5260	5327	5396	5465
Annual Load Factor - %	61.32	61.48	61.32	61.49	61.67	61.53
Peak Electricity Demand - MW	**955**	**965**	**979**	**989**	**999**	**1014**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	43.7	43.9	44.1	44.2	44.4	44.5
Commercial	48.4	48.2	48.1	48.0	47.8	47.7
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	6.3	6.3	6.3	6.3	6.3	6.3
Others	1.6	1.6	1.5	1.5	1.5	1.5
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.38

MAHARASHTRA - TATA

19TH ELECTRIC POWER SURVEY PROJECTION

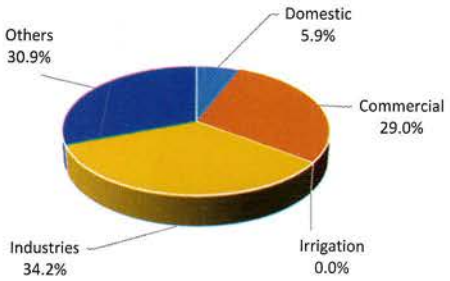
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

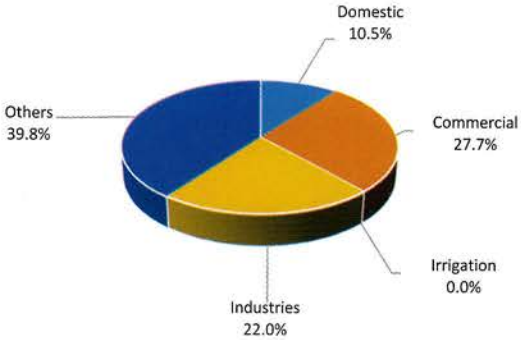
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	235	286	337	389	442	495	549
Commercial	1146	1192	1240	1289	1341	1395	1450
Public lighting	0	0	0	0	0	0	0
Public Water Works	63	64	66	68	71	73	75
Irrigation	0	0	0	0	0	0	0
Industries LT	183	191	198	206	215	223	232
Industries HT	1167	758	788	820	853	887	922
Railway traction	963	1001	1041	1083	1126	1171	1218
Bulk Supply	194	581	599	617	696	746	796
Total Energy Consumption	**3951**	**4073**	**4270**	**4473**	**4743**	**4989**	**5243**
T&D losses -MU	25	46	56	63	71	87	105
T&D losses - %	0.63	1.11	1.28	1.38	1.48	1.72	1.96
Energy Requirement - MU	3976	4119	4326	4536	4814	5077	5347
Annual Load Factor - %	72.44	72.89	73.14	73.75	74.15	75.50	75.84
Peak Electricity Demand - MW	**627**	**645**	**675**	**702**	**741**	**768**	**805**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	5.9	7.0	7.9	8.7	9.3	9.9	10.5
Commercial	29.0	29.3	29.0	28.8	28.3	28.0	27.7
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	34.2	23.3	23.1	22.9	22.5	22.2	22.0
Others	30.9	40.4	40.0	39.5	39.9	39.9	39.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.38 (Contd.)

MAHARASHTRA - TATA

19TH ELECTRIC POWER SURVEY PROJECTION

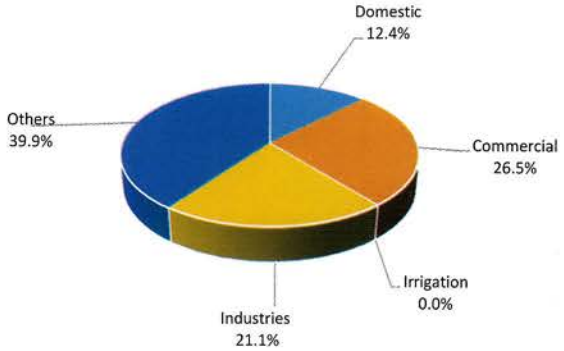
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	549	603	658	713	769	826
Commercial	1450	1508	1569	1632	1697	1765
Public lighting	0	0	0	0	0	0
Public Water Works	75	77	79	82	84	87
Irrigation	0	0	0	0	0	0
Industries LT	232	241	251	261	271	282
Industries HT	922	959	997	1037	1079	1122
Railway traction	1218	1267	1317	1370	1438	1510
Bulk Supply	796	847	898	950	1003	1056
Total Energy Consumption	**5243**	**5503**	**5770**	**6045**	**6341**	**6647**
T&D losses -MU	105	124	144	181	222	266
T&D losses - %	1.96	2.20	2.44	2.91	3.38	3.85
Energy Requirement - MU	5347	5627	5914	6227	6563	6913
Annual Load Factor - %	75.84	75.89	76.04	76.25	76.42	76.59
Peak Electricity Demand - MW	**805**	**846**	**888**	**932**	**980**	**1030**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	10.5	11.0	11.4	11.8	12.1	12.4
Commercial	27.7	27.4	27.2	27.0	26.8	26.5
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	22.0	21.8	21.6	21.5	21.3	21.1
Others	39.8	39.8	39.8	39.7	39.8	39.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.39

MAHARASHTRA - RELIANCE

19TH ELECTRIC POWER SURVEY PROJECTION

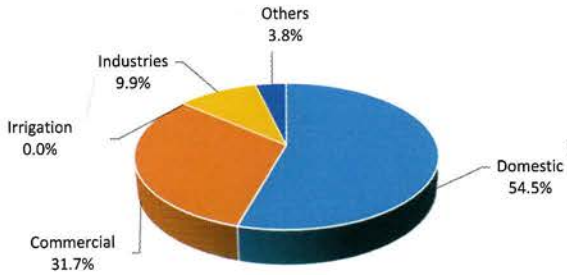
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

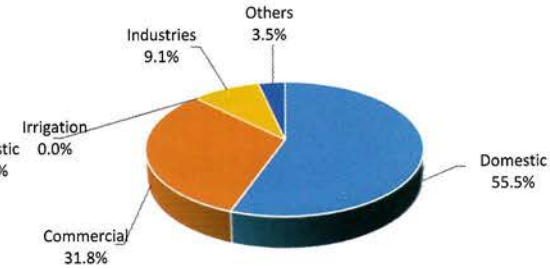
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	5494	5694	5859	6029	6204	6384	6569
Commercial	3197	3290	3385	3480	3574	3667	3759
Public lighting	62	63	64	65	66	67	68
Public Water Works	0	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0	0
Industries LT	622	638	649	660	671	683	696
Industries HT	380	370	372	374	377	380	383
Railway traction	16	16	16	16	16	16	16
Bulk Supply	305	310	315	320	325	330	335
Total Energy Consumption	**10077**	**10380**	**10659**	**10943**	**11232**	**11526**	**11825**
T&D losses -MU	1026	1066	1088	1110	1133	1158	1184
T&D losses - %	9.24	9.31	9.26	9.21	9.16	9.13	9.10
Energy Requirement - MU	11103	11446	11747	12053	12364	12684	13009
Annual Load Factor - %	70.00	70.00	70.00	70.00	70.64	70.00	70.00
Peak Electricity Demand - MW	**1811**	**1867**	**1916**	**1966**	**1998**	**2068**	**2122**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	54.5	54.9	55.0	55.1	55.2	55.4	55.5
Commercial	31.7	31.7	31.8	31.8	31.8	31.8	31.8
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	9.9	9.7	9.6	9.4	9.3	9.2	9.1
Others	3.8	3.7	3.7	3.7	3.6	3.6	3.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.39 (Contd.)

MAHARASHTRA - RELIANCE

19TH ELECTRIC POWER SURVEY PROJECTION

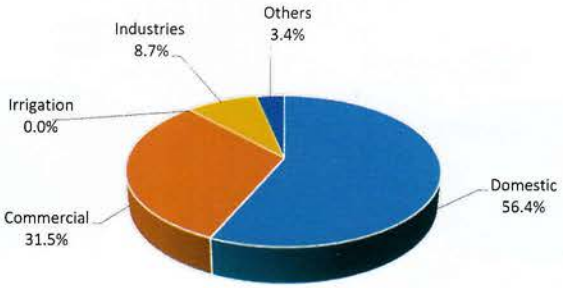
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	6569	6759	6955	7157	7365	7578
Commercial	3759	3850	3942	4037	4135	4234
Public lighting	68	68	69	70	71	73
Public Water Works	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Industries LT	696	708	721	735	748	762
Industries HT	383	387	391	395	399	403
Railway traction	16	16	17	17	17	17
Bulk Supply	335	340	345	350	355	360
Total Energy Consumption	**11825**	**12129**	**12441**	**12761**	**13090**	**13427**
T&D losses -MU	1184	1210	1236	1264	1291	1320
T&D losses - %	9.10	9.07	9.04	9.01	8.98	8.95
Energy Requirement - MU	13009	13339	13677	14025	14381	14747
Annual Load Factor - %	70.00	70.00	70.64	70.00	70.00	70.00
Peak Electricity Demand - MW	**2122**	**2175**	**2210**	**2287**	**2345**	**2405**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	55.5	55.7	55.9	56.1	56.3	56.4
Commercial	31.8	31.7	31.7	31.6	31.6	31.5
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	9.1	9.0	8.9	8.9	8.8	8.7
Others	3.5	3.5	3.5	3.4	3.4	3.4
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.40

MAHARASHTRA - MSEDCL

19TH ELECTRIC POWER SURVEY PROJECTION

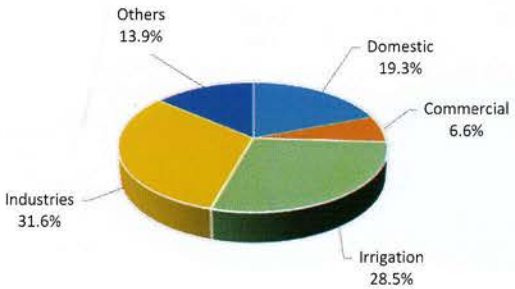
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

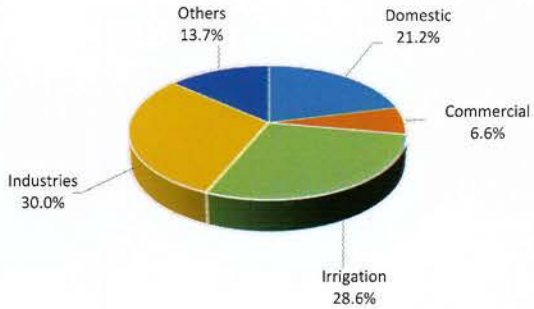
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	19159	20432	22061	23820	25719	27770	29986
Commercial	6537	6926	7342	7786	8257	8759	9293
Public lighting	1667	1834	2017	2219	2441	2685	2954
Public Water Works	2420	2635	2870	3127	3408	3714	4050
Irrigation	28236	30261	32259	34526	37090	38697	40428
Industries LT	8268	8926	9642	10420	11267	12189	13194
Industries HT	23076	23999	24959	25957	26995	28075	29198
Railway traction	1606	1670	1737	1807	1879	1954	2032
Bulk Supply	8117	8451	8798	9151	9518	9900	10297
Total Energy Consumption	**99086**	**105135**	**111686**	**118812**	**126575**	**133745**	**141432**
T&D losses -MU	16699	14775	15387	16044	16748	17726	18776
T&D losses - %	14.42	12.32	12.11	11.90	11.69	11.70	11.72
Energy Requirement - MU	115785	119910	127073	134857	143323	151471	160209
Annual Load Factor - %	81.98	77.20	76.40	75.60	74.80	74.00	73.20
Peak Electricity Demand - MW	**16123**	**17731**	**18987**	**20363**	**21873**	**23366**	**24985**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	19.3	19.4	19.8	20.0	20.3	20.8	21.2
Commercial	6.6	6.6	6.6	6.6	6.5	6.5	6.6
Irrigation	28.5	28.8	28.9	29.1	29.3	28.9	28.6
Industries	31.6	31.3	31.0	30.6	30.2	30.1	30.0
Others	13.9	13.9	13.8	13.7	13.6	13.6	13.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.40 (Contd.)

MAHARASHTRA - MSEDCL

19TH ELECTRIC POWER SURVEY PROJECTION

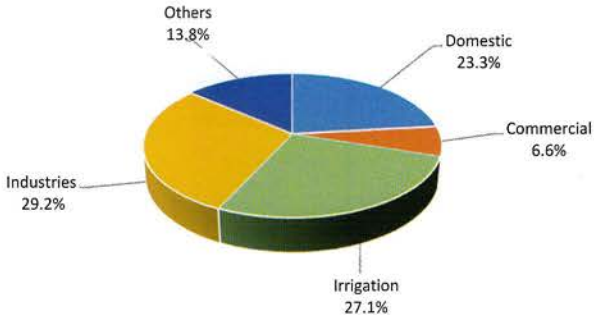
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	29986	32378	34962	37753	40767	44023
Commercial	9293	9861	10466	11110	11797	12527
Public lighting	2954	3249	3574	3931	4325	4757
Public Water Works	4050	4417	4818	5257	5737	6262
Irrigation	40428	42291	44294	46444	48751	51224
Industries LT	13194	14289	15483	16786	18207	19760
Industries HT	29198	30366	31581	32844	34158	35524
Railway traction	2032	2113	2198	2286	2400	2520
Bulk Supply	10297	10710	11140	11587	12052	12536
Total Energy Consumption	**141432**	**149676**	**158516**	**167998**	**178194**	**189134**
T&D losses -MU	18776	19905	21118	22421	23822	25328
T&D losses - %	11.72	11.74	11.76	11.77	11.79	11.81
Energy Requirement - MU	160209	169581	179634	190420	202016	214462
Annual Load Factor - %	73.20	72.40	71.60	70.80	70.00	69.20
Peak Electricity Demand - MW	**24985**	**26738**	**28640**	**30703**	**32945**	**35379**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	21.2	21.6	22.1	22.5	22.9	23.3
Commercial	6.6	6.6	6.6	6.6	6.6	6.6
Irrigation	28.6	28.3	27.9	27.6	27.4	27.1
Industries	30.0	29.8	29.7	29.5	29.4	29.2
Others	13.7	13.7	13.7	13.7	13.8	13.8
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.41

MAHARASHTRA

19TH ELECTRIC POWER SURVEY PROJECTION

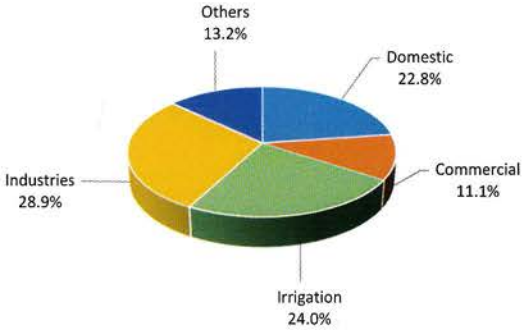
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

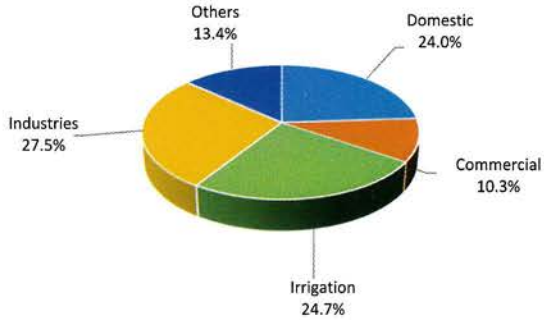
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	26862	28362	30241	32256	34419	36739	39230
Commercial	13114	13636	14220	14832	15474	16147	16855
Public lighting	1756	1924	2108	2312	2535	2780	3050
Public Water Works	2525	2747	2984	3243	3526	3835	4173
Irrigation	28236	30261	32259	34526	37090	38697	40428
Industries LT	9210	9897	10634	11434	12304	13250	14280
Industries HT	24789	25273	26266	27298	28372	29489	30652
Railway traction	2585	2687	2794	2906	3021	3141	3266
Bulk Supply	8616	9342	9712	10088	10539	10976	11428
Total Energy Consumption	**117691**	**124129**	**131218**	**138895**	**147280**	**155055**	**163362**
T&D losses -MU	18033	16162	16805	17490	18223	19241	20333
T&D losses - %	13.29	11.52	11.35	11.18	11.01	.11.04	11.07
Energy Requirement - MU	135724	140292	148023	156385	165503	174296	183695
Annual Load Factor - %	82.45	78.33	75.13	74.53	73.96	73.29	72.65
Peak Electricity Demand - MW	**18793**	**20446**	**22491**	**23953**	**25544**	**27148**	**28866**
Energy Requirement (Ex Bus) - MU	**141018**	**145396**	**153331**	**161926**	**171313**	**180338**	**189983**
T&D losses (Ex Bus) -%	16.54	14.63	14.42	14.22	14.03	14.02	14.01
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	22.8	22.8	23.0	23.2	23.4	23.7	24.0
Commercial	11.1	11.0	10.8	10.7	10.5	10.4	10.3
Irrigation	24.0	24.4	24.6	24.9	25.2	25.0	24.7
Industries	28.9	28.3	28.1	27.9	27.6	27.6	27.5
Others	13.2	13.5	13.4	13.4	13.3	13.4	13.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.41 (Contd.)

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19TH ELECTRIC POWER SURVEY PROJECTION

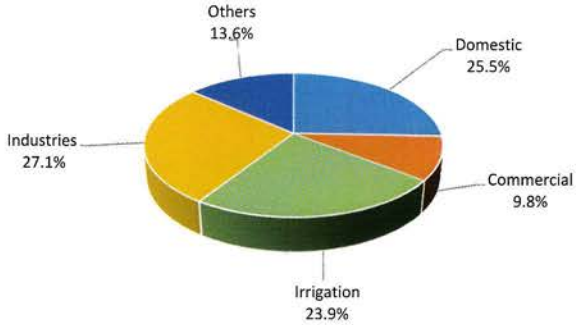
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	39230	41904	44777	47864	51180	54745
Commercial	16855	17597	18381	19209	20084	21010
Public lighting	3050	3347	3673	4031	4426	4860
Public Water Works	4173	4542	4945	5387	5869	6398
Irrigation	40428	42291	44294	46444	48751	51224
Industries LT	14280	15400	16620	17950	19399	20980
Industries HT	30652	31861	33118	34425	35785	37199
Railway traction	3266	3397	3532	3673	3855	4047
Bulk Supply	11428	11897	12383	12887	13410	13952
Total Energy Consumption	**163362**	**172236**	**181723**	**191869**	**202761**	**214415**
T&D losses -MU	20333	21505	22763	24129	25596	27172
T&D losses - %	11.07	11.10	11.13	11.17	11.21	11.25
Energy Requirement - MU	183695	193741	204486	215998	228356	241587
Annual Load Factor - %	72.65	71.98	71.35	70.63	69.95	69.24
Peak Electricity Demand - MW	**28866**	**30725**	**32717**	**34911**	**37269**	**39828**
Energy Requirement (Ex Bus) - MU	**189983**	**200288**	**211307**	**223171**	**235949**	**249628**
T&D losses (Ex Bus) -%	14.01	14.01	14.00	14.03	14.07	14.11
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	24.0	24.3	24.6	24.9	25.2	25.5
Commercial	10.3	10.2	10.1	10.0	9.9	9.8
Irrigation	24.7	24.6	24.4	24.2	24.0	23.9
Industries	27.5	27.4	27.4	27.3	27.2	27.1
Others	13.4	13.5	13.5	13.5	13.6	13.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.42

D. & N. HAVELI

19TH ELECTRIC POWER SURVEY PROJECTION

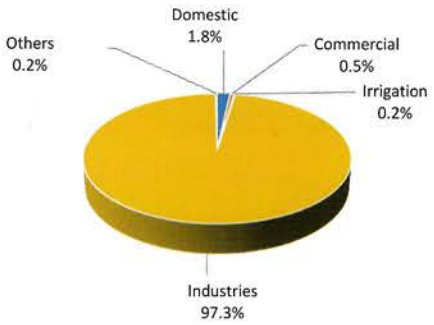
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

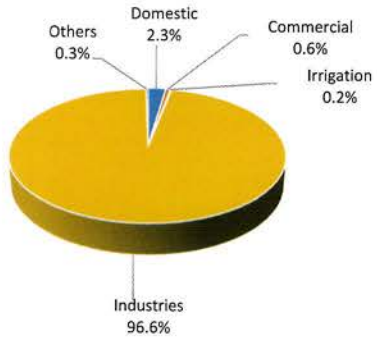
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	99	113	129	145	162	181	201
Commercial	29	32	35	39	42	46	50
Public lighting	7	8	9	11	12	14	16
Public Water Works	4	4	4	4	5	5	5
Irrigation	9	10	11	12	13	15	17
Industries LT	201	220	240	261	283	305	327
Industries HT	5197	5632	6096	6560	7027	7498	7971
Railway traction	0	0	0	0	0	0	0
Bulk Supply	3	3	3	3	3	3	3
Total Energy Consumption	**5548**	**6021**	**6527**	**7035**	**7547**	**8066**	**8588**
T&D losses -MU	241	297	322	347	372	398	423
T&D losses - %	4.16	4.70	4.70	4.70	4.70	4.70	4.70
Energy Requirement - MU	5789	6318	6849	7382	7919	8464	9012
Annual Load Factor - %	84.62	83.77	82.93	82.11	81.28	80.47	79.67
Peak Electricity Demand - MW	**781**	**861**	**943**	**1026**	**1112**	**1201**	**1291**
Energy Requirement (Ex Bus) - MU	**6002**	**6550**	**7100**	**7653**	**8210**	**8775**	**9343**
T&D losses (Ex Bus) -%	7.56	8.08	8.08	8.08	8.08	8.08	8.08
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	1.8	1.9	2.0	2.1	2.1	2.2	2.3
Commercial	0.5	0.5	0.5	0.6	0.6	0.6	0.6
Irrigation	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Industries	97.3	97.2	97.1	97.0	96.9	96.7	96.6
Others	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.42 (Contd.)

D. & N. HAVELI

19TH ELECTRIC POWER SURVEY PROJECTION

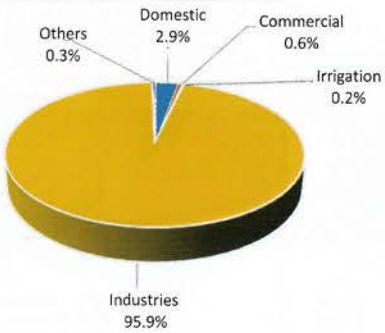
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	201	223	246	272	300	330
Commercial	50	53	58	62	66	71
Public lighting	16	18	20	23	26	29
Public Water Works	5	5	6	6	6	6
Irrigation	17	18	20	23	25	28
Industries LT	327	350	374	398	424	450
Industries HT	7971	8448	8937	9436	9944	10458
Railway traction	0	0	0	0	0	0
Bulk Supply	3	3	3	3	3	3
Total Energy Consumption	**8588**	**9119**	**9664**	**10222**	**10793**	**11374**
T&D losses -MU	423	450	476	504	532	561
T&D losses - %	4.70	4.70	4.70	4.70	4.70	4.70
Energy Requirement - MU	9012	9568	10140	10726	11325	11935
Annual Load Factor - %	79.67	78.87	78.08	77.30	76.53	75.76
Peak Electricity Demand - MW	**1291**	**1385**	**1483**	**1584**	**1689**	**1798**
Energy Requirement (Ex Bus) - MU	**9343**	**9920**	**10513**	**11120**	**11741**	**12373**
T&D losses (Ex Bus) -%	8.08	8.08	8.08	8.08	8.08	8.08
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	2.3	2.4	2.5	2.7	2.8	2.9
Commercial	0.6	0.6	0.6	0.6	0.6	0.6
Irrigation	0.2	0.2	0.2	0.2	0.2	0.2
Industries	96.6	96.5	96.4	96.2	96.1	95.9
Others	0.3	0.3	0.3	0.3	0.3	0.3
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.43

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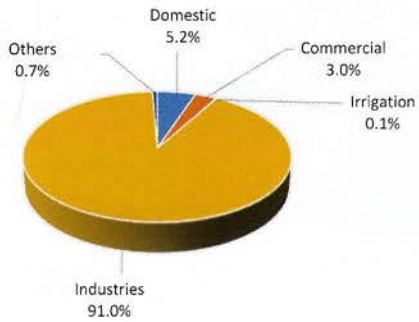
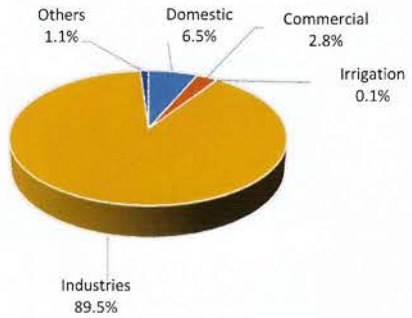
19TH ELECTRIC POWER SURVEY PROJECTION
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND
(CATEGORY WISE & YEAR WISE SUMMARY)
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	88	103	109	119	130	143	156
Commercial	50	50	51	55	59	63	67
Public lighting	7	8	12	14	16	18	20
Public Water Works	3	3	4	4	5	5	6
Irrigation	2	3	3	3	3	3	3
Industries LT	161	165	173	180	187	194	202
Industries HT	1379	1423	1572	1682	1767	1855	1948
Railway traction	0	0	0	0	0	0	0
Bulk Supply	1	2	0	0	0	0	0
Total Energy Consumption	**1692**	**1757**	**1925**	**2057**	**2166**	**2281**	**2402**
T&D losses -MU	165	163	176	186	195	204	213
T&D losses - %	8.87	8.50	8.40	8.30	8.25	8.20	8.15
Energy Requirement - MU	1857	1920	2101	2244	2361	2485	2615
Annual Load Factor - %	68.37	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**310**	**313**	**343**	**366**	**385**	**405**	**426**
Energy Requirement (Ex Bus) - MU	**1926**	**1991**	**2179**	**2327**	**2449**	**2577**	**2712**
T&D losses (Ex Bus) -%	12.13	11.78	11.68	11.58	11.53	11.49	11.44
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	5.2	5.9	5.7	5.8	6.0	6.3	6.5
Commercial	3.0	2.8	2.7	2.7	2.7	2.8	2.8
Irrigation	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Industries	91.0	90.4	90.7	90.5	90.2	89.8	89.5
Others	0.7	0.7	0.9	0.9	1.0	1.0	1.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.44

ANDHRA PRADESH - EPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

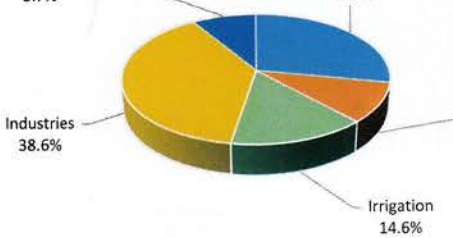
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

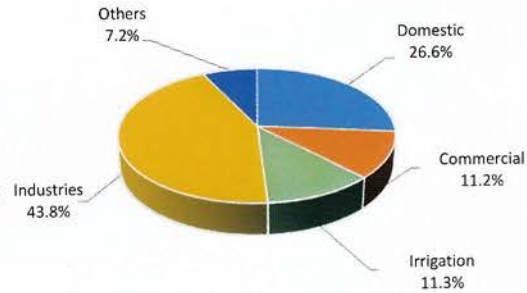
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	4389	4740	5119	5518	5937	6376	6835
Commercial	1536	1781	1959	2155	2372	2612	2877
Public lighting	120	128	135	143	151	160	169
Public Water Works	176	185	193	203	212	222	231
Irrigation	2268	2353	2453	2559	2669	2786	2908
Industries LT	816	882	952	1028	1111	1200	1295
Industries HT	5182	6565	7150	7779	8457	9187	9974
Railway traction	680	707	736	765	796	828	861
Bulk Supply	379	414	445	478	514	552	593
Total Energy Consumption	**15547**	**17753**	**19142**	**20628**	**22219**	**23921**	**25743**
T&D losses -MU	1460	1648	1763	1884	2013	2148	2292
T&D losses - %	8.58	8.50	8.43	8.37	8.31	8.24	8.17
Energy Requirement - MU	17007	19402	20905	22512	24231	26069	28034
Annual Load Factor - %	78.03	78.00	78.00	78.00	78.00	78.00	78.00
Peak Electricity Demand - MW	**2488**	**2840**	**3059**	**3295**	**3546**	**3815**	**4103**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	28.2	26.7	26.7	26.8	26.7	26.7	26.6
Commercial	9.9	10.0	10.2	10.4	10.7	10.9	11.2
Irrigation	14.6	13.3	12.8	12.4	12.0	11.6	11.3
Industries	38.6	41.9	42.3	42.7	43.1	43.4	43.8
Others	8.7	8.1	7.9	7.7	7.5	7.4	7.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.44 (Contd.)

ANDHRA PRADESH - EPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

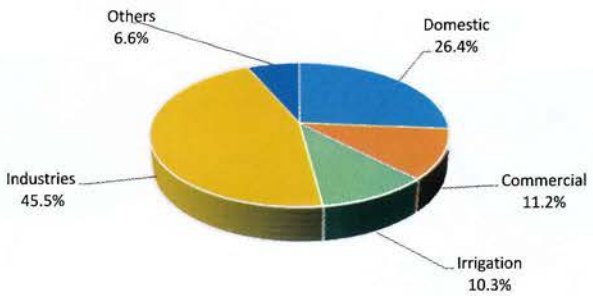
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	6835	7313	7810	8325	8858	9407
Commercial	2877	3170	3494	3653	3821	3997
Public lighting	169	176	184	191	199	208
Public Water Works	231	241	252	262	273	284
Irrigation	2908	3036	3170	3325	3488	3659
Industries LT	1295	1399	1511	1632	1762	1903
Industries HT	9974	10835	11778	12563	13406	14310
Railway traction	861	895	931	968	1017	1067
Bulk Supply	593	639	687	719	753	789
Total Energy Consumption	**25743**	**27704**	**29816**	**31639**	**33577**	**35623**
T&D losses -MU	2292	2445	2609	2743	2884	3033
T&D losses - %	8.17	8.11	8.05	7.98	7.91	7.85
Energy Requirement - MU	28034	30149	32425	34383	36461	38656
Annual Load Factor - %	78.00	78.00	78.00	78.00	78.00	78.00
Peak Electricity Demand - MW	**4103**	**4412**	**4745**	**5032**	**5336**	**5657**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	26.6	26.4	26.2	26.3	26.4	26.4
Commercial	11.2	11.4	11.7	11.5	11.4	11.2
Irrigation	11.3	11.0	10.6	10.5	10.4	10.3
Industries	43.8	44.2	44.6	44.9	45.2	45.5
Others	7.2	7.0	6.9	6.8	6.7	6.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.45

ANDHRA PRADESH - SPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

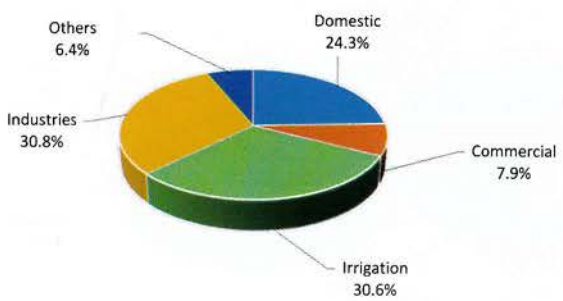
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

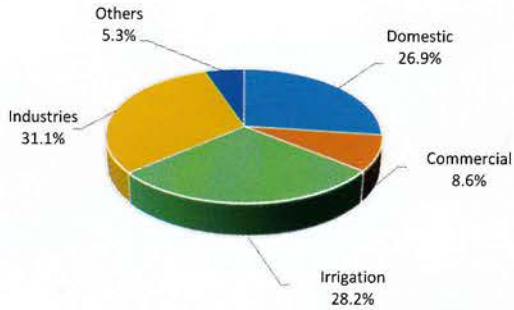
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	6996	7995	8754	9542	10353	11181	12075
Commercial	2266	2541	2767	3010	3272	3553	3855
Public lighting	197	196	202	208	215	221	228
Public Water Works	492	498	516	535	554	574	595
Irrigation	8819	10203	10648	11115	11606	12121	12662
Industries LT	1503	1638	1785	1943	2115	2302	2503
Industries HT	7356	6750	7502	8338	9269	10305	11458
Railway traction	778	809	841	875	910	946	984
Bulk Supply	388	442	466	491	518	546	576
Total Energy Consumption	**28795**	**31072**	**33481**	**36058**	**38813**	**41750**	**44936**
T&D losses -MU	3669	3967	4211	4452	4702	4961	5237
T&D losses - %	11.30	11.32	11.17	10.99	10.81	10.62	10.44
Energy Requirement - MU	32464	35039	37692	40510	43515	46711	50173
Annual Load Factor - %	75.57	74.00	74.00	74.00	74.00	74.00	74.00
Peak Electricity Demand - MW	**4904**	**5405**	**5815**	**6249**	**6713**	**7206**	**7740**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	24.3	25.7	26.1	26.5	26.7	26.8	26.9
Commercial	7.9	8.2	8.3	8.3	8.4	8.5	8.6
Irrigation	30.6	32.8	31.8	30.8	29.9	29.0	28.2
Industries	30.8	27.0	27.7	28.5	29.3	30.2	31.1
Others	6.4	6.3	6.0	5.8	5.7	5.5	5.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.45 (Contd.)

ANDHRA PRADESH - SPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

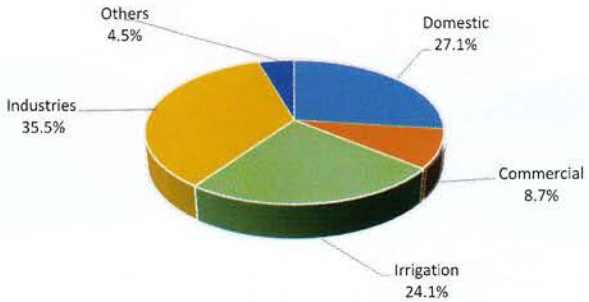
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	12075	13041	14084	15211	16428	17742
Commercial	3855	4179	4526	4897	5294	5718
Public lighting	228	235	242	249	256	264
Public Water Works	595	617	640	664	688	714
Irrigation	12662	13230	13827	14453	15111	15802
Industries LT	2503	2721	2956	3210	3485	3781
Industries HT	11458	12741	14168	15756	17522	19486
Railway traction	984	1023	1064	1107	1162	1220
Bulk Supply	576	607	640	675	712	750
Total Energy Consumption	**44936**	**48394**	**52147**	**56222**	**60658**	**65478**
T&D losses -MU	5237	5528	5838	6165	6512	6879
T&D losses - %	10.44	10.25	10.07	9.88	9.69	9.51
Energy Requirement - MU	50173	53923	57985	62387	67170	72357
Annual Load Factor - %	74.00	74.00	74.00	74.00	74.00	74.00
Peak Electricity Demand - MW	**7740**	**8318**	**8945**	**9624**	**10362**	**11162**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	26.9	26.9	27.0	27.1	27.1	27.1
Commercial	8.6	8.6	8.7	8.7	8.7	8.7
Irrigation	28.2	27.3	26.5	25.7	24.9	24.1
Industries	31.1	31.9	32.8	33.7	34.6	35.5
Others	5.3	5.1	5.0	4.8	4.6	4.5
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.46

ANDHRA PRADESH

19TH ELECTRIC POWER SURVEY PROJECTION

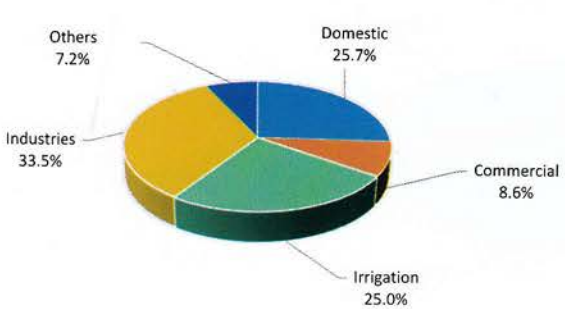
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

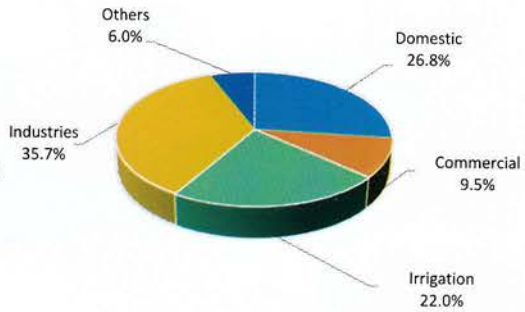
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	11385	12735	13873	15060	16290	17557	18910
Commercial	3802	4322	4726	5165	5644	6165	6732
Public lighting	318	324	337	351	366	381	397
Public Water Works	668	682	709	737	766	796	827
Irrigation	11087	12556	13101	13674	14276	14907	15570
Industries LT	2319	2520	2737	2972	3226	3501	3799
Industries HT	12539	13315	14651	16118	17727	19493	21432
Railway traction	1458	1516	1577	1640	1706	1774	1845
Bulk Supply	767	856	911	969	1032	1098	1169
Total Energy Consumption	**44342**	**48826**	**52623**	**56686**	**61031**	**65671**	**70679**
T&D losses -MU	5129	5615	5974	6336	6715	7110	7528
T&D losses - %	10.37	10.31	10.20	10.05	9.91	9.77	9.63
Energy Requirement - MU	49471	54441	58597	63022	67746	72781	78207
Annual Load Factor - %	76.40	75.38	75.38	75.38	75.38	75.38	75.39
Peak Electricity Demand - MW	**7392**	**8245**	**8874**	**9544**	**10259**	**11021**	**11843**
Energy Requirement (Ex Bus) - MU	**49681**	**54673**	**58846**	**63290**	**68034**	**73090**	**78540**
T&D losses (Ex Bus) -%	10.75	10.69	10.58	10.43	10.29	10.15	10.01
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	25.7	26.1	26.4	26.6	26.7	26.7	26.8
Commercial	8.6	8.9	9.0	9.1	9.2	9.4	9.5
Irrigation	25.0	25.7	24.9	24.1	23.4	22.7	22.0
Industries	33.5	32.4	33.0	33.7	34.3	35.0	35.7
Others	7.2	6.9	6.7	6.5	6.3	6.2	6.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.46 (Contd.)

ANDHRA PRADESH

19TH ELECTRIC POWER SURVEY PROJECTION

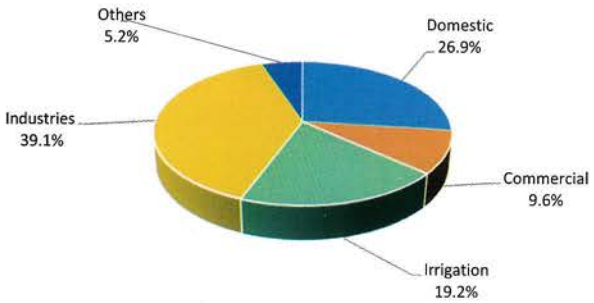
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	18910	20354	21894	23536	25286	27149
Commercial	6732	7349	8020	8550	9115	9715
Public lighting	397	411	425	440	456	472
Public Water Works	827	859	892	926	961	997
Irrigation	15570	16266	16997	17779	18600	19462
Industries LT	3799	4120	4467	4842	5247	5685
Industries HT	21432	23576	25946	28319	30927	33796
Railway traction	1845	1919	1995	2075	2179	2288
Bulk Supply	1169	1246	1327	1394	1465	1539
Total Energy Consumption	**70679**	**76098**	**81964**	**87861**	**94235**	**101101**
T&D losses -MU	7528	7974	8446	8908	9397	9912
T&D losses - %	9.63	9.48	9.34	9.21	9.07	8.93
Energy Requirement - MU	78207	84072	90410	96769	103631	111013
Annual Load Factor - %	75.39	75.39	75.39	75.37	75.36	75.35
Peak Electricity Demand - MW	**11843**	**12731**	**13690**	**14656**	**15698**	**16820**
Energy Requirement (Ex Bus) - MU	**78540**	**84429**	**90794**	**97181**	**104072**	**111485**
T&D losses (Ex Bus) -%	10.01	9.87	9.73	9.59	9.45	9.31
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	26.8	26.7	26.7	26.8	26.8	26.9
Commercial	9.5	9.7	9.8	9.7	9.7	9.6
Irrigation	22.0	21.4	20.7	20.2	19.7	19.2
Industries	35.7	36.4	37.1	37.7	38.4	39.1
Others	6.0	5.8	5.7	5.5	5.4	5.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.47

TELANGANA - NPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

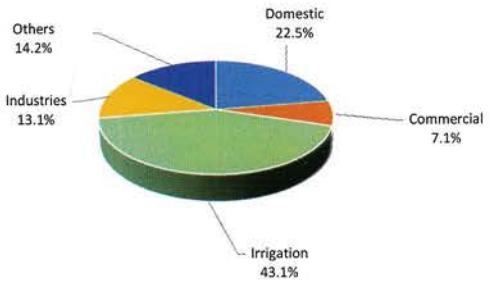
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

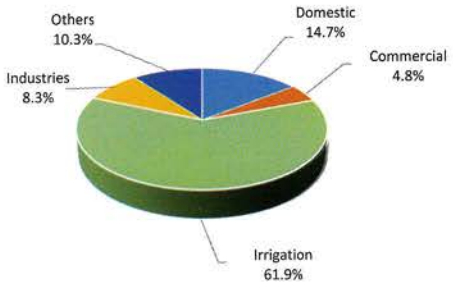
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	2613	2822	3039	3264	3496	3734	3977
Commercial	820	886	957	1034	1117	1206	1302
Public lighting	277	214	225	237	248	261	274
Public Water Works	302	325	350	377	405	435	467
Irrigation	4995	5459	9445	11748	14933	16381	16792
Industries LT	253	273	295	317	342	367	394
Industries HT	1267	1319	1440	1535	1636	1743	1857
Railway traction	460	478	497	517	538	559	582
Bulk Supply	608	750	1094	1340	1385	1432	1481
Total Energy Consumption	**11595**	**12528**	**17341**	**20368**	**24100**	**26118**	**27127**
T&D losses -MU	2127	2263	3084	3566	4153	4429	4526
T&D losses - %	15.50	15.30	15.10	14.90	14.70	14.50	14.30
Energy Requirement - MU	13722	14791	20425	23935	28253	30548	31653
Annual Load Factor - %	70.27	52.99	52.00	52.00	52.00	52.00	52.00
Peak Electricity Demand - MW	**2229**	**3186**	**4484**	**5254**	**6202**	**6706**	**6949**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	22.5	22.5	17.5	16.0	14.5	14.3	14.7
Commercial	7.1	7.1	5.5	5.1	4.6	4.6	4.8
Irrigation	43.1	43.6	54.5	57.7	62.0	62.7	61.9
Industries	13.1	12.7	10.0	9.1	8.2	8.1	8.3
Others	14.2	14.1	12.5	12.1	10.7	10.3	10.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.47 (Contd.)

TELANGANA - NPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

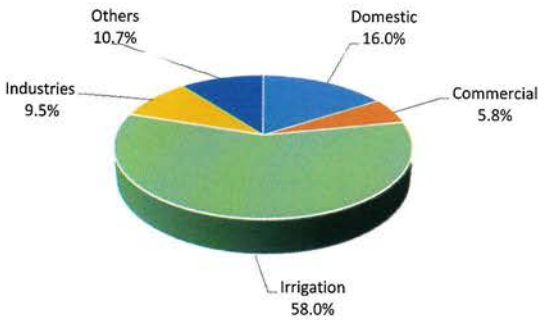
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	3977	4224	4473	4723	4973	5222
Commercial	1302	1406	1518	1639	1770	1912
Public lighting	274	287	301	316	331	348
Public Water Works	467	501	537	575	614	656
Irrigation	16792	17214	17645	18084	18531	18983
Industries LT	394	423	454	486	520	556
Industries HT	1857	1978	2107	2244	2389	2542
Railway traction	582	605	629	654	687	721
Bulk Supply	1481	1534	1589	1648	1709	1774
Total Energy Consumption	**27127**	**28173**	**29253**	**30368**	**31524**	**32715**
T&D losses -MU	4526	4624	4723	4821	4920	5019
T&D losses - %	14.30	14.10	13.90	13.70	13.50	13.30
Energy Requirement - MU	31653	32797	33976	35189	36444	37733
Annual Load Factor - %	52.00	51.00	51.00	51.00	51.00	51.00
Peak Electricity Demand - MW	**6949**	**7341**	**7605**	**7876**	**8157**	**8446**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	14.7	15.0	15.3	15.6	15.8	16.0
Commercial	4.8	5.0	5.2	5.4	5.6	5.8
Irrigation	61.9	61.1	60.3	59.6	58.8	58.0
Industries	8.3	8.5	8.8	9.0	9.2	9.5
Others	10.3	10.4	10.4	10.5	10.6	10.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.48

TELANGANA - SPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

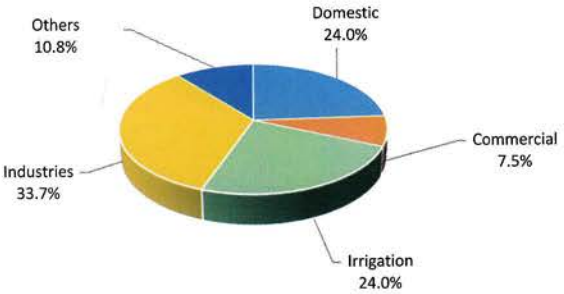
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

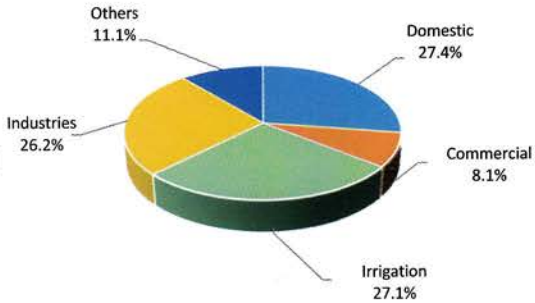
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	7021	7874	8629	9448	10335	11294	12331
Commercial	2188	2385	2624	2873	3132	3383	3652
Public lighting	430	461	492	526	561	598	620
Public Water Works	356	458	536	613	693	777	865
Irrigation	7015	7709	8542	9575	10588	11616	12186
Industries LT	802	826	850	874	898	921	944
Industries HT	9047	9849	10042	10236	10432	10629	10828
Railway traction	174	181	188	196	203	211	220
Bulk Supply	2186	2339	2502	2678	2865	3066	3280
Total Energy Consumption	**29219**	**32081**	**34406**	**37017**	**39707**	**42495**	**44925**
T&D losses -MU	4627	5007	5324	5679	6038	6406	6713
T&D losses - %	13.67	13.50	13.40	13.30	13.20	13.10	13.00
Energy Requirement - MU	33846	37087	39729	42696	45746	48901	51638
Annual Load Factor - %	81.05	80.05	79.05	78.05	77.05	76.05	75.05
Peak Electricity Demand - MW	**4767**	**5289**	**5737**	**6245**	**6777**	**7340**	**7854**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	24.0	24.5	25.1	25.5	26.0	26.6	27.4
Commercial	7.5	7.4	7.6	7.8	7.9	8.0	8.1
Irrigation	24.0	24.0	24.8	25.9	26.7	27.3	27.1
Industries	33.7	33.3	31.7	30.0	28.5	27.2	26.2
Others	10.8	10.7	10.8	10.8	10.9	10.9	11.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.48 (Contd.)

TELANGANA - SPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

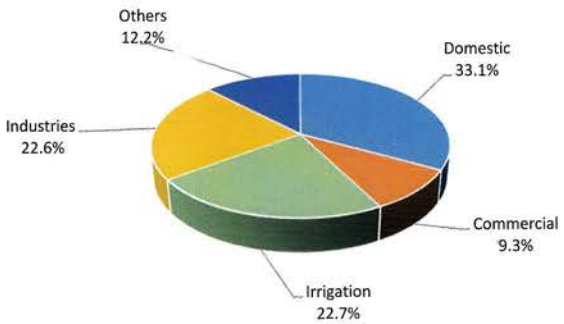
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	12331	13450	14657	15957	17357	18860
Commercial	3652	3941	4250	4582	4937	5317
Public lighting	620	643	667	691	715	739
Public Water Works	865	957	1054	1136	1238	1362
Irrigation	12186	12335	12488	12644	12803	12965
Industries LT	944	967	989	1011	1032	1053
Industries HT	10828	11027	11227	11428	11629	11830
Railway traction	220	229	238	247	260	273
Bulk Supply	3280	3510	3755	4018	4300	4601
Total Energy Consumption	**44925**	**47059**	**49325**	**51714**	**54269**	**56999**
T&D losses -MU	6713	6908	7111	7388	7682	7994
T&D losses - %	13.00	12.80	12.60	12.50	12.40	12.30
Energy Requirement - MU	51638	53966	56436	59102	61951	64993
Annual Load Factor - %	75.05	74.05	73.05	72.05	71.05	70.00
Peak Electricity Demand - MW	**7854**	**8319**	**8819**	**9364**	**9953**	**10599**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	27.4	28.6	29.7	30.9	32.0	33.1
Commercial	8.1	8.4	8.6	8.9	9.1	9.3
Irrigation	27.1	26.2	25.3	24.4	23.6	22.7
Industries	26.2	25.5	24.8	24.1	23.3	22.6
Others	11.1	11.3	11.6	11.8	12.0	12.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.49

TELANGANA

19TH ELECTRIC POWER SURVEY PROJECTION

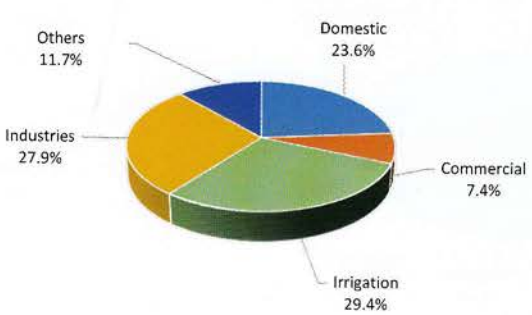
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

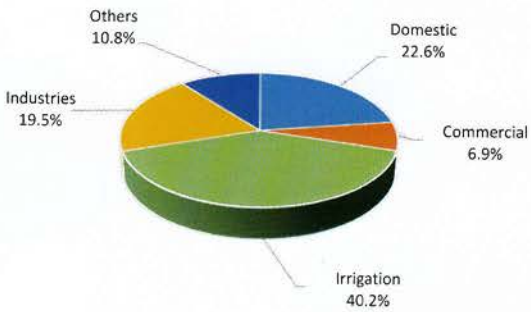
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	9635	10696	11668	12712	13831	15028	16308
Commercial	3008	3271	3581	3907	4249	4589	4954
Public lighting	708	675	717	762	809	859	894
Public Water Works	658	783	886	990	1098	1212	1332
Irrigation	12010	13168	17987	21322	25522	27997	28978
Industries LT	1056	1100	1145	1191	1239	1288	1338
Industries HT	10314	11168	11482	11771	12068	12372	12685
Railway traction	633	659	685	713	741	771	802
Bulk Supply	2793	3089	3596	4018	4250	4497	4761
Total Energy Consumption	**40814**	**44608**	**51747**	**57386**	**63807**	**68613**	**72052**
T&D losses -MU	6754	7270	8408	9245	10192	10835	11239
T&D losses - %	14.20	14.01	13.98	13.87	13.77	13.64	13.49
Energy Requirement - MU	47568	51878	60155	66630	73998	79449	83291
Annual Load Factor - %	79.29	71.35	68.59	67.54	66.45	65.93	65.58
Peak Electricity Demand - MW	**6849**	**8300**	**10011**	**11262**	**12712**	**13757**	**14499**
Energy Requirement (Ex Bus) - MU	**48317**	**52695**	**61102**	**67680**	**75164**	**80700**	**84603**
T&D losses (Ex Bus) -%	15.53	15.35	15.31	15.21	15.11	14.98	14.84
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	23.6	24.0	22.5	22.2	21.7	21.9	22.6
Commercial	7.4	7.3	6.9	6.8	6.7	6.7	6.9
Irrigation	29.4	29.5	34.8	37.2	40.0	40.8	40.2
Industries	27.9	27.5	24.4	22.6	20.9	19.9	19.5
Others	11.7	11.7	11.4	11.3	10.8	10.7	10.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.49 (Contd.)

TELANGANA

19TH ELECTRIC POWER SURVEY PROJECTION

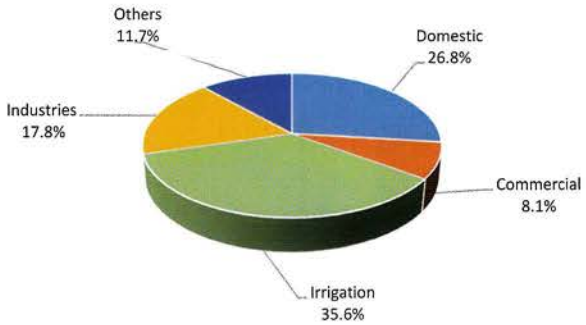
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	16308	17674	19130	20680	22330	24082
Commercial	4954	5347	5768	6221	6707	7229
Public lighting	894	930	968	1006	1046	1086
Public Water Works	1332	1458	1591	1711	1852	2018
Irrigation	28978	29550	30133	30728	31334	31948
Industries LT	1338	1390	1443	1496	1552	1608
Industries HT	12685	13005	13334	13671	14017	14373
Railway traction	802	834	867	902	947	994
Bulk Supply	4761	5043	5345	5666	6009	6375
Total Energy Consumption	**72052**	**75231**	**78578**	**82082**	**85794**	**89714**
T&D losses -MU	11239	11532	11834	12209	12602	13013
T&D losses - %	13.49	13.29	13.09	12.95	12.81	12.67
Energy Requirement - MU	83291	86763	90412	94291	98396	102727
Annual Load Factor - %	65.58	64.57	64.16	63.75	63.32	62.87
Peak Electricity Demand - MW	**14499**	**15338**	**16086**	**16885**	**17738**	**18653**
Energy Requirement (Ex Bus) - MU	**84603**	**88130**	**91836**	**95776**	**99945**	**104345**
T&D losses (Ex Bus) -%	14.84	14.64	14.44	14.30	14.16	14.02
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	22.6	23.5	24.3	25.2	26.0	26.8
Commercial	6.9	7.1	7.3	7.6	7.8	8.1
Irrigation	40.2	39.3	38.3	37.4	36.5	35.6
Industries	19.5	19.1	18.8	18.5	18.1	17.8
Others	10.8	11.0	11.2	11.3	11.5	11.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.50

KARNATAKA - BESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

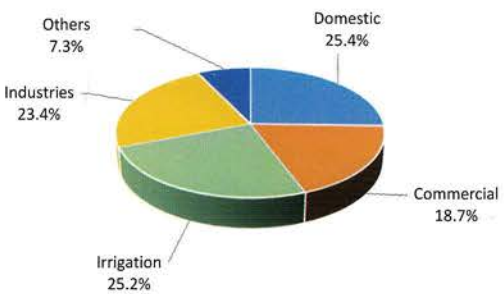
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

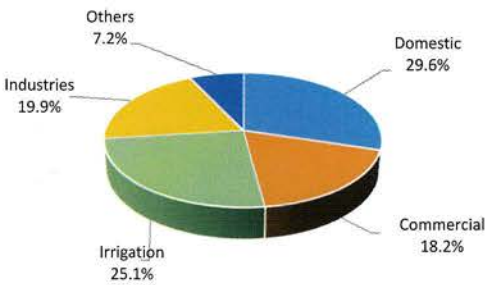
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	6253	6815	7361	7950	8506	9101	9739
Commercial	4602	4809	5025	5251	5487	5734	5992
Public lighting	366	428	439	450	461	472	483
Public Water Works	1077	1113	1151	1190	1238	1289	1349
Irrigation	6198	6595	6934	7275	7598	7924	8255
Industries LT	1150	1196	1244	1294	1345	1398	1453
Industries HT	4593	4669	4746	4825	4906	4988	5071
Railway traction	55	60	66	73	81	90	101
Bulk Supply	299	317	336	356	377	400	424
Total Energy Consumption	**24593**	**26002**	**27301**	**28664**	**30000**	**31396**	**32866**
T&D losses -MU	4502	5131	5192	5250	5286	5316	5341
T&D losses - %	15.47	16.48	15.98	15.48	14.98	14.48	13.98
Energy Requirement - MU	29095	31132	32494	33913	35285	36712	38207
Annual Load Factor - %	67.36	67.36	67.36	67.36	67.36	67.36	67.36
Peak Electricity Demand - MW	**4931**	**5276**	**5507**	**5747**	**5980**	**6222**	**6475**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	25.4	26.2	27.0	27.7	28.4	29.0	29.6
Commercial	18.7	18.5	18.4	18.3	18.3	18.3	18.2
Irrigation	25.2	25.4	25.4	25.4	25.3	25.2	25.1
Industries	23.4	22.6	21.9	21.3	20.8	20.3	19.9
Others	7.3	7.4	7.3	7.2	7.2	7.2	7.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.50 (Contd.)

KARNATAKA - BESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

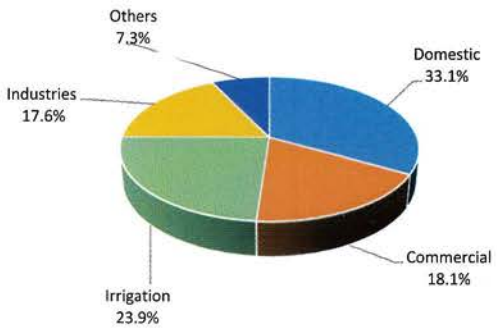
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	9739	10420	11150	11930	12765	13659
Commercial	5992	6262	6544	6838	7146	7468
Public lighting	483	494	506	517	528	536
Public Water Works	1349	1412	1485	1562	1651	1745
Irrigation	8255	8572	8893	9216	9540	9866
Industries LT	1453	1510	1569	1631	1695	1761
Industries HT	5071	5156	5242	5330	5420	5512
Railway traction	101	113	127	144	163	175
Bulk Supply	424	449	476	505	535	567
Total Energy Consumption	**32866**	**34389**	**35992**	**37673**	**39444**	**41290**
T&D losses -MU	5341	5358	5369	5372	5369	5355
T&D losses - %	13.98	13.48	12.98	12.48	11.98	11.48
Energy Requirement - MU	38207	39747	41361	43045	44813	46645
Annual Load Factor - %	67.36	67.36	67.36	67.36	67.36	67.36
Peak Electricity Demand - MW	**6475**	**6736**	**7009**	**7295**	**7594**	**7905**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	29.6	30.3	31.0	31.7	32.4	33.1
Commercial	18.2	18.2	18.2	18.2	18.1	18.1
Irrigation	25.1	24.9	24.7	24.5	24.2	23.9
Industries	19.9	19.4	18.9	18.5	18.0	17.6
Others	7.2	7.2	7.2	7.2	7.3	7.3
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.51

KARNATAKA - CESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

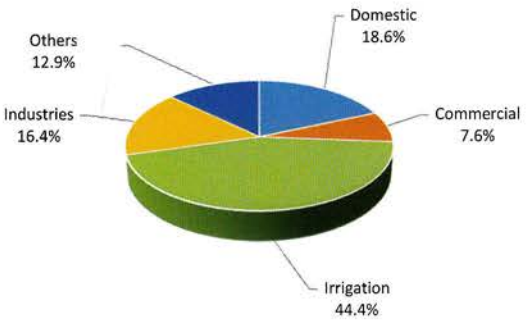
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

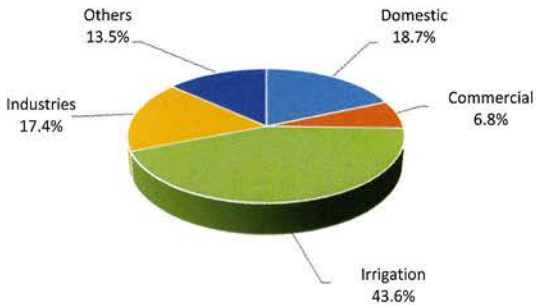
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1006	1106	1214	1331	1456	1590	1733
Commercial	412	442	475	510	548	589	632
Public lighting	100	114	127	141	155	170	186
Public Water Works	583	665	729	796	868	944	1026
Irrigation	2402	2763	2994	3242	3493	3760	4044
Industries LT	137	145	153	163	172	183	194
Industries HT	750	910	994	1086	1185	1296	1418
Railway traction	0	9	9	9	9	9	18
Bulk Supply	16	17	18	20	21	22	24
Total Energy Consumption	**5405**	**6170**	**6714**	**7297**	**7908**	**8564**	**9274**
T&D losses -MU	1039	1168	1252	1341	1431	1526	1626
T&D losses - %	16.12	15.92	15.72	15.52	15.32	15.12	14.92
Energy Requirement - MU	6444	7339	7966	8638	9338	10089	10901
Annual Load Factor - %	62.61	62.00	62.00	62.00	62.00	62.00	62.00
Peak Electricity Demand - MW	**1175**	**1351**	**1467**	**1590**	**1719**	**1858**	**2007**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	18.6	17.9	18.1	18.2	18.4	18.6	18.7
Commercial	7.6	7.2	7.1	7.0	6.9	6.9	6.8
Irrigation	44.4	44.8	44.6	44.4	44.2	43.9	43.6
Industries	16.4	17.1	17.1	17.1	17.2	17.3	17.4
Others	12.9	13.0	13.1	13.2	13.3	13.4	13.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.51 (Contd.)

KARNATAKA - CESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

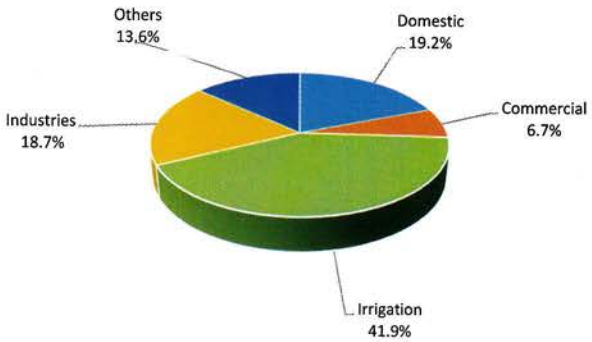
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	1733	1886	2048	2220	2402	2594
Commercial	632	679	729	783	841	904
Public lighting	186	203	221	240	261	284
Public Water Works	1026	1112	1204	1301	1403	1511
Irrigation	4044	4336	4643	4969	5312	5672
Industries LT	194	205	218	231	245	259
Industries HT	1418	1555	1707	1877	2063	2269
Railway traction	18	18	18	18	18	18
Bulk Supply	24	25	26	28	29	31
Total Energy Consumption	**9274**	**10019**	**10815**	**11667**	**12574**	**13540**
T&D losses -MU	1626	1729	1837	1950	2067	2190
T&D losses - %	14.92	14.72	14.52	14.32	14.12	13.92
Energy Requirement - MU	10901	11748	12652	13617	14641	15730
Annual Load Factor - %	62.00	62.00	62.00	62.00	62.00	62.00
Peak Electricity Demand - MW	**2007**	**2163**	**2329**	**2507**	**2696**	**2896**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	18.7	18.8	18.9	19.0	19.1	19.2
Commercial	6.8	6.8	6.7	6.7	6.7	6.7
Irrigation	43.6	43.3	42.9	42.6	42.2	41.9
Industries	17.4	17.6	17.8	18.1	18.4	18.7
Others	13.5	13.6	13.6	13.6	13.6	13.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.52

KARNATAKA - GESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

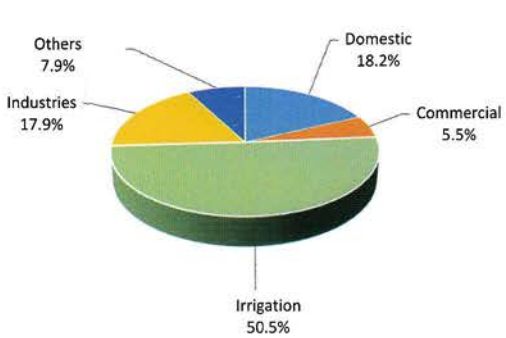
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

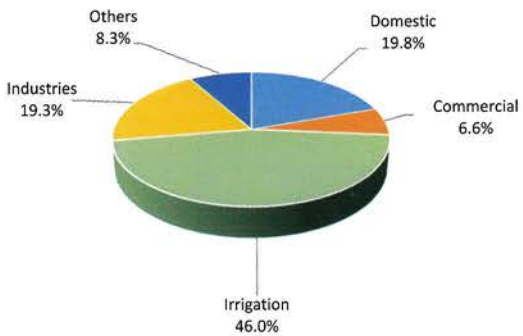
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1166	1247	1333	1422	1515	1612	1713
Commercial	354	384	416	451	488	527	570
Public lighting	223	231	240	250	259	268	278
Public Water Works	250	275	301	329	359	391	425
Irrigation	3238	3368	3496	3622	3745	3865	3981
Industries LT	165	173	182	191	201	211	221
Industries HT	981	1050	1123	1199	1279	1364	1452
Railway traction	13	14	14	15	15	16	17
Bulk Supply	22	24	26	0	0	0	0
Total Energy Consumption	**6412**	**6767**	**7131**	**7478**	**7861**	**8254**	**8656**
T&D losses -MU	1578	1562	1592	1614	1639	1661	1679
T&D losses - %	19.75	18.75	18.25	17.75	17.25	16.75	16.25
Energy Requirement - MU	7990	8328	8723	9092	9500	9915	10336
Annual Load Factor - %	71.93	71.63	71.33	71.03	70.73	70.43	70.13
Peak Electricity Demand - MW	**1268**	**1327**	**1396**	**1461**	**1533**	**1607**	**1682**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	18.2	18.4	18.7	19.0	19.3	19.5	19.8
Commercial	5.5	5.7	5.8	6.0	6.2	6.4	6.6
Irrigation	50.5	49.8	49.0	48.4	47.6	46.8	46.0
Industries	17.9	18.1	18.3	18.6	18.8	19.1	19.3
Others	7.9	8.0	8.2	7.9	8.1	8.2	8.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.52 (Contd.)

KARNATAKA - GESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

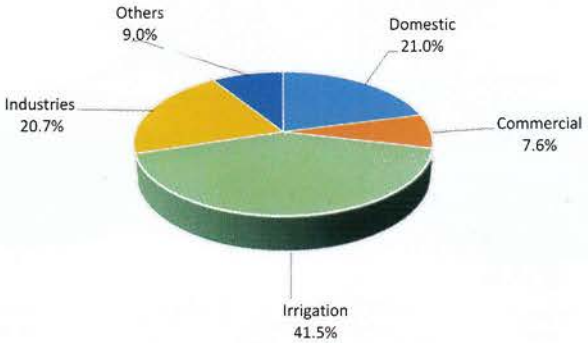
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	1713	1818	1926	2037	2153	2271
Commercial	570	615	663	714	768	825
Public lighting	278	287	296	306	315	325
Public Water Works	425	462	501	542	585	631
Irrigation	3981	4092	4198	4299	4394	4482
Industries LT	221	232	244	256	269	282
Industries HT	1452	1544	1640	1740	1844	1953
Railway traction	17	17	18	19	20	21
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**8656**	**9066**	**9485**	**9912**	**10347**	**10790**
T&D losses -MU	1679	1695	1707	1715	1719	1720
T&D losses - %	16.25	15.75	15.25	14.75	14.25	13.75
Energy Requirement - MU	10336	10761	11192	11627	12066	12510
Annual Load Factor - %	70.13	69.83	69.53	69.23	68.93	68.63
Peak Electricity Demand - MW	**1682**	**1759**	**1837**	**1917**	**1998**	**2081**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	19.8	20.0	20.3	20.6	20.8	21.0
Commercial	6.6	6.8	7.0	7.2	7.4	7.6
Irrigation	46.0	45.1	44.3	43.4	42.5	41.5
Industries	19.3	19.6	19.9	20.1	20.4	20.7
Others	8.3	8.5	8.6	8.7	8.9	9.0
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.53

KARNATAKA - HESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

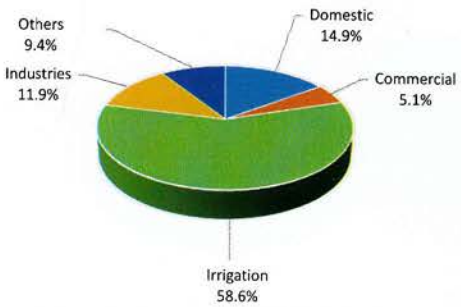
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

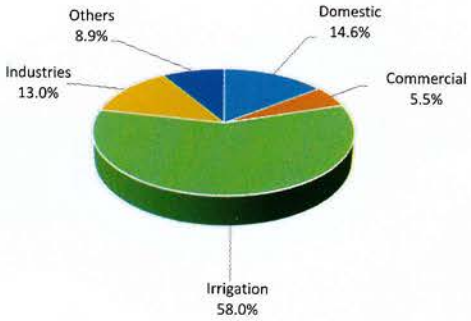
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1552	1648	1763	1884	2012	2144	2282
Commercial	533	575	624	676	732	791	855
Public lighting	129	153	163	173	184	195	206
Public Water Works	427	457	487	517	548	586	626
Irrigation	6109	6543	6999	7478	7983	8521	9083
Industries LT	313	343	358	374	390	406	424
Industries HT	930	1022	1123	1232	1350	1478	1617
Railway traction	0	0	0	0	0	0	0
Bulk Supply	423	436	454	477	503	531	558
Total Energy Consumption	**10416**	**11177**	**11970**	**12811**	**13702**	**14653**	**15651**
T&D losses -MU	2531	2442	2562	2685	2812	2944	3077
T&D losses - %	19.55	17.93	17.63	17.33	17.03	16.73	16.43
Energy Requirement - MU	12947	13619	14532	15496	16514	17596	18728
Annual Load Factor - %	79.42	79.02	78.62	78.22	77.82	77.42	77.02
Peak Electricity Demand - MW	**1861**	**1967**	**2110**	**2262**	**2422**	**2595**	**2776**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	14.9	14.7	14.7	14.7	14.7	14.6	14.6
Commercial	5.1	5.1	5.2	5.3	5.3	5.4	5.5
Irrigation	58.6	58.5	58.5	58.4	58.3	58.2	58.0
Industries	11.9	12.2	12.4	12.5	12.7	12.9	13.0
Others	9.4	9.4	9.2	9.1	9.0	9.0	8.9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.53 (Contd.)

KARNATAKA - HESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

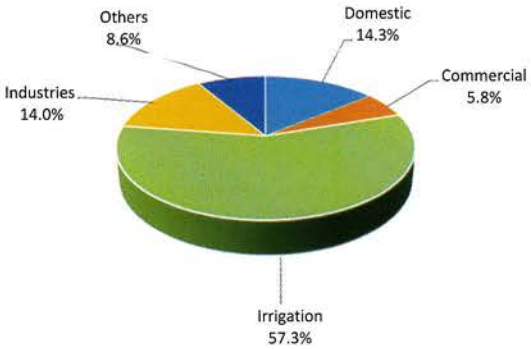
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	2282	2427	2579	2737	2902	3070
Commercial	855	923	995	1071	1152	1239
Public lighting	206	219	231	244	258	273
Public Water Works	626	667	709	754	800	848
Irrigation	9083	9673	10293	10943	11625	12337
Industries LT	424	442	461	480	500	521
Industries HT	1617	1767	1930	2105	2295	2499
Railway traction	0	0	0	0	0	0
Bulk Supply	558	587	620	653	688	726
Total Energy Consumption	**15651**	**16704**	**17817**	**18988**	**20221**	**21514**
T&D losses -MU	3077	3212	3350	3490	3633	3797
T&D losses - %	16.43	16.13	15.83	15.53	15.23	15.00
Energy Requirement - MU	18728	19916	21167	22478	23854	25310
Annual Load Factor - %	77.02	76.62	76.22	75.82	75.42	75.00
Peak Electricity Demand - MW	**2776**	**2967**	**3170**	**3384**	**3610**	**3852**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	14.6	14.5	14.5	14.4	14.4	14.3
Commercial	5.5	5.5	5.6	5.6	5.7	5.8
Irrigation	58.0	57.9	57.8	57.6	57.5	57.3
Industries	13.0	13.2	13.4	13.6	13.8	14.0
Others	8.9	8.8	8.8	8.7	8.6	8.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.54

KARNATAKA - MESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

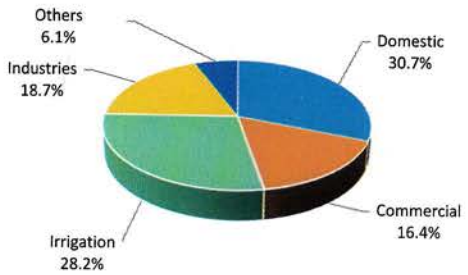
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

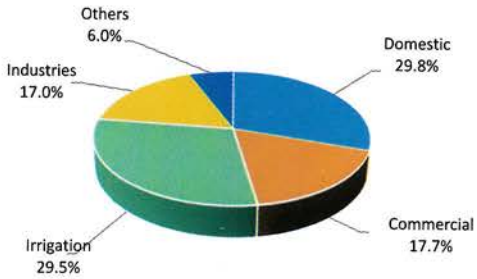
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1323	1403	1487	1576	1671	1771	1877
Commercial	707	764	824	889	958	1032	1111
Public lighting	64	68	72	76	80	84	89
Public Water Works	197	211	225	240	256	272	289
Irrigation	1213	1330	1435	1541	1647	1753	1856
Industries LT	135	142	149	156	163	171	179
Industries HT	669	686	715	763	797	834	891
Railway traction	0	0	0	0	0	0	0
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**4309**	**4604**	**4907**	**5241**	**5572**	**5916**	**6293**
T&D losses -MU	719	762	805	853	899	947	998
T&D losses - %	14.29	14.19	14.09	13.99	13.89	13.79	13.69
Energy Requirement - MU	5028	5366	5711	6093	6471	6863	7291
Annual Load Factor - %	59.48	59.38	59.28	59.18	59.08	59.00	59.00
Peak Electricity Demand - MW	**965**	**1032**	**1100**	**1175**	**1250**	**1328**	**1411**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	30.7	30.5	30.3	30.1	30.0	29.9	29.8
Commercial	16.4	16.6	16.8	17.0	17.2	17.4	17.7
Irrigation	28.2	28.9	29.2	29.4	29.6	29.6	29.5
Industries	18.7	18.0	17.6	17.5	17.2	17.0	17.0
Others	6.1	6.0	6.0	6.0	6.0	6.0	6.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.54 (Contd.)

KARNATAKA - MESCOM

19TH ELECTRIC POWER SURVEY PROJECTION

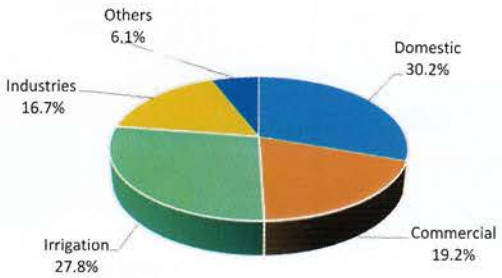
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	1877	1990	2109	2236	2370	2512
Commercial	1111	1196	1287	1384	1488	1599
Public lighting	89	94	99	104	109	114
Public Water Works	289	307	327	347	368	391
Irrigation	1856	1957	2054	2145	2230	2307
Industries LT	179	187	196	205	214	224
Industries HT	891	934	980	1030	1084	1160
Railway traction	0	0	0	0	0	0
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**6293**	**6665**	**7051**	**7451**	**7863**	**8307**
T&D losses -MU	998	1048	1100	1152	1205	1262
T&D losses - %	13.69	13.59	13.49	13.39	13.29	13.19
Energy Requirement - MU	7291	7713	8151	8603	9069	9570
Annual Load Factor - %	59.00	59.00	59.00	59.00	59.00	59.00
Peak Electricity Demand - MW	**1411**	**1492**	**1577**	**1665**	**1755**	**1852**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	29.8	29.9	29.9	30.0	30.1	30.2
Commercial	17.7	17.9	18.3	18.6	18.9	19.2
Irrigation	29.5	29.4	29.1	28.8	28.4	27.8
Industries	17.0	16.8	16.7	16.6	16.5	16.7
Others	6.0	6.0	6.0	6.1	6.1	6.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.55

KARNATAKA

19TH ELECTRIC POWER SURVEY PROJECTION

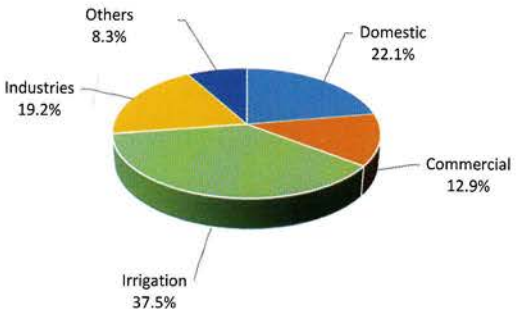
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

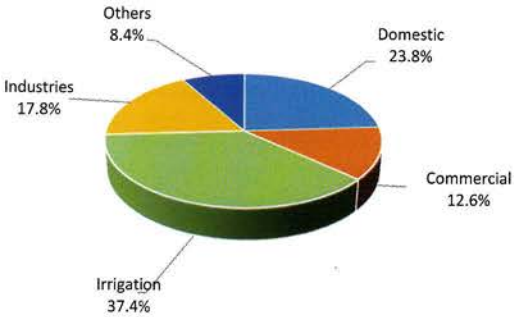
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	11299	12220	13157	14163	15161	16218	17343
Commercial	6608	6974	7364	7777	8213	8674	9160
Public lighting	881	993	1040	1088	1138	1189	1242
Public Water Works	2535	2721	2892	3072	3269	3482	3715
Irrigation	19160	20598	21858	23158	24466	25823	27219
Industries LT	1901	2000	2087	2177	2271	2369	2471
Industries HT	7924	8338	8701	9105	9517	9959	10449
Railway traction	68	83	89	97	105	115	135
Bulk Supply	760	793	834	853	902	954	1006
Total Energy Consumption	**51135**	**54720**	**58023**	**61491**	**65042**	**68783**	**72740**
T&D losses -MU	10369	11064	11403	11742	12066	12392	12722
T&D losses - %	16.86	16.82	16.43	16.03	15.65	15.27	14.89
Energy Requirement - MU	61504	65784	69426	73233	77108	81175	85462
Annual Load Factor - %	68.83	68.93	68.81	68.70	68.58	68.47	68.36
Peak Electricity Demand - MW	**10200**	**10895**	**11517**	**12169**	**12834**	**13534**	**14271**
Energy Requirement (Ex Bus) - MU	**61842**	**66146**	**69808**	**73636**	**77532**	**81622**	**85932**
T&D losses (Ex Bus) -%	17.31	17.27	16.88	16.49	16.11	15.73	15.35
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	22.1	22.3	22.7	23.0	23.3	23.6	23.8
Commercial	12.9	12.7	12.7	12.6	12.6	12.6	12.6
Irrigation	37.5	37.6	37.7	37.7	37.6	37.5	37.4
Industries	19.2	18.9	18.6	18.3	18.1	17.9	17.8
Others	8.3	8.4	8.4	8.3	8.3	8.3	8.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.55 (Contd.)

KARNATAKA

19TH ELECTRIC POWER SURVEY PROJECTION

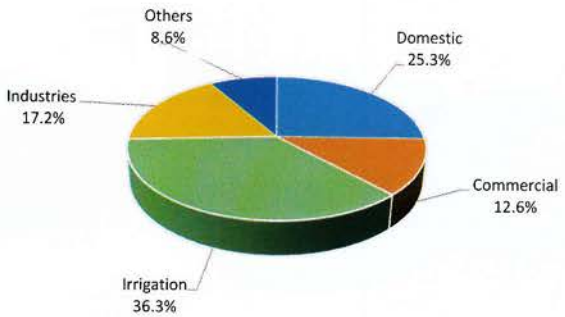
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	17343	18541	19811	21161	22592	24106
Commercial	9160	9674	10218	10790	11395	12034
Public lighting	1242	1296	1353	1411	1472	1531
Public Water Works	3715	3960	4226	4506	4808	5126
Irrigation	27219	28631	30081	31572	33101	34665
Industries LT	2471	2577	2687	2803	2923	3048
Industries HT	10449	10956	11499	12083	12706	13392
Railway traction	135	148	163	180	200	214
Bulk Supply	1006	1061	1122	1185	1253	1325
Total Energy Consumption	**72740**	**76844**	**81160**	**85690**	**90449**	**95441**
T&D losses -MU	12722	13043	13362	13679	13993	14323
T&D losses - %	14.89	14.51	14.14	13.77	13.40	13.05
Energy Requirement - MU	85462	89886	94522	99370	104443	109764
Annual Load Factor - %	68.36	68.25	68.14	68.03	67.92	67.80
Peak Electricity Demand - MW	**14271**	**15033**	**15834**	**16674**	**17554**	**18481**
Energy Requirement (Ex Bus) - MU	**85932**	**90381**	**95042**	**99916**	**105017**	**110368**
T&D losses (Ex Bus) -%	15.35	14.98	14.61	14.24	13.87	13.52
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	23.8	24.1	24.4	24.7	25.0	25.3
Commercial	12.6	12.6	12.6	12.6	12.6	12.6
Irrigation	37.4	37.3	37.1	36.8	36.6	36.3
Industries	17.8	17.6	17.5	17.4	17.3	17.2
Others	8.4	8.4	8.5	8.5	8.5	8.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.56

KERALA

19TH ELECTRIC POWER SURVEY PROJECTION

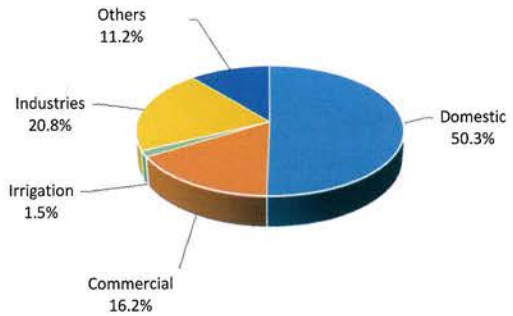
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

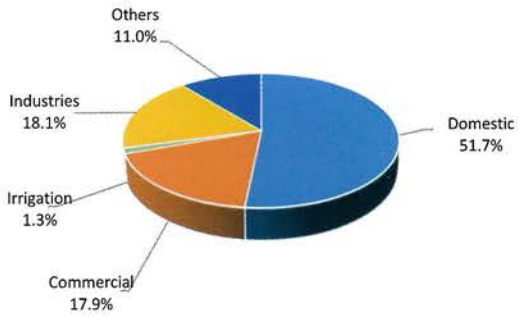
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	9927	10513	11123	11757	12415	13098	13805
Commercial	3202	3440	3689	3949	4219	4497	4786
Public lighting	379	402	428	455	484	513	543
Public Water Works	364	378	392	407	421	437	452
Irrigation	296	305	313	322	331	339	348
Industries LT	1048	1084	1121	1159	1199	1239	1281
Industries HT	3050	3136	3223	3308	3393	3476	3558
Railway traction	214	222	231	240	250	260	270
Bulk Supply	1244	1311	1380	1451	1525	1601	1679
Total Energy Consumption	**19723**	**20791**	**21900**	**23049**	**24236**	**25460**	**26722**
T&D losses -MU	3331	3455	3580	3721	3864	4008	4170
T&D losses - %	14.45	14.25	14.05	13.90	13.75	13.60	13.50
Energy Requirement - MU	23054	24246	25480	26770	28100	29468	30893
Annual Load Factor - %	68.00	67.00	67.01	67.00	67.00	67.00	67.01
Peak Electricity Demand - MW	**3870**	**4131**	**4341**	**4561**	**4788**	**5021**	**5263**
Energy Requirement (Ex Bus) - MU	**23412**	**24622**	**25875**	**27184**	**28535**	**29924**	**31371**
T&D losses (Ex Bus) -%	15.76	15.56	15.36	15.21	15.07	14.92	14.82
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	50.3	50.6	50.8	51.0	51.2	51.4	51.7
Commercial	16.2	16.5	16.8	17.1	17.4	17.7	17.9
Irrigation	1.5	1.5	1.4	1.4	1.4	1.3	1.3
Industries	20.8	20.3	19.8	19.4	18.9	18.5	18.1
Others	11.2	11.1	11.1	11.1	11.1	11.0	11.0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.56 (Contd.)

KERALA

19TH ELECTRIC POWER SURVEY PROJECTION

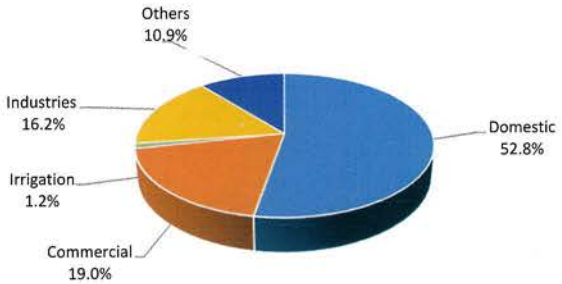
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	13805	14537	15293	16073	16877	17805
Commercial	4786	5087	5399	5723	6062	6414
Public lighting	543	574	605	637	670	703
Public Water Works	452	468	484	501	517	534
Irrigation	348	356	365	374	382	391
Industries LT	1281	1324	1369	1414	1462	1510
Industries HT	3558	3638	3717	3794	3868	3940
Railway traction	270	281	292	304	319	335
Bulk Supply	1679	1759	1839	1921	2003	2086
Total Energy Consumption	**26722**	**28024**	**29363**	**30740**	**32160**	**33718**
T&D losses -MU	4170	4336	4504	4675	4848	5038
T&D losses - %	13.50	13.40	13.30	13.20	13.10	13.00
Energy Requirement - MU	30893	32360	33868	35415	37008	38756
Annual Load Factor - %	67.00	67.00	67.00	67.00	67.00	67.00
Peak Electricity Demand - MW	**5263**	**5513**	**5770**	**6034**	**6305**	**6603**
Energy Requirement (Ex Bus) - MU	**31371**	**32861**	**34393**	**35964**	**37582**	**39357**
T&D losses (Ex Bus) -%	14.82	14.72	14.62	14.52	14.43	14.33
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	51.7	51.9	52.1	52.3	52.5	52.8
Commercial	17.9	18.2	18.4	18.6	18.9	19.0
Irrigation	1.3	1.3	1.2	1.2	1.2	1.2
Industries	18.1	17.7	17.3	16.9	16.6	16.2
Others	11.0	11.0	11.0	10.9	10.9	10.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

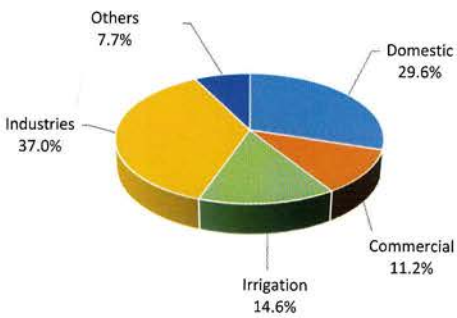
Table 5.57

TAMIL NADU

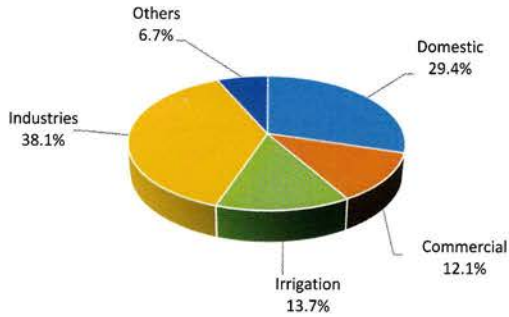
19TH ELECTRIC POWER SURVEY PROJECTION
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND
(CATEGORY WISE & YEAR WISE SUMMARY)
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	23489	25016	26617	28294	30048	31881	33794
Commercial	8860	9569	10325	11130	11987	12898	13865
Public lighting	994	1044	1095	1147	1201	1255	1309
Public Water Works	2285	2400	2519	2643	2772	2906	3044
Irrigation	11548	12299	12921	13574	14261	14983	15741
Industries LT	7443	7890	8355	8840	9344	9867	10409
Industries HT	21881	23548	25312	27178	29147	31223	33409
Railway traction	970	1009	1050	1091	1135	1181	1228
Bulk Supply	1828	1881	1935	1991	2048	2107	2168
Total Energy Consumption	**79298**	**84654**	**90128**	**95888**	**101943**	**108301**	**114968**
T&D losses -MU	19986	20194	20323	20425	20526	20567	20288
T&D losses - %	20.13	19.26	18.40	17.56	16.76	15.96	15.00
Energy Requirement - MU	99284	104848	110451	116313	122469	128868	135256
Annual Load Factor - %	77.96	77.66	77.36	77.06	76.76	76.46	76.16
Peak Electricity Demand - MW	**14538**	**15412**	**16299**	**17230**	**18213**	**19240**	**20273**
Energy Requirement (Ex Bus) - MU	**100302**	**105923**	**111583**	**117505**	**123724**	**130189**	**136643**
T&D losses (Ex Bus) -%	20.94	20.08	19.23	18.40	17.60	16.81	15.86
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	29.6	29.6	29.5	29.5	29.5	29.4	29.4
Commercial	11.2	11.3	11.5	11.6	11.8	11.9	12.1
Irrigation	14.6	14.5	14.3	14.2	14.0	13.8	13.7
Industries	37.0	37.1	37.4	37.6	37.8	37.9	38.1
Others	7.7	7.5	7.3	7.2	7.0	6.9	6.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.57 (Contd.)

TAMIL NADU

19TH ELECTRIC POWER SURVEY PROJECTION

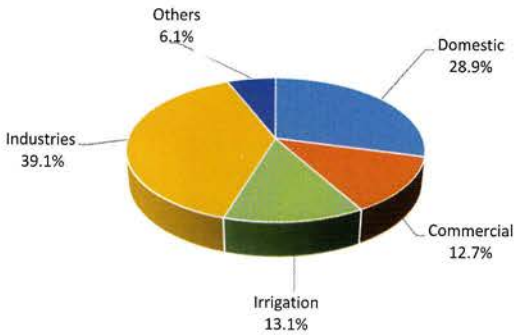
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	33794	35788	37864	40022	42263	44587
Commercial	13865	14891	15978	17128	18344	19628
Public lighting	1309	1364	1420	1479	1539	1602
Public Water Works	3044	3187	3335	3489	3649	3816
Irrigation	15741	16537	17373	18252	19176	20147
Industries LT	10409	10972	11553	12154	12774	13412
Industries HT	33409	35748	38250	40928	43793	46858
Railway traction	1228	1277	1328	1381	1450	1523
Bulk Supply	2168	2230	2294	2360	2429	2499
Total Energy Consumption	**114968**	**121993**	**129396**	**137193**	**145417**	**154071**
T&D losses -MU	20288	20689	21415	22519	23673	25081
T&D losses - %	15.00	14.50	14.20	14.10	14.00	14.00
Energy Requirement - MU	135256	142682	150811	159712	169089	179153
Annual Load Factor - %	76.16	75.86	75.56	75.26	74.96	74.66
Peak Electricity Demand - MW	**20273**	**21471**	**22784**	**24225**	**25750**	**27392**
Energy Requirement (Ex Bus) - MU	**136643**	**144145**	**152357**	**161349**	**170822**	**180989**
T&D losses (Ex Bus) -%	15.86	15.37	15.07	14.97	14.87	14.87
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	29.4	29.3	29.3	29.2	29.1	28.9
Commercial	12.1	12.2	12.3	12.5	12.6	12.7
Irrigation	13.7	13.6	13.4	13.3	13.2	13.1
Industries	38.1	38.3	38.5	38.7	38.9	39.1
Others	6.7	6.6	6.5	6.3	6.2	6.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.58

PUDUCHERRY

19TH ELECTRIC POWER SURVEY PROJECTION

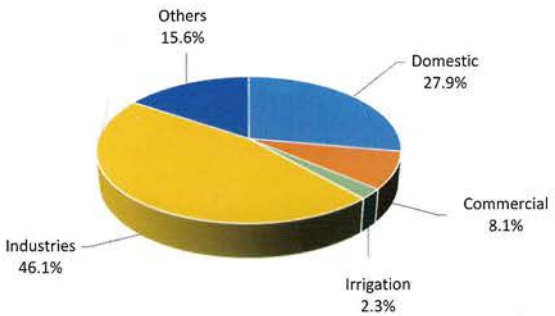
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

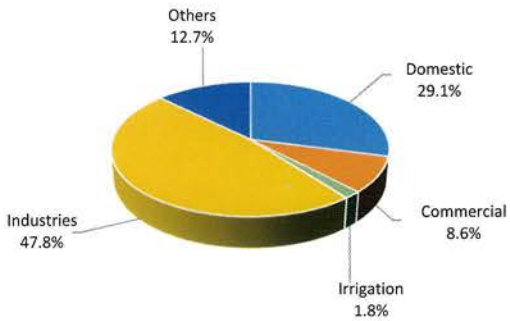
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	689	726	765	805	846	888	931
Commercial	201	211	223	235	248	261	275
Public lighting	27	26	25	23	20	19	16
Public Water Works	38	39	40	40	41	42	43
Irrigation	57	57	57	57	57	57	57
Industries LT	167	173	179	185	190	196	202
Industries HT	973	1024	1085	1146	1207	1269	1329
Railway traction	0	0	0	0	0	0	0
Bulk Supply	320	327	333	338	342	345	349
Total Energy Consumption	**2473**	**2583**	**2705**	**2827**	**2951**	**3077**	**3202**
T&D losses -MU	329	336	343	349	355	361	376
T&D losses - %	11.75	11.50	11.25	11.00	10.75	10.50	10.50
Energy Requirement - MU	2802	2919	3048	3177	3307	3438	3577
Annual Load Factor - %	70.00	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**457**	**476**	**497**	**518**	**539**	**561**	**583**
Energy Requirement (Ex Bus) - MU	**2870**	**2990**	**3121**	**3254**	**3387**	**3521**	**3664**
T&D losses (Ex Bus) -%	13.84	13.60	13.35	13.11	12.86	12.62	12.62
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	27.9	28.1	28.3	28.5	28.6	28.9	29.1
Commercial	8.1	8.2	8.2	8.3	8.4	8.5	8.6
Irrigation	2.3	2.2	2.1	2.0	1.9	1.9	1.8
Industries	46.1	46.3	46.7	47.0	47.4	47.6	47.8
Others	15.6	15.2	14.7	14.2	13.7	13.2	12.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.58 (Contd.)

PUDUCHERRY

19TH ELECTRIC POWER SURVEY PROJECTION

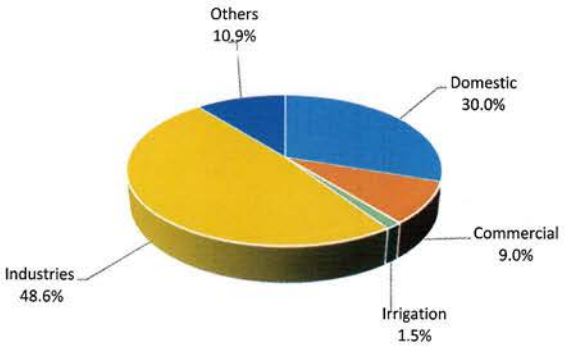
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	931	976	1022	1069	1117	1166
Commercial	275	289	303	318	334	350
Public lighting	16	13	11	9	9	9
Public Water Works	43	44	45	45	46	47
Irrigation	57	57	57	57	57	57
Industries LT	202	208	215	221	228	234
Industries HT	1329	1389	1451	1517	1585	1656
Railway traction	0	0	0	0	0	0
Bulk Supply	349	352	356	359	363	366
Total Energy Consumption	**3202**	**3328**	**3459**	**3595**	**3739**	**3887**
T&D losses -MU	376	390	406	422	439	456
T&D losses - %	10.50	10.50	10.50	10.50	10.50	10.50
Energy Requirement - MU	3577	3719	3865	4017	4177	4343
Annual Load Factor - %	70.00	70.00	70.00	70.00	70.00	70.00
Peak Electricity Demand - MW	**583**	**606**	**630**	**655**	**681**	**708**
Energy Requirement (Ex Bus) - MU	**3664**	**3809**	**3959**	**4114**	**4279**	**4448**
T&D losses (Ex Bus) -%	12.62	12.62	12.62	12.62	12.62	12.62
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	29.1	29.3	29.5	29.7	29.9	30.0
Commercial	8.6	8.7	8.8	8.9	8.9	9.0
Irrigation	1.8	1.7	1.6	1.6	1.5	1.5
Industries	47.8	48.0	48.2	48.3	48.5	48.6
Others	12.7	12.3	11.9	11.5	11.2	10.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.59

BIHAR -SBPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

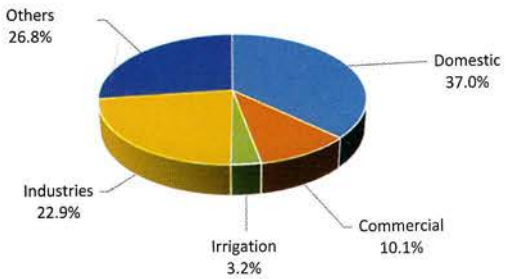
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

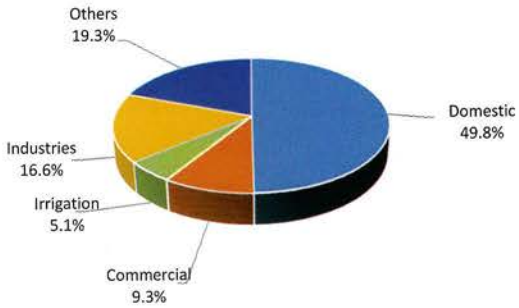
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	2608	3344	5009	5380	6677	7784	8486
Commercial	713	788	872	1051	1222	1399	1578
Public lighting	20	21	22	25	29	31	33
Public Water Works	46	52	58	60	71	78	88
Irrigation	224	240	683	700	720	750	862
Industries LT	240	269	303	353	382	438	504
Industries HT	1378	1627	1755	1840	1914	2106	2316
Railway traction	548	570	593	617	641	667	694
Bulk Supply	1278	1350	1546	1854	2040	2244	2468
Total Energy Consumption	**7055**	**8262**	**10841**	**11880**	**13696**	**15497**	**17029**
T&D losses -MU	5772	4647	4646	3351	2417	2735	3005
T&D losses - %	45.00	36.00	30.00	22.00	15.00	15.00	15.00
Energy Requirement - MU	12828	12909	15488	15230	16113	18232	20034
Annual Load Factor - %	80.00	67.00	63.05	64.00	64.00	64.00	64.00
Peak Electricity Demand - MW	**1830**	**2199**	**2804**	**2717**	**2874**	**3252**	**3573**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	37.0	40.5	46.2	45.3	48.7	50.2	49.8
Commercial	10.1	9.5	8.0	8.8	8.9	9.0	9.3
Irrigation	3.2	2.9	6.3	5.9	5.3	4.8	5.1
Industries	22.9	22.9	19.0	18.5	16.8	16.4	16.6
Others	26.8	24.1	20.5	21.5	20.3	19.5	19.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.59 (Contd.)

BIHAR -SBPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

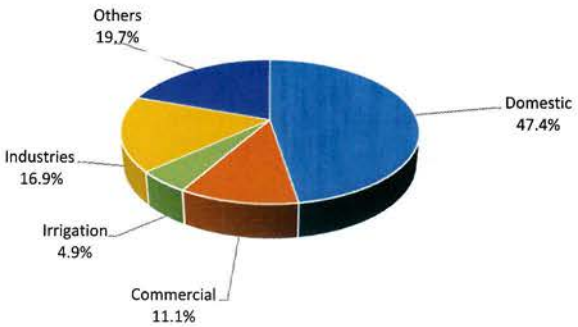
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	8486	8953	9439	9955	10503	11553
Commercial	1578	1764	1969	2193	2438	2705
Public lighting	33	35	36	38	40	42
Public Water Works	88	97	109	121	134	149
Irrigation	862	991	1041	1093	1147	1205
Industries LT	504	564	592	622	653	686
Industries HT	2316	2548	2803	2999	3209	3434
Railway traction	694	722	750	780	819	860
Bulk Supply	2468	2715	2986	3285	3515	3761
Total Energy Consumption	**17029**	**18389**	**19725**	**21086**	**22458**	**24396**
T&D losses -MU	3005	3245	3481	3721	3963	4305
T&D losses - %	15.00	15.00	15.00	15.00	15.00	15.00
Energy Requirement - MU	20034	21634	23206	24808	26422	28701
Annual Load Factor - %	64.00	64.00	64.00	64.00	64.00	64.00
Peak Electricity Demand - MW	**3573**	**3859**	**4139**	**4425**	**4713**	**5119**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	49.8	48.7	47.9	47.2	46.8	47.4
Commercial	9.3	9.6	10.0	10.4	10.9	11.1
Irrigation	5.1	5.4	5.3	5.2	5.1	4.9
Industries	16.6	16.9	17.2	17.2	17.2	16.9
Others	19.3	19.4	19.7	20.0	20.1	19.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.60

BIHAR -NBPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

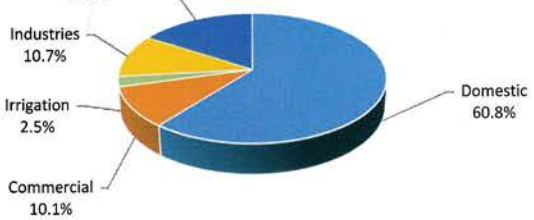
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

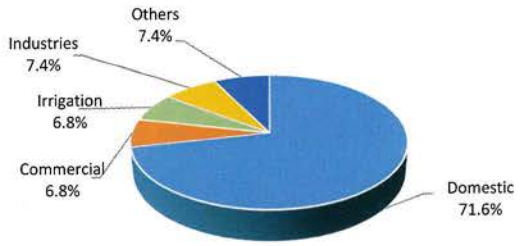
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	3209	3726	5336	6799	8438	9838	10725
Commercial	533	561	597	686	768	872	1014
Public lighting	21	23	26	40	44	49	55
Public Water Works	26	29	32	37	43	48	54
Irrigation	131	148	947	960	980	1000	1020
Industries LT	133	161	193	208	225	258	297
Industries HT	433	514	611	640	704	735	808
Railway traction	19	20	21	21	22	23	24
Bulk Supply	774	766	843	880	920	966	980
Total Energy Consumption	**5281**	**5949**	**8604**	**10271**	**12145**	**13789**	**14977**
T&D losses -MU	3037	2313	2717	2568	2143	2433	2643
T&D losses - %	36.51	28.00	24.00	20.00	15.00	15.00	15.00
Energy Requirement - MU	8317	8262	11322	12839	14288	16223	17620
Annual Load Factor - %	71.00	67.00	67.00	67.00	67.00	67.00	67.00
Peak Electricity Demand - MW	**1337**	**1408**	**1929**	**2187**	**2434**	**2764**	**3002**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	60.8	62.6	62.0	66.2	69.5	71.3	71.6
Commercial	10.1	9.4	6.9	6.7	6.3	6.3	6.8
Irrigation	2.5	2.5	11.0	9.3	8.1	7.3	6.8
Industries	10.7	11.3	9.3	8.3	7.6	7.2	7.4
Others	15.9	14.1	10.7	9.5	8.5	7.9	7.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.60 (Contd.)

BIHAR -NBPDCL

19TH ELECTRIC POWER SURVEY PROJECTION

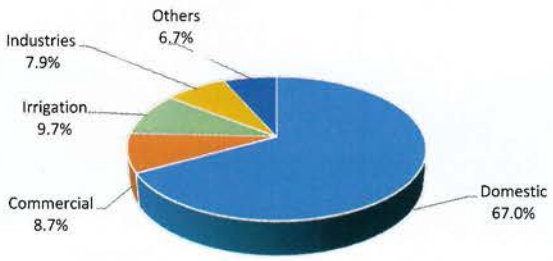
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	10725	11315	11930	12582	13274	13996
Commercial	1014	1161	1309	1464	1634	1820
Public lighting	55	60	63	66	70	73
Public Water Works	54	59	66	74	82	91
Irrigation	1020	1040	1060	1080	2000	2020
Industries LT	297	332	349	366	385	404
Industries HT	808	951	1018	1089	1165	1247
Railway traction	24	25	26	27	28	30
Bulk Supply	980	1000	1050	1103	1158	1216
Total Energy Consumption	**14977**	**15943**	**16871**	**17851**	**19796**	**20896**
T&D losses -MU	2643	2813	2977	3150	3493	3688
T&D losses - %	15.00	15.00	15.00	15.00	15.00	15.00
Energy Requirement - MU	17620	18757	19848	21001	23290	24584
Annual Load Factor - %	67.00	67.00	67.00	67.00	67.00	67.00
Peak Electricity Demand - MW	**3002**	**3196**	**3382**	**3578**	**3968**	**4189**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	71.6	71.0	70.7	70.5	67.1	67.0
Commercial	6.8	7.3	7.8	8.2	8.3	8.7
Irrigation	6.8	6.5	6.3	6.1	10.1	9.7
Industries	7.4	8.0	8.1	8.2	7.8	7.9
Others	7.4	7.2	7.1	7.1	6.8	6.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.61

BIHAR

19TH ELECTRIC POWER SURVEY PROJECTION

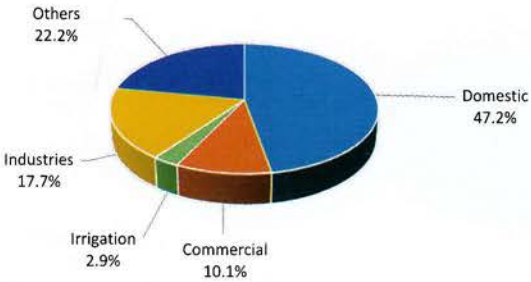
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

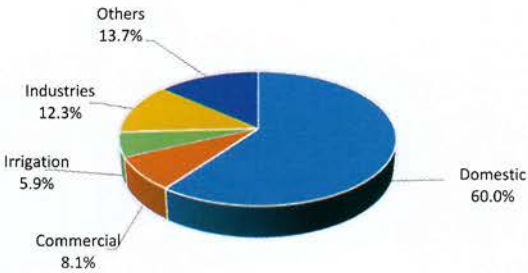
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	5817	7070	10345	12179	15115	17622	19211
Commercial	1246	1350	1469	1737	1990	2271	2592
Public lighting	41	45	49	65	73	80	88
Public Water Works	72	81	90	97	114	126	142
Irrigation	355	388	1630	1660	1700	1750	1882
Industries LT	373	430	496	561	607	696	801
Industries HT	1812	2141	2366	2480	2618	2841	3124
Railway traction	567	590	614	638	664	690	718
Bulk Supply	2052	2116	2389	2734	2960	3210	3448
Total Energy Consumption	**12336**	**14210**	**19446**	**22151**	**25841**	**29286**	**32006**
T&D losses -MU	8809	6961	7363	5918	4560	5168	5648
T&D losses - %	41.66	32.88	27.47	21.09	15.00	15.00	15.00
Energy Requirement - MU	21145	21171	26809	28069	30401	34454	37654
Annual Load Factor - %	76.20	67.00	64.66	65.34	65.38	65.38	65.37
Peak Electricity Demand - MW	**3168**	**3607**	**4733**	**4904**	**5308**	**6016**	**6576**
Energy Requirement (Ex Bus) - MU	**21573**	**21599**	**27352**	**28637**	**31017**	**35152**	**38416**
T&D losses (Ex Bus) -%	42.82	34.21	28.91	22.65	16.69	16.69	16.69
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	47.2	49.8	53.2	55.0	58.5	60.2	60.0
Commercial	10.1	9.5	7.6	7.8	7.7	7.8	8.1
Irrigation	2.9	2.7	8.4	7.5	6.6	6.0	5.9
Industries	17.7	18.1	14.7	13.7	12.5	12.1	12.3
Others	22.2	19.9	16.2	16.0	14.7	14.0	13.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.61 (Contd.)

BIHAR

19TH ELECTRIC POWER SURVEY PROJECTION

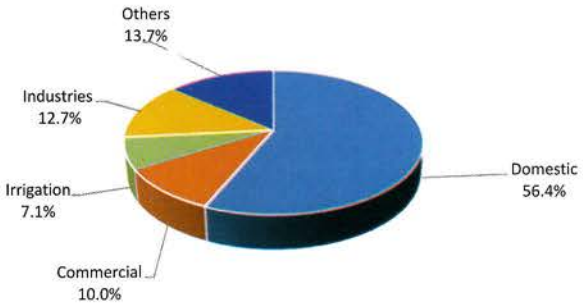
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	19211	20268	21369	22537	23777	25549
Commercial	2592	2925	3278	3657	4072	4525
Public lighting	88	95	99	104	110	115
Public Water Works	142	156	175	195	216	240
Irrigation	1882	2031	2101	2173	3147	3225
Industries LT	801	896	941	988	1038	1090
Industries HT	3124	3499	3821	4088	4374	4681
Railway traction	718	747	776	807	848	890
Bulk Supply	3448	3715	4036	4388	4673	4977
Total Energy Consumption	**32006**	**34332**	**36596**	**38937**	**42255**	**45292**
T&D losses -MU	5648	6059	6458	6871	7457	7993
T&D losses - %	15.00	15.00	15.00	15.00	15.00	15.00
Energy Requirement - MU	37654	40390	43055	45808	49711	53284
Annual Load Factor - %	65.37	65.36	65.35	65.34	65.37	65.35
Peak Electricity Demand - MW	**6576**	**7054**	**7521**	**8003**	**8681**	**9308**
Energy Requirement (Ex Bus) - MU	**38416**	**41208**	**43926**	**46735**	**50717**	**54363**
T&D losses (Ex Bus) -%	16.69	16.69	16.69	16.69	16.69	16.69
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	60.0	59.0	58.4	57.9	56.3	56.4
Commercial	8.1	8.5	9.0	9.4	9.6	10.0
Irrigation	5.9	5.9	5.7	5.6	7.4	7.1
Industries	12.3	12.8	13.0	13.0	12.8	12.7
Others	13.7	13.7	13.9	14.1	13.8	13.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.62

JHARKHAND - DVC

19TH ELECTRIC POWER SURVEY PROJECTION

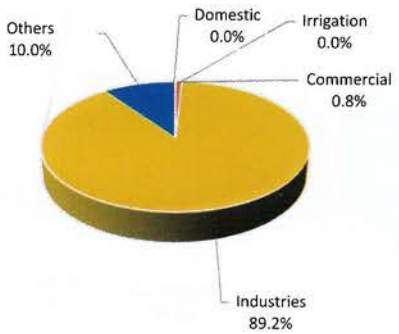
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

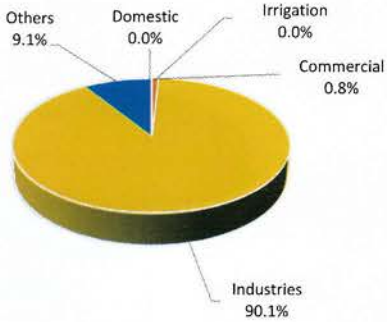
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	0	0	0	0	0	0	0
Commercial	46	58	59	60	62	63	65
Public lighting	0	0	0	0	0	0	0
Public Water Works	0	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0	0
Industries HT	4968	5481	5741	6014	6299	6599	6912
Railway traction	554	577	599	622	646	671	697
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**5569**	**6115**	**6399**	**6696**	**7007**	**7333**	**7673**
T&D losses -MU	175	222	232	243	239	250	262
T&D losses - %	3.04	3.50	3.50	3.50	3.30	3.30	3.30
Energy Requirement - MU	5744	6337	6631	6939	7246	7583	7935
Annual Load Factor - %	56.77	60.00	61.00	62.50	62.50	63.00	63.00
Peak Electricity Demand - MW	**1155**	**1206**	**1241**	**1267**	**1324**	**1374**	**1438**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.8	0.9	0.9	0.9	0.9	0.9	0.8
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	89.2	89.6	89.7	89.8	89.9	90.0	90.1
Others	10.0	9.4	9.4	9.3	9.2	9.1	9.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.63

JHARKHAND - TATA STEEL

19TH ELECTRIC POWER SURVEY PROJECTION

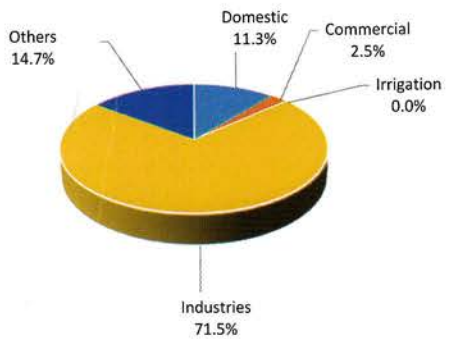
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

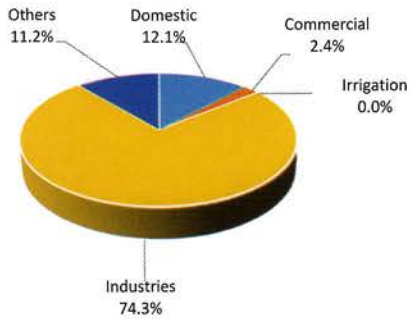
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Energy Consumption in MUs							
Domestic	330	344	360	375	390	404	412
Commercial	73	74	75	76	78	79	81
Public lighting	0	0	0	0	0	0	0
Public Water Works	90	90	89	89	88	88	90
Irrigation	0	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0	0
Industries HT	2088	2176	2237	2342	2407	2475	2524
Railway traction	0	0	0	0	0	0	0
Bulk Supply	340	326	309	302	286	286	292
Total Energy Consumption	**2921**	**3010**	**3070**	**3185**	**3249**	**3332**	**3398**
T&D losses -MU	122	125	128	133	135	139	142
T&D losses - %	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Energy Requirement - MU	3043	3135	3197	3317	3385	3471	3540
Annual Load Factor - %	83.33	83.37	82.54	83.15	82.36	82.00	81.20
Peak Electricity Demand - MW	**417**	**429**	**442**	**455**	**469**	**483**	**498**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	11.3	11.4	11.7	11.8	12.0	12.1	12.1
Commercial	2.5	2.5	2.4	2.4	2.4	2.4	2.4
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	71.5	72.3	72.9	73.5	74.1	74.3	74.3
Others	14.7	13.8	13.0	12.3	11.5	11.2	11.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.63 (Contd.)

JHARKHAND - TATA STEEL

19TH ELECTRIC POWER SURVEY PROJECTION

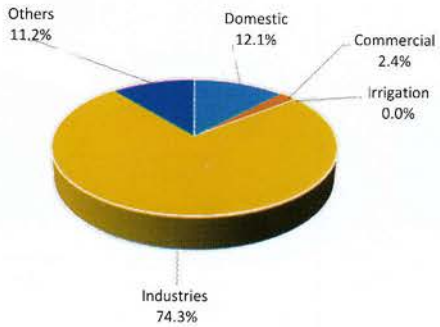
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	412	420	428	437	446	454
Commercial	81	82	84	86	87	89
Public lighting	0	0	0	0	0	0
Public Water Works	90	92	93	95	97	99
Irrigation	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0
Industries HT	2524	2575	2626	2679	2733	2787
Railway traction	0	0	0	0	0	0
Bulk Supply	292	298	304	310	316	323
Total Energy Consumption	**3398**	**3467**	**3536**	**3607**	**3679**	**3752**
T&D losses -MU	142	144	147	150	153	156
T&D losses - %	4.00	4.00	4.00	4.00	4.00	4.00
Energy Requirement - MU	3540	3611	3683	3757	3832	3909
Annual Load Factor - %	81.20	80.41	79.63	78.86	78.09	77.34
Peak Electricity Demand - MW	**498**	**513**	**528**	**544**	**560**	**577**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	12.1	12.1	12.1	12.1	12.1	12.1
Commercial	2.4	2.4	2.4	2.4	2.4	2.4
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	74.3	74.3	74.3	74.3	74.3	74.3
Others	11.2	11.2	11.2	11.2	11.2	11.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.63 (Contd.)

JHARKHAND - TATA STEEL

19TH ELECTRIC POWER SURVEY PROJECTION

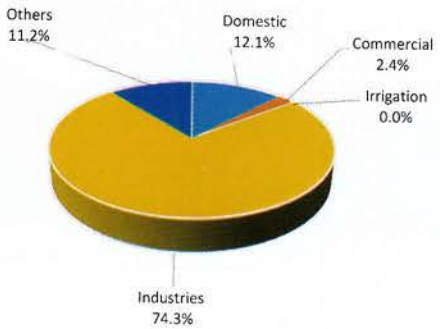
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	412	420	428	437	446	454
Commercial	81	82	84	86	87	89
Public lighting	0	0	0	0	0	0
Public Water Works	90	92	93	95	97	99
Irrigation	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0
Industries HT	2524	2575	2626	2679	2733	2787
Railway traction	0	0	0	0	0	0
Bulk Supply	292	298	304	310	316	323
Total Energy Consumption	**3398**	**3467**	**3536**	**3607**	**3679**	**3752**
T&D losses -MU	142	144	147	150	153	156
T&D losses - %	4.00	4.00	4.00	4.00	4.00	4.00
Energy Requirement - MU	3540	3611	3683	3757	3832	3909
Annual Load Factor - %	81.20	80.41	79.63	78.86	78.09	77.34
Peak Electricity Demand - MW	**498**	**513**	**528**	**544**	**560**	**577**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	12.1	12.1	12.1	12.1	12.1	12.1
Commercial	2.4	2.4	2.4	2.4	2.4	2.4
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	74.3	74.3	74.3	74.3	74.3	74.3
Others	11.2	11.2	11.2	11.2	11.2	11.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.64

JHARKHAND - JBVNL

19TH ELECTRIC POWER SURVEY PROJECTION

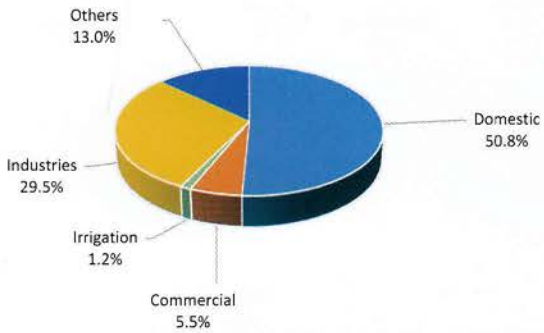
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

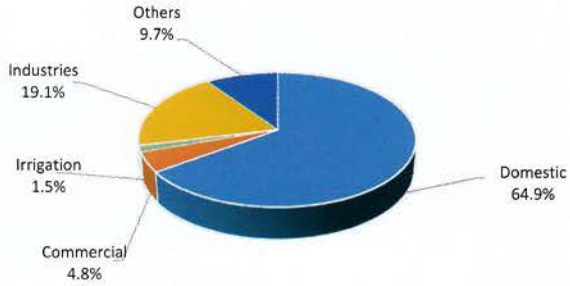
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	4223	4905	5697	6616	7593	8528	9363
Commercial	460	497	537	564	592	621	685
Public lighting	144	147	150	153	157	160	182
Public Water Works	75	84	88	93	98	103	107
Irrigation	96	110	127	146	168	193	222
Industries LT	156	158	162	164	168	172	180
Industries HT	2301	2329	2359	2387	2419	2450	2577
Railway traction	683	710	738	768	799	831	864
Bulk Supply	182	191	201	211	221	232	244
Total Energy Consumption	**8320**	**9132**	**10059**	**11103**	**12214**	**13290**	**14425**
T&D losses -MU	3852	3960	4079	4201	4302	4348	4370
T&D losses - %	31.65	30.25	28.85	27.45	26.05	24.65	23.25
Energy Requirement - MU	12172	13092	14138	15303	16517	17638	18794
Annual Load Factor - %	68.31	65.84	64.78	65.78	65.84	65.86	65.86
Peak Electricity Demand - MW	**2034**	**2270**	**2491**	**2656**	**2864**	**3057**	**3257**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	50.8	53.7	56.6	59.6	62.2	64.2	64.9
Commercial	5.5	5.4	5.3	5.1	4.8	4.7	4.8
Irrigation	1.2	1.2	1.3	1.3	1.4	1.5	1.5
Industries	29.5	27.2	25.1	23.0	21.2	19.7	19.1
Others	13.0	12.4	11.7	11.0	10.4	10.0	9.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.64 (Contd.)

JHARKHAND - JBVNL

19TH ELECTRIC POWER SURVEY PROJECTION

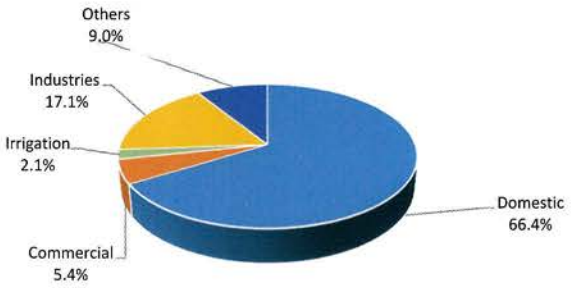
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	9363	10157	10996	11881	12812	13796
Commercial	685	756	834	919	1014	1118
Public lighting	182	207	235	267	310	360
Public Water Works	107	112	117	123	128	134
Irrigation	222	255	294	338	388	447
Industries LT	180	189	199	209	219	230
Industries HT	2577	2710	2849	2996	3151	3313
Railway traction	864	898	934	972	1020	1071
Bulk Supply	244	256	269	282	296	311
Total Energy Consumption	**14425**	**15540**	**16727**	**17986**	**19339**	**20782**
T&D losses -MU	4370	4345	4300	4233	4145	4032
T&D losses - %	23.25	21.85	20.45	19.05	17.65	16.25
Energy Requirement - MU	18794	19885	21026	22219	23484	24814
Annual Load Factor - %	65.86	65.94	65.99	66.03	66.07	66.11
Peak Electricity Demand - MW	**3257**	**3443**	**3637**	**3841**	**4058**	**4285**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	64.9	65.4	65.7	66.1	66.2	66.4
Commercial	4.8	4.9	5.0	5.1	5.2	5.4
Irrigation	1.5	1.6	1.8	1.9	2.0	2.1
Industries	19.1	18.7	18.2	17.8	17.4	17.1
Others	9.7	9.5	9.3	9.1	9.1	9.0
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.65

JHARKHAND

19TH ELECTRIC POWER SURVEY PROJECTION

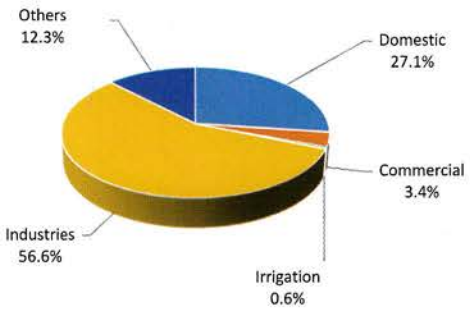
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

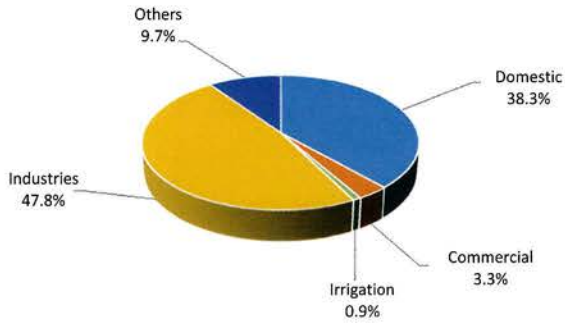
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	4553	5249	6057	6991	7983	8932	9775
Commercial	580	629	671	700	731	764	831
Public lighting	144	147	150	153	157	160	182
Public Water Works	165	174	177	182	186	191	197
Irrigation	96	110	127	146	168	193	222
Industries LT	156	158	162	164	168	172	180
Industries HT	9357	9985	10337	10743	11125	11524	12013
Railway traction	1237	1287	1337	1390	1445	1502	1561
Bulk Supply	522	517	509	513	508	519	536
Total Energy Consumption	**16810**	**18256**	**19527**	**20983**	**22470**	**23955**	**25496**
T&D losses -MU	4149	4307	4439	4576	4677	4737	4773
T&D losses - %	19.80	19.09	18.52	17.90	17.23	16.51	15.77
Energy Requirement - MU	20958	22564	23966	25559	27147	28692	30269
Annual Load Factor - %	66.35	65.97	65.54	66.64	66.56	66.64	66.54
Peak Electricity Demand - MW	**3606**	**3905**	**4175**	**4378**	**4656**	**4915**	**5193**
Energy Requirement (Ex Bus) - MU	**21221**	**22847**	**24266**	**25880**	**27488**	**29052**	**30649**
T&D losses (Ex Bus) -%	20.79	20.09	19.53	18.92	18.25	17.54	16.81
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	27.1	28.8	31.0	33.3	35.5	37.3	38.3
Commercial	3.4	3.4	3.4	3.3	3.3	3.2	3.3
Irrigation	0.6	0.6	0.7	0.7	0.7	0.8	0.9
Industries	56.6	55.6	53.8	52.0	50.3	48.8	47.8
Others	12.3	11.6	11.1	10.7	10.2	9.9	9.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.65 (Contd.)

JHARKHAND

19TH ELECTRIC POWER SURVEY PROJECTION

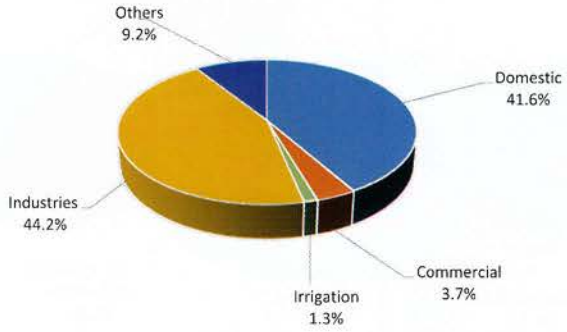
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	9775	10577	11424	12317	13257	14251
Commercial	831	904	985	1074	1172	1280
Public lighting	182	207	235	267	310	360
Public Water Works	197	204	211	218	226	233
Irrigation	222	255	294	338	388	447
Industries LT	180	189	199	209	219	230
Industries HT	12013	12542	13096	13677	14285	14922
Railway traction	1561	1623	1688	1756	1836	1919
Bulk Supply	536	554	573	592	613	634
Total Energy Consumption	**25496**	**27055**	**28704**	**30447**	**32306**	**34276**
T&D losses -MU	4773	4755	4726	4657	4585	4490
T&D losses - %	15.77	14.95	14.14	13.27	12.43	11.58
Energy Requirement - MU	30269	31811	33430	35104	36891	38766
Annual Load Factor - %	66.54	66.63	66.57	66.64	66.57	66.79
Peak Electricity Demand - MW	**5193**	**5450**	**5733**	**6013**	**6326**	**6626**
Energy Requirement (Ex Bus) - MU	**30649**	**32209**	**33850**	**35544**	**37354**	**39252**
T&D losses (Ex Bus) -%	16.81	16.00	15.20	14.34	13.51	12.68
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	38.3	39.1	39.8	40.5	41.0	41.6
Commercial	3.3	3.3	3.4	3.5	3.6	3.7
Irrigation	0.9	0.9	1.0	1.1	1.2	1.3
Industries	47.8	47.1	46.3	45.6	44.9	44.2
Others	9.7	9.6	9.4	9.3	9.2	9.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.66

ODISHA - CESU

19TH ELECTRIC POWER SURVEY PROJECTION

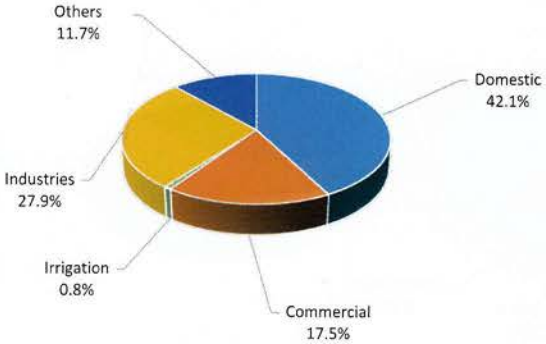
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

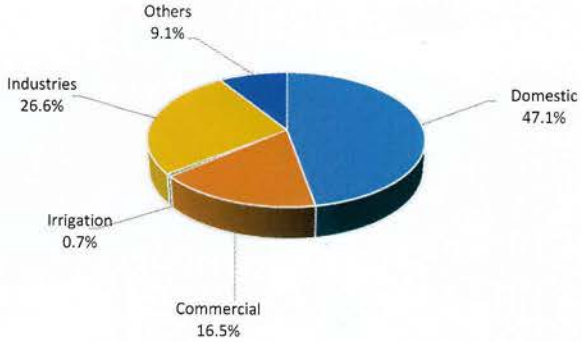
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	2341	2751	3114	3467	3798	4088	4321
Commercial	975	1047	1130	1218	1312	1412	1517
Public lighting	36	40	42	44	46	49	51
Public Water Works	118	124	132	139	147	155	164
Irrigation	47	49	50	52	56	60	63
Industries LT	133	151	162	173	185	198	211
Industries HT	1419	1475	1652	1851	1999	2119	2225
Railway traction	313	325	338	352	366	380	396
Bulk Supply	182	203	173	184	195	207	221
Total Energy Consumption	**5564**	**6166**	**6793**	**7481**	**8105**	**8668**	**9169**
T&D losses -MU	2807	2892	2957	3015	3017	2971	2884
T&D losses - %	33.53	31.93	30.33	28.73	27.13	25.53	23.93
Energy Requirement - MU	8371	9059	9749	10496	11122	11639	12053
Annual Load Factor - %	70.01	69.61	69.21	68.81	68.41	68.01	67.61
Peak Electricity Demand - MW	**1365**	**1486**	**1608**	**1741**	**1856**	**1954**	**2035**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	42.1	44.6	45.8	46.3	46.9	47.2	47.1
Commercial	17.5	17.0	16.6	16.3	16.2	16.3	16.5
Irrigation	0.8	0.8	0.7	0.7	0.7	0.7	0.7
Industries	27.9	26.4	26.7	27.1	26.9	26.7	26.6
Others	11.7	11.2	10.1	9.6	9.3	9.1	9.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.66 (Contd.)

ODISHA - CESU

19TH ELECTRIC POWER SURVEY PROJECTION

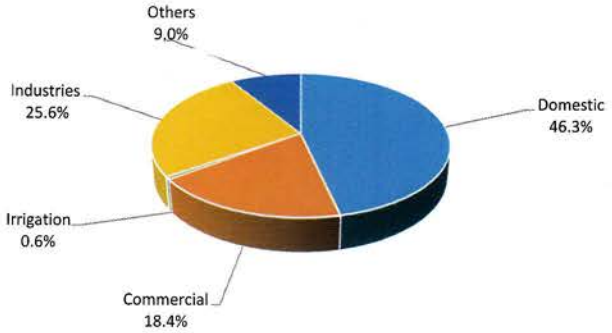
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	4321	4526	4735	4949	5167	5390
Commercial	1517	1629	1748	1873	2005	2145
Public lighting	51	54	57	59	62	66
Public Water Works	164	172	182	191	200	210
Irrigation	63	65	67	69	71	73
Industries LT	211	223	235	247	259	271
Industries HT	2225	2332	2406	2502	2602	2707
Railway traction	396	411	428	445	467	491
Bulk Supply	221	232	243	255	268	281
Total Energy Consumption	**9169**	**9644**	**10100**	**10591**	**11103**	**11633**
T&D losses -MU	2884	2869	2837	2803	2763	2716
T&D losses - %	23.93	22.93	21.93	20.93	19.93	18.93
Energy Requirement - MU	12053	12513	12937	13394	13866	14349
Annual Load Factor - %	67.61	67.21	66.81	66.41	66.01	65.61
Peak Electricity Demand - MW	**2035**	**2125**	**2210**	**2302**	**2398**	**2497**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	47.1	46.9	46.9	46.7	46.5	46.3
Commercial	16.5	16.9	17.3	17.7	18.1	18.4
Irrigation	0.7	0.7	0.7	0.7	0.6	0.6
Industries	26.6	26.5	26.2	26.0	25.8	25.6
Others	9.1	9.0	9.0	9.0	9.0	9.0
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.67

ODISHA - SOUTHCO

19TH ELECTRIC POWER SURVEY PROJECTION

ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

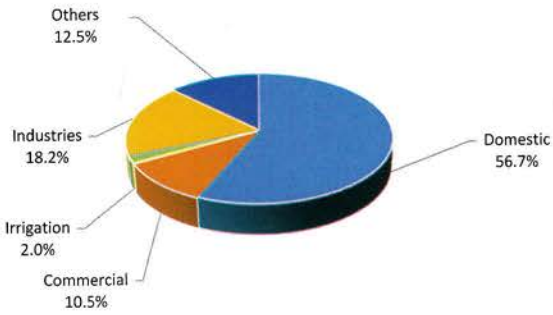
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1191	1523	1792	2083	2267	2335	2404
Commercial	221	242	262	283	306	329	354
Public lighting	21	21	22	23	24	25	26
Public Water Works	49	55	59	62	64	68	71
Irrigation	42	43	46	49	51	53	56
Industries LT	32	35	37	39	42	44	46
Industries HT	351	358	365	372	380	388	395
Railway traction	144	150	156	162	169	176	183
Bulk Supply	49	26	57	60	62	65	67
Total Energy Consumption	**2100**	**2451**	**2797**	**3133**	**3364**	**3481**	**3603**
T&D losses -MU	1183	1248	1282	1288	1234	1132	1078
T&D losses - %	36.03	33.73	31.43	29.13	26.83	24.53	23.03
Energy Requirement - MU	3283	3699	4079	4421	4598	4613	4681
Annual Load Factor - %	74.95	74.50	74.00	73.50	73.00	72.50	72.00
Peak Electricity Demand - MW	**500**	**567**	**629**	**687**	**719**	**726**	**742**

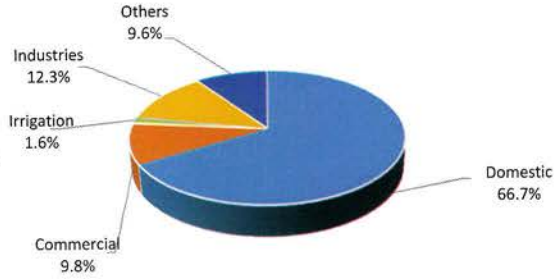
Pattern of Utilisation

Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	56.7	62.1	64.1	66.5	67.4	67.1	66.7
Commercial	10.5	9.9	9.4	9.0	9.1	9.5	9.8
Irrigation	2.0	1.7	1.7	1.6	1.5	1.5	1.6
Industries	18.2	16.0	14.4	13.1	12.5	12.4	12.3
Others	12.5	10.2	10.5	9.8	9.5	9.6	9.6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.67 (Contd.)

ODISHA - SOUTHCO

19TH ELECTRIC POWER SURVEY PROJECTION

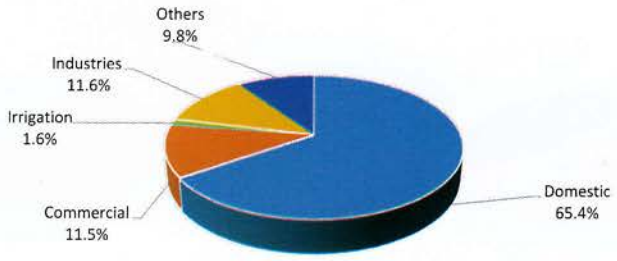
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	2404	2478	2554	2631	2711	2793
Commercial	354	380	406	434	463	493
Public lighting	26	27	28	29	30	30
Public Water Works	71	75	78	82	84	86
Irrigation	56	59	62	65	66	68
Industries LT	46	49	51	53	56	58
Industries HT	395	403	411	419	428	436
Railway traction	183	190	198	206	216	227
Bulk Supply	67	70	72	74	76	77
Total Energy Consumption	**3603**	**3730**	**3860**	**3994**	**4129**	**4269**
T&D losses -MU	1078	1023	967	909	848	785
T&D losses - %	23.03	21.53	20.03	18.53	17.03	15.53
Energy Requirement - MU	4681	4753	4827	4902	4977	5053
Annual Load Factor - %	72.00	71.50	71.00	70.50	70.00	69.50
Peak Electricity Demand - MW	**742**	**759**	**776**	**794**	**812**	**830**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	66.7	66.4	66.2	65.9	65.7	65.4
Commercial	9.8	10.2	10.5	10.9	11.2	11.5
Irrigation	1.6	1.6	1.6	1.6	1.6	1.6
Industries	12.3	12.1	12.0	11.8	11.7	11.6
Others	9.6	9.7	9.7	9.8	9.8	9.8
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.68

ODISHA - WESCO

19TH ELECTRIC POWER SURVEY PROJECTION

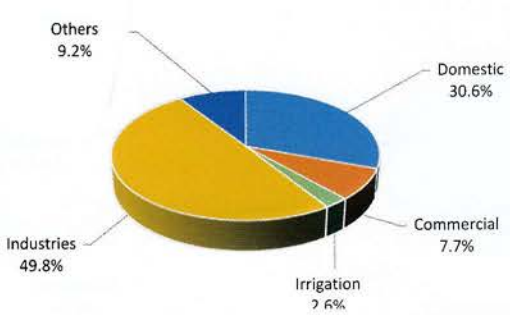
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

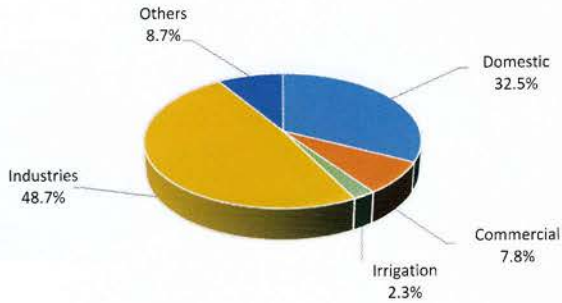
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1407	1422	1523	1632	1748	1873	2006
Commercial	356	367	389	412	435	458	482
Public lighting	24	23	24	26	27	29	31
Public Water Works	58	59	62	66	69	72	76
Irrigation	121	125	129	132	136	141	145
Industries LT	87	93	96	100	104	108	112
Industries HT	2203	2635	2686	2737	2789	2842	2896
Railway traction	276	287	299	311	323	336	350
Bulk Supply	65	67	70	73	75	78	82
Total Energy Consumption	**4597**	**5079**	**5278**	**5487**	**5706**	**5937**	**6178**
T&D losses -MU	2340	2518	2444	2368	2291	2212	2188
T&D losses - %	33.73	33.15	31.65	30.15	28.65	27.15	26.15
Energy Requirement - MU	6937	7597	7722	7855	7998	8149	8366
Annual Load Factor - %	63.00	63.40	63.80	64.20	64.60	65.00	65.40
Peak Electricity Demand - MW	**1257**	**1368**	**1382**	**1397**	**1413**	**1431**	**1460**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	30.6	28.0	28.9	29.7	30.6	31.5	32.5
Commercial	7.7	7.2	7.4	7.5	7.6	7.7	7.8
Irrigation	2.6	2.5	2.4	2.4	2.4	2.4	2.3
Industries	49.8	53.7	52.7	51.7	50.7	49.7	48.7
Others	9.2	8.6	8.6	8.6	8.7	8.7	8.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.68 (Contd.)

ODISHA - WESCO

19TH ELECTRIC POWER SURVEY PROJECTION

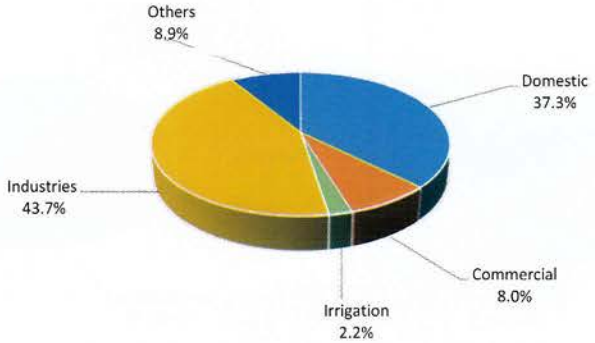
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	2006	2149	2302	2466	2641	2829
Commercial	482	506	531	555	579	603
Public lighting	31	32	34	37	39	41
Public Water Works	76	80	84	88	93	97
Irrigation	145	149	153	158	163	168
Industries LT	112	117	121	126	131	136
Industries HT	2896	2951	3007	3064	3122	3181
Railway traction	350	364	378	393	413	434
Bulk Supply	82	85	88	92	96	100
Total Energy Consumption	**6178**	**6432**	**6698**	**6978**	**7276**	**7589**
T&D losses -MU	2188	2161	2132	2102	2070	2036
T&D losses - %	26.15	25.15	24.15	23.15	22.15	21.15
Energy Requirement - MU	8366	8593	8830	9080	9346	9625
Annual Load Factor - %	65.40	65.80	66.20	66.60	67.00	67.40
Peak Electricity Demand - MW	**1460**	**1491**	**1523**	**1556**	**1592**	**1630**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	32.5	33.4	34.4	35.3	36.3	37.3
Commercial	7.8	7.9	7.9	8.0	8.0	8.0
Irrigation	2.3	2.3	2.3	2.3	2.2	2.2
Industries	48.7	47.7	46.7	45.7	44.7	43.7
Others	8.7	8.7	8.7	8.7	8.8	8.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.69

ODISHA - NESCO

19TH ELECTRIC POWER SURVEY PROJECTION

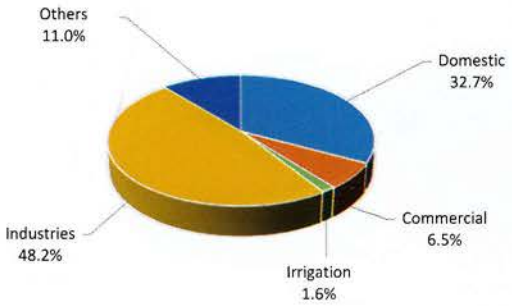
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

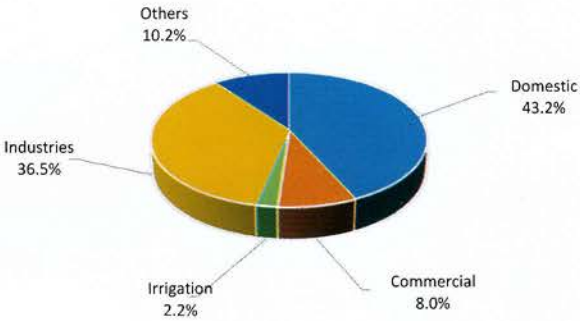
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	1242	1476	1641	1792	1938	2091	2248
Commercial	248	278	302	328	356	385	416
Public lighting	10	10	11	11	12	12	12
Public Water Works	26	30	33	36	39	41	44
Irrigation	60	69	77	87	96	105	114
Industries LT	63	66	71	76	82	87	94
Industries HT	1765	1590	1668	1745	1765	1786	1807
Railway traction	339	353	367	382	397	413	429
Bulk Supply	41	34	37	39	41	42	43
Total Energy Consumption	**3794**	**3905**	**4207**	**4496**	**4724**	**4963**	**5208**
T&D losses -MU	1402	1603	1644	1671	1669	1663	1653
T&D losses - %	26.98	29.10	28.10	27.10	26.10	25.10	24.10
Energy Requirement - MU	5196	5508	5851	6167	6393	6626	6861
Annual Load Factor - %	71.46	71.00	71.00	71.00	71.00	71.00	71.00
Peak Electricity Demand - MW	**830**	**886**	**941**	**992**	**1028**	**1065**	**1103**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	32.7	37.8	39.0	39.9	41.0	42.1	43.2
Commercial	6.5	7.1	7.2	7.3	7.5	7.8	8.0
Irrigation	1.6	1.8	1.8	1.9	2.0	2.1	2.2
Industries	48.2	42.4	41.3	40.5	39.1	37.8	36.5
Others	11.0	11.0	10.6	10.4	10.3	10.2	10.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.69 (Contd.)

ODISHA - NESCO

19TH ELECTRIC POWER SURVEY PROJECTION

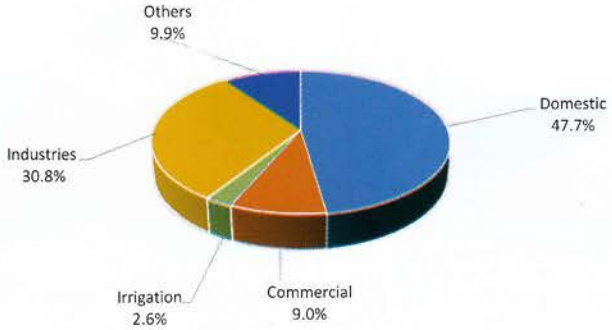
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	2248	2410	2582	2765	2962	3157
Commercial	416	449	483	518	555	594
Public lighting	12	13	13	14	14	15
Public Water Works	44	47	50	53	56	60
Irrigation	114	124	134	146	159	173
Industries LT	94	100	106	113	119	126
Industries HT	1807	1829	1850	1872	1894	1917
Railway traction	429	446	464	483	507	532
Bulk Supply	43	45	46	48	49	51
Total Energy Consumption	**5208**	**5462**	**5728**	**6011**	**6317**	**6625**
T&D losses -MU	1653	1641	1625	1608	1589	1564
T&D losses - %	24.10	23.10	22.10	21.10	20.10	19.10
Energy Requirement - MU	6861	7102	7353	7619	7906	8189
Annual Load Factor - %	71.00	71.00	71.00	71.00	71.00	71.00
Peak Electricity Demand - MW	**1103**	**1142**	**1182**	**1225**	**1271**	**1317**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	43.2	44.1	45.1	46.0	46.9	47.7
Commercial	8.0	8.2	8.4	8.6	8.8	9.0
Irrigation	2.2	2.3	2.3	2.4	2.5	2.6
Industries	36.5	35.3	34.2	33.0	31.9	30.8
Others	10.2	10.1	10.0	9.9	9.9	9.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.70

ODISHA

19TH ELECTRIC POWER SURVEY PROJECTION

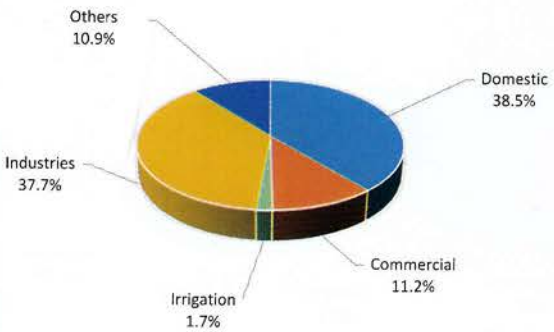
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

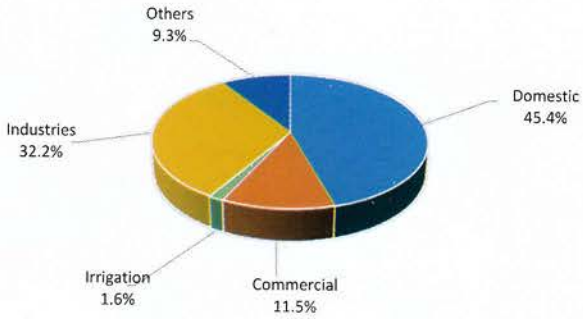
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	6181	7172	8071	8973	9751	10386	10979
Commercial	1800	1934	2084	2242	2409	2585	2770
Public lighting	91	93	98	103	109	114	120
Public Water Works	251	269	286	302	319	337	355
Irrigation	270	285	302	321	339	359	378
Industries LT	315	344	366	389	412	437	463
Industries HT	5738	6059	6371	6705	6933	7134	7322
Railway traction	1073	1116	1160	1207	1255	1305	1357
Bulk Supply	338	330	337	355	373	392	413
Total Energy Consumption	**16056**	**17602**	**19074**	**20597**	**21900**	**23048**	**24157**
T&D losses -MU	7731	8261	8327	8343	8210	7978	7803
T&D losses - %	32.50	31.94	30.39	28.83	27.27	25.71	24.41
Energy Requirement - MU	23787	25863	27401	28940	30110	31026	31960
Annual Load Factor - %	68.71	68.57	68.60	68.59	68.53	68.42	68.32
Peak Electricity Demand - MW	**3952**	**4306**	**4560**	**4816**	**5016**	**5176**	**5340**
Energy Requirement (Ex Bus) - MU	**23939**	**26028**	**27575**	**29124**	**30302**	**31224**	**32164**
T&D losses (Ex Bus) -%	32.93	32.37	30.83	29.28	27.73	26.18	24.89
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	38.5	40.7	42.3	43.6	44.5	45.1	45.4
Commercial	11.2	11.0	10.9	10.9	11.0	11.2	11.5
Irrigation	1.7	1.6	1.6	1.6	1.5	1.6	1.6
Industries	37.7	36.4	35.3	34.4	33.5	32.8	32.2
Others	10.9	10.3	9.9	9.6	9.4	9.3	9.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.70 (Contd.)

ODISHA

19TH ELECTRIC POWER SURVEY PROJECTION

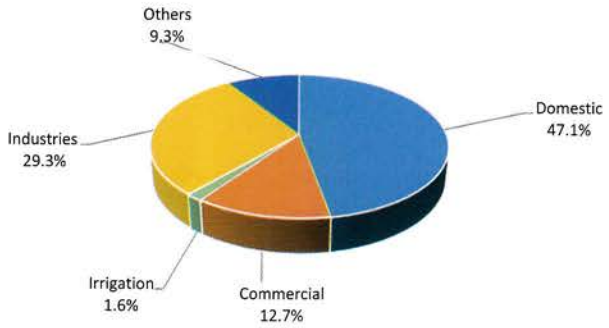
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	10979	11562	12172	12811	13482	14170
Commercial	2770	2964	3167	3380	3603	3835
Public lighting	120	126	132	139	145	152
Public Water Works	355	374	394	414	433	453
Irrigation	378	397	416	438	459	482
Industries LT	463	488	513	539	565	591
Industries HT	7322	7514	7674	7858	8046	8241
Railway traction	1357	1412	1468	1527	1603	1683
Bulk Supply	413	431	449	469	488	508
Total Energy Consumption	**24157**	**25267**	**26386**	**27575**	**28826**	**30116**
T&D losses -MU	7803	7694	7561	7421	7270	7100
T&D losses - %	24.41	23.34	22.27	21.21	20.14	19.08
Energy Requirement - MU	31960	32961	33947	34996	36096	37216
Annual Load Factor - %	68.32	68.20	68.09	67.97	67.85	67.72
Peak Electricity Demand - MW	**5340**	**5517**	**5691**	**5878**	**6073**	**6273**
Energy Requirement (Ex Bus) - MU	**32164**	**33172**	**34163**	**35219**	**36326**	**37453**
T&D losses (Ex Bus) -%	24.89	23.83	22.77	21.71	20.65	19.59
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	45.4	45.8	46.1	46.5	46.8	47.1
Commercial	11.5	11.7	12.0	12.3	12.5	12.7
Irrigation	1.6	1.6	1.6	1.6	1.6	1.6
Industries	32.2	31.7	31.0	30.5	29.9	29.3
Others	9.3	9.3	9.3	9.2	9.3	9.3
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.71

WEST BENGAL - CESC

19TH ELECTRIC POWER SURVEY PROJECTION

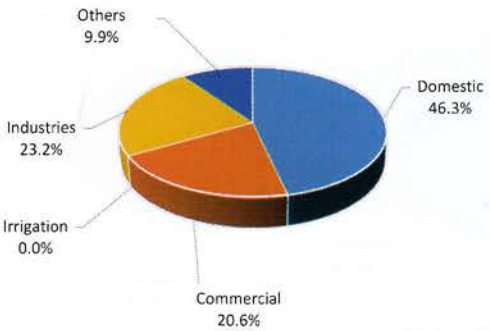
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

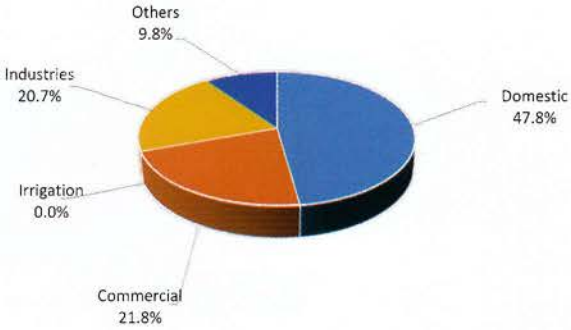
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	4299	4449	4579	4744	4909	5075	5240
Commercial	1907	2038	2092	2165	2239	2313	2387
Public lighting	239	249	258	268	277	286	295
Public Water Works	397	371	381	392	404	416	428
Irrigation	0	0	0	0	0	0	0
Industries LT	803	837	872	908	946	985	1026
Industries HT	1349	1288	1278	1268	1260	1251	1243
Railway traction	124	129	134	139	145	151	157
Bulk Supply	159	165	171	177	183	189	195
Total Energy Consumption	**9277**	**9525**	**9764**	**10062**	**10363**	**10666**	**10971**
T&D losses -MU	1199	1589	1629	1679	1729	1780	1831
T&D losses - %	11.45	14.30	14.30	14.30	14.30	14.30	14.30
Energy Requirement - MU	10476	11114	11394	11741	12092	12445	12802
Annual Load Factor - %	58.77	61.00	61.00	60.00	60.00	60.00	60.00
Peak Electricity Demand - MW	**2035**	**2080**	**2132**	**2234**	**2301**	**2368**	**2436**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	46.3	46.7	46.9	47.1	47.4	47.6	47.8
Commercial	20.6	21.4	21.4	21.5	21.6	21.7	21.8
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	23.2	22.3	22.0	21.6	21.3	21.0	20.7
Others	9.9	9.6	9.7	9.7	9.7	9.8	9.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.71 (Contd.)

WEST BENGAL - CESC

19TH ELECTRIC POWER SURVEY PROJECTION

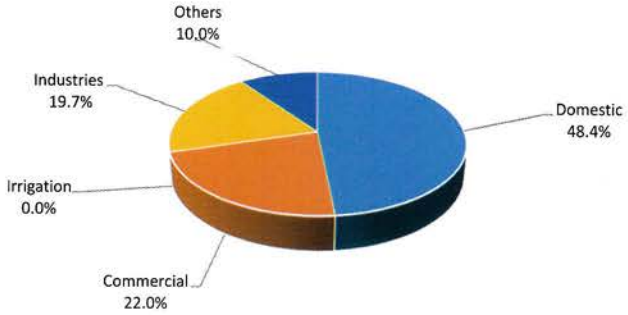
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	5240	5406	5571	5736	5902	6067
Commercial	2387	2461	2535	2609	2682	2756
Public lighting	295	305	314	323	332	341
Public Water Works	428	440	453	466	480	494
Irrigation	0	0	0	0	0	0
Industries LT	1026	1069	1114	1160	1209	1259
Industries HT	1243	1236	1229	1222	1215	1209
Railway traction	157	163	169	176	185	194
Bulk Supply	195	201	207	213	219	225
Total Energy Consumption	**10971**	**11280**	**11591**	**11905**	**12224**	**12546**
T&D losses -MU	1831	1882	1934	1987	2040	2093
T&D losses - %	14.30	14.30	14.30	14.30	14.30	14.30
Energy Requirement - MU	12802	13162	13525	13892	14264	14640
Annual Load Factor - %	60.00	60.00	60.00	60.00	60.00	60.00
Peak Electricity Demand - MW	**2436**	**2504**	**2573**	**2643**	**2714**	**2785**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	47.8	47.9	48.1	48.2	48.3	48.4
Commercial	21.8	21.8	21.9	21.9	21.9	22.0
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	20.7	20.4	20.2	20.0	19.8	19.7
Others	9.8	9.8	9.9	9.9	9.9	10.0
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.72

WEST BENGAL - DPL

19TH ELECTRIC POWER SURVEY PROJECTION

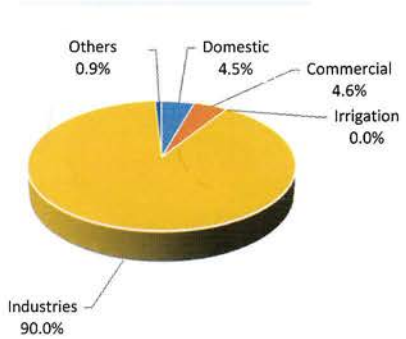
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

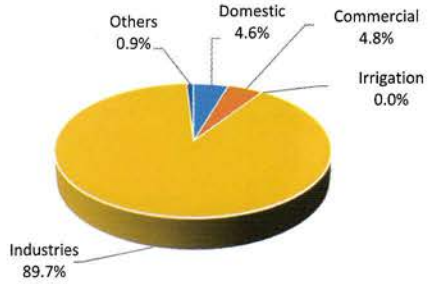
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	82	86	90	94	99	104	109
Commercial	84	88	93	97	102	107	112
Public lighting	4	5	5	5	5	6	6
Public Water Works	11	12	12	13	14	14	15
Irrigation	0	0	0	0	0	0	0
Industries LT	5	5	5	6	6	6	7
Industries HT	1623	1630	1715	1805	1898	1996	2098
Railway traction	0	0	0	0	0	0	0
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**1809**	**1825**	**1921**	**2020**	**2124**	**2233**	**2346**
T&D losses -MU	99	100	105	111	117	122	129
T&D losses - %	5.20	5.20	5.20	5.20	5.20	5.20	5.20
Energy Requirement - MU	1908	1925	2026	2131	2241	2356	2475
Annual Load Factor - %	65.00	65.00	65.00	65.00	65.00	65.00	65.00
Peak Electricity Demand - MW	**335**	**338**	**356**	**374**	**394**	**414**	**435**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	4.5	4.7	4.7	4.7	4.7	4.7	4.6
Commercial	4.6	4.8	4.8	4.8	4.8	4.8	4.8
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	90.0	89.6	89.6	89.6	89.7	89.7	89.7
Others	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.72 (Contd.)

WEST BENGAL - DPL

19TH ELECTRIC POWER SURVEY PROJECTION

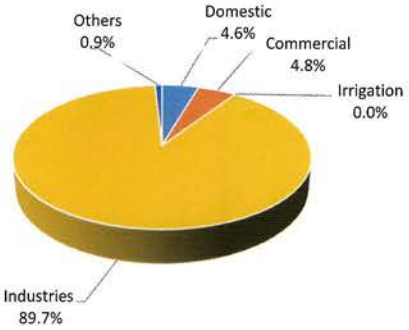
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	109	114	120	126	132	139
Commercial	112	118	124	130	137	144
Public lighting	6	6	6	7	7	8
Public Water Works	15	16	16	17	18	19
Irrigation	0	0	0	0	0	0
Industries LT	7	7	7	8	8	8
Industries HT	2098	2205	2317	2433	2556	2684
Railway traction	0	0	0	0	0	0
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**2346**	**2466**	**2591**	**2721**	**2858**	**3001**
T&D losses -MU	129	135	142	149	157	165
T&D losses - %	5.20	5.20	5.20	5.20	5.20	5.20
Energy Requirement - MU	2475	2601	2733	2870	3015	3166
Annual Load Factor - %	65.00	65.00	65.00	65.00	65.00	65.00
Peak Electricity Demand - MW	**435**	**457**	**480**	**504**	**529**	**556**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	4.6	4.6	4.6	4.6	4.6	4.6
Commercial	4.8	4.8	4.8	4.8	4.8	4.8
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	89.7	89.7	89.7	89.7	89.7	89.7
Others	0.9	0.9	0.9	0.9	0.9	0.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.73

WEST BENGAL -IPCL

19TH ELECTRIC POWER SURVEY PROJECTION

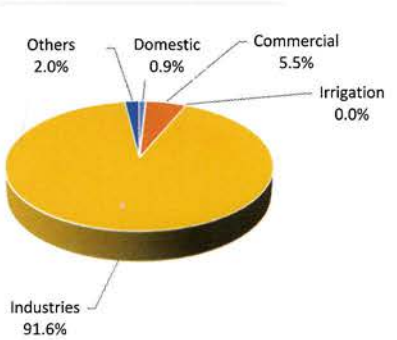
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

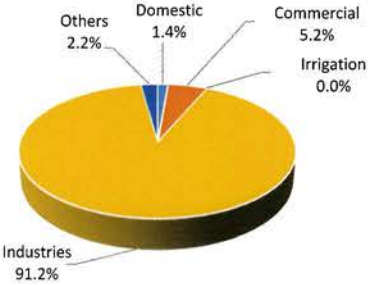
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	7	8	9	11	12	14	16
Commercial	44	47	49	51	54	57	59
Public lighting	0	0	0	0	0	0	0
Public Water Works	13	13	13	13	13	13	14
Irrigation	0	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0	0
Industries HT	732	746	760	814	909	1026	1045
Railway traction	0	0	0	0	0	0	0
Bulk Supply	3	4	12	12	12	12	12
Total Energy Consumption	**800**	**818**	**844**	**901**	**1001**	**1122**	**1146**
T&D losses -MU	51	48	44	42	47	53	54
T&D losses - %	6.00	5.50	5.00	4.50	4.50	4.50	4.50
Energy Requirement - MU	851	866	888	944	1048	1175	1200
Annual Load Factor - %	70.00	69.00	69.00	69.00	68.00	68.00	68.00
Peak Electricity Demand - MW	**139**	**143**	**147**	**156**	**176**	**197**	**201**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	0.9	1.0	1.1	1.2	1.2	1.2	1.4
Commercial	5.5	5.7	5.8	5.7	5.4	5.0	5.2
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	91.6	91.3	90.2	90.4	90.9	91.5	91.2
Others	2.0	2.1	3.0	2.8	2.5	2.3	2.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.73 (Contd.)

WEST BENGAL -IPCL

19TH ELECTRIC POWER SURVEY PROJECTION

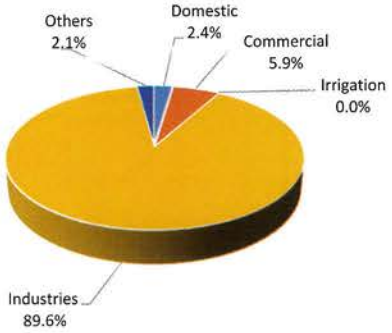
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	16	18	20	23	27	30
Commercial	59	62	65	69	72	76
Public lighting	0	0	0	0	0	0
Public Water Works	14	14	14	14	14	14
Irrigation	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0
Industries HT	1045	1065	1085	1105	1126	1147
Railway traction	0	0	0	0	0	0
Bulk Supply	12	13	13	13	13	13
Total Energy Consumption	**1146**	**1173**	**1198**	**1225**	**1253**	**1281**
T&D losses -MU	54	55	56	58	59	60
T&D losses - %	4.50	4.50	4.50	4.50	4.50	4.50
Energy Requirement - MU	1200	1228	1255	1282	1312	1342
Annual Load Factor - %	68.00	67.00	67.00	67.00	66.00	66.00
Peak Electricity Demand - MW	**201**	**209**	**214**	**219**	**227**	**232**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	1.4	1.5	1.7	1.9	2.1	2.4
Commercial	5.2	5.3	5.5	5.6	5.8	5.9
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	91.2	90.9	90.6	90.3	90.0	89.6
Others	2.2	2.3	2.2	2.2	2.2	2.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.74

WEST BENGAL - WBSEDCL

19TH ELECTRIC POWER SURVEY PROJECTION

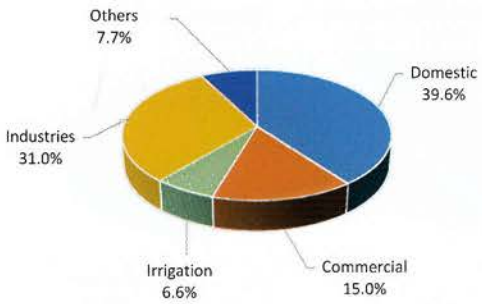
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

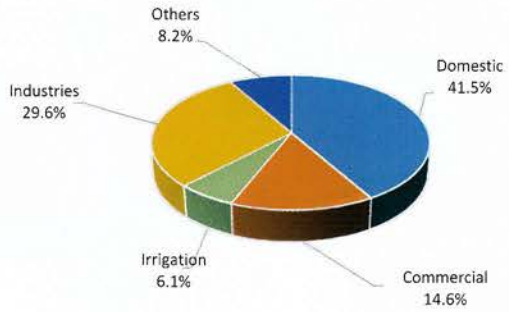
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	9121	10574	10891	11325	11777	12247	12735
Commercial	3462	3761	3863	4005	4153	4307	4469
Public lighting	236	271	283	300	318	337	358
Public Water Works	447	535	568	616	667	724	787
Irrigation	1524	1631	1665	1712	1760	1809	1860
Industries LT	1278	1340	1362	1392	1424	1457	1492
Industries HT	5862	6081	6310	6606	6917	7228	7571
Railway traction	1092	1135	1181	1228	1277	1328	1381
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**23021**	**25328**	**26123**	**27184**	**28293**	**29437**	**30653**
T&D losses -MU	9726	10245	10109	10054	9993	9917	9840
T&D losses - %	29.70	28.80	27.90	27.00	26.10	25.20	24.30
Energy Requirement - MU	32747	35573	36231	37238	38286	39354	40493
Annual Load Factor - %	63.34	63.00	62.00	62.00	62.00	62.00	62.00
Peak Electricity Demand - MW	**5902**	**6446**	**6671**	**6856**	**7049**	**7246**	**7456**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	39.6	41.7	41.7	41.7	41.6	41.6	41.5
Commercial	15.0	14.8	14.8	14.7	14.7	14.6	14.6
Irrigation	6.6	6.4	6.4	6.3	6.2	6.1	6.1
Industries	31.0	29.3	29.4	29.4	29.5	29.5	29.6
Others	7.7	7.7	7.8	7.9	8.0	8.1	8.2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.74 (Contd.)

WEST BENGAL - WBSEDCL

19TH ELECTRIC POWER SURVEY PROJECTION

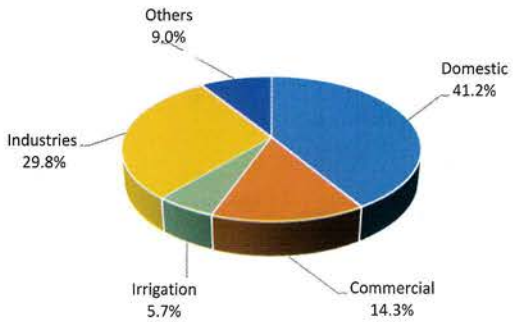
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	12735	13244	13772	14322	14893	15487
Commercial	4469	4636	4808	4988	5173	5366
Public lighting	358	379	402	426	452	479
Public Water Works	787	855	930	1012	1102	1203
Irrigation	1860	1912	1965	2020	2077	2135
Industries LT	1492	1526	1562	1598	1635	1673
Industries HT	7571	7923	8291	8677	9080	9502
Railway traction	1381	1436	1494	1554	1631	1713
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**30653**	**31911**	**33224**	**34597**	**36043**	**37558**
T&D losses -MU	9840	9748	9646	9532	9409	9272
T&D losses - %	24.30	23.40	22.50	21.60	20.70	19.80
Energy Requirement - MU	40493	41660	42870	44128	45452	46830
Annual Load Factor - %	62.00	61.00	61.00	61.00	61.00	61.00
Peak Electricity Demand - MW	**7456**	**7796**	**8023**	**8258**	**8506**	**8764**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	41.5	41.5	41.5	41.4	41.3	41.2
Commercial	14.6	14.5	14.5	14.4	14.4	14.3
Irrigation	6.1	6.0	5.9	5.8	5.8	5.7
Industries	29.6	29.6	29.7	29.7	29.7	29.8
Others	8.2	8.4	8.5	8.6	8.8	9.0
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.75

WEST BENGAL - DVC

19TH ELECTRIC POWER SURVEY PROJECTION

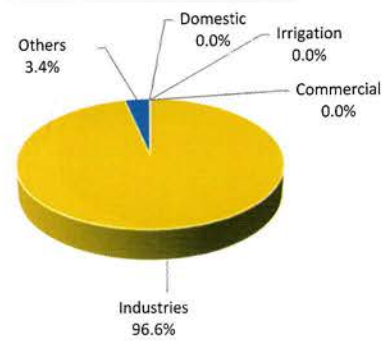
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

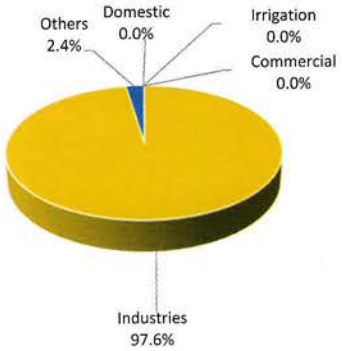
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	0	0	0	0	0	0	0
Commercial	0	0	0	0	0	0	0
Public lighting	0	0	0	0	0	0	0
Public Water Works	0	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0	0
Industries HT	6178	6985	7683	8452	9297	10227	11249
Railway traction	220	228	238	247	257	267	278
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**6398**	**7213**	**7921**	**8699**	**9554**	**10494**	**11527**
T&D losses -MU	201	262	287	316	326	358	393
T&D losses - %	3.04	3.50	3.50	3.50	3.30	3.30	3.30
Energy Requirement - MU	6598	7475	8208	9014	9880	10852	11921
Annual Load Factor - %	61.80	62.00	62.00	62.50	62.50	63.00	63.00
Peak Electricity Demand - MW	**1219**	**1376**	**1511**	**1646**	**1805**	**1966**	**2160**
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	96.6	96.8	97.0	97.2	97.3	97.5	97.6
Others	3.4	3.2	3.0	2.8	2.7	2.5	2.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.75 (Contd.)

WEST BENGAL - DVC

19TH ELECTRIC POWER SURVEY PROJECTION

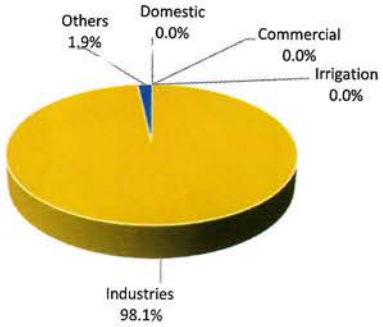
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	0	0	0	0	0	0
Commercial	0	0	0	0	0	0
Public lighting	0	0	0	0	0	0
Public Water Works	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0
Industries HT	11249	12374	13612	14973	16470	18117
Railway traction	278	289	301	313	328	345
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**11527**	**12663**	**13912**	**15285**	**16798**	**18462**
T&D losses -MU	393	419	460	473	520	571
T&D losses - %	3.30	3.20	3.20	3.00	3.00	3.00
Energy Requirement - MU	11921	13082	14372	15758	17318	19033
Annual Load Factor - %	63.00	63.50	63.50	64.00	64.00	65.00
Peak Electricity Demand - MW	**2160**	**2352**	**2584**	**2811**	**3089**	**3343**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.0	0.0	0.0	0.0	0.0	0.0
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	97.6	97.7	97.8	98.0	98.0	98.1
Others	2.4	2.3	2.2	2.0	2.0	1.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.76

WEST BENGAL

19TH ELECTRIC POWER SURVEY PROJECTION

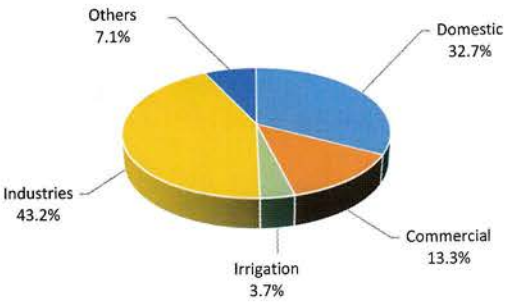
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

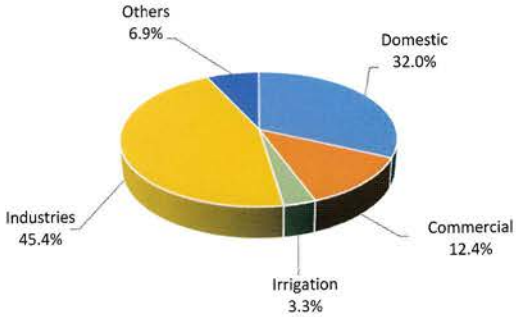
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	13509	15117	15569	16174	16797	17439	18100
Commercial	5497	5934	6096	6319	6548	6784	7027
Public lighting	480	525	546	573	600	629	659
Public Water Works	867	930	975	1034	1098	1167	1243
Irrigation	1524	1631	1665	1712	1760	1809	1860
Industries LT	2086	2182	2239	2306	2376	2449	2525
Industries HT	15744	16730	17747	18945	20281	21728	23207
Railway traction	1435	1492	1552	1614	1679	1746	1816
Bulk Supply	162	169	183	189	195	201	207
Total Energy Consumption	**41304**	**44710**	**46572**	**48866**	**51334**	**53952**	**56644**
T&D losses -MU	11276	12244	12175	12202	12211	12230	12247
T&D losses - %	21.45	21.50	20.72	19.98	19.22	18.48	17.78
Energy Requirement - MU	52580	56954	58747	61068	63546	66182	68891
Annual Load Factor - %	62.33	62.61	62.00	61.87	61.88	61.97	61.98
Peak Electricity Demand - MW	**9630**	**10383**	**10817**	**11267**	**11724**	**12191**	**12688**
Energy Requirement (Ex Bus) - MU	**52939**	**57342**	**59148**	**61485**	**63979**	**66634**	**69361**
T&D losses (Ex Bus) -%	21.98	22.03	21.26	20.52	19.76	19.03	18.33
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	32.7	33.8	33.4	33.1	32.7	32.3	32.0
Commercial	13.3	13.3	13.1	12.9	12.8	12.6	12.4
Irrigation	3.7	3.6	3.6	3.5	3.4	3.4	3.3
Industries	43.2	42.3	42.9	43.5	44.1	44.8	45.4
Others	7.1	7.0	7.0	7.0	7.0	6.9	6.9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.76 (Contd.)

WEST BENGAL

19TH ELECTRIC POWER SURVEY PROJECTION

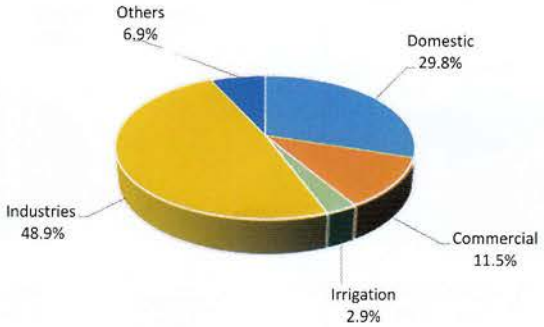
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	18100	18781	19483	20208	20953	21723
Commercial	7027	7277	7532	7795	8065	8342
Public lighting	659	690	722	756	791	828
Public Water Works	1243	1325	1413	1509	1614	1730
Irrigation	1860	1912	1965	2020	2077	2135
Industries LT	2525	2602	2683	2766	2852	2941
Industries HT	23207	24803	26533	28410	30447	32659
Railway traction	1816	1888	1964	2043	2145	2252
Bulk Supply	207	214	220	226	232	238
Total Energy Consumption	**56644**	**59493**	**62516**	**65733**	**69176**	**72848**
T&D losses -MU	12247	12240	12238	12198	12184	12162
T&D losses - %	17.78	17.06	16.37	15.65	14.97	14.31
Energy Requirement - MU	68891	71732	74755	77931	81360	85010
Annual Load Factor - %	61.98	61.48	61.51	61.63	61.65	61.89
Peak Electricity Demand - MW	**12688**	**13318**	**13873**	**14435**	**15065**	**15680**
Energy Requirement (Ex Bus) - MU	**69361**	**72222**	**75264**	**78463**	**81915**	**85590**
T&D losses (Ex Bus) -%	18.33	17.62	16.94	16.22	15.55	14.89
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	32.0	31.6	31.2	30.7	30.3	29.8
Commercial	12.4	12.2	12.0	11.9	11.7	11.5
Irrigation	3.3	3.2	3.1	3.1	3.0	2.9
Industries	45.4	46.1	46.7	47.4	48.1	48.9
Others	6.9	6.9	6.9	6.9	6.9	6.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.77

SIKKIM

19TH ELECTRIC POWER SURVEY PROJECTION

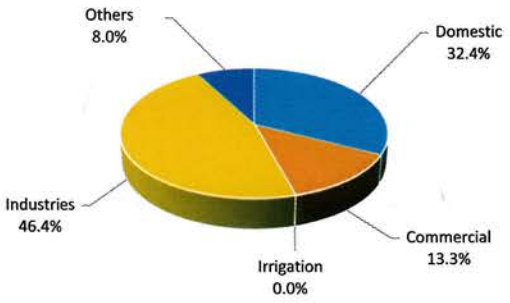
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

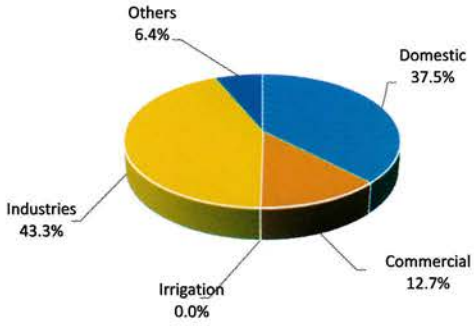
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	94	104	116	128	142	156	171
Commercial	38	41	44	47	50	54	58
Public lighting	0	0	0	0	0	0	0
Public Water Works	1	1	1	1	1	1	1
Irrigation	0	0	0	0	0	0	0
Industries LT	2	2	2	2	2	2	2
Industries HT	133	146	160	168	177	186	195
Railway traction	0	0	0	0	0	0	0
Bulk Supply	22	23	24	25	26	27	28
Total Energy Consumption	**289**	**317**	**347**	**372**	**398**	**426**	**455**
T&D losses -MU	152	158	164	166	168	170	171
T&D losses - %	34.50	33.30	32.10	30.90	29.70	28.50	27.30
Energy Requirement - MU	441	475	511	538	566	596	626
Annual Load Factor - %	42.00	42.00	42.00	42.00	42.00	42.00	42.00
Peak Electricity Demand - MW	**120**	**129**	**139**	**146**	**154**	**162**	**170**
Energy Requirement (Ex Bus) - MU	**450**	**484**	**520**	**548**	**577**	**607**	**638**
T&D losses (Ex Bus) -%	35.73	34.55	33.37	32.20	31.02	29.84	28.67
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	32.4	32.9	33.4	34.5	35.6	36.6	37.5
Commercial	13.3	13.0	12.7	12.7	12.7	12.7	12.7
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	46.4	46.6	46.8	45.8	44.9	44.1	43.3
Others	8.0	7.6	7.2	7.0	6.8	6.6	6.4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.77 (Contd.)

SIKKIM

19TH ELECTRIC POWER SURVEY PROJECTION

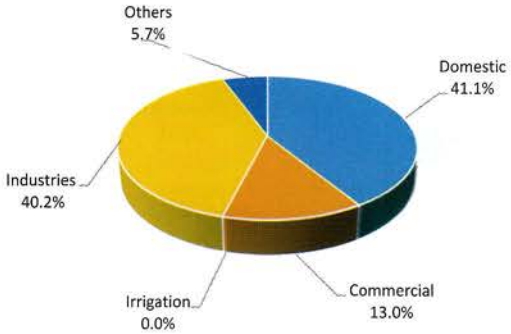
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	171	186	202	219	238	257
Commercial	58	62	66	71	76	82
Public lighting	0	0	1	1	1	1
Public Water Works	1	1	1	1	1	1
Irrigation	0	0	0	0	0	0
Industries LT	2	2	2	3	3	3
Industries HT	195	205	215	226	237	249
Railway traction	0	0	0	0	0	0
Bulk Supply	28	29	30	32	33	34
Total Energy Consumption	**455**	**485**	**518**	**552**	**588**	**626**
T&D losses -MU	171	171	172	171	171	169
T&D losses - %	27.30	26.10	24.90	23.70	22.50	21.30
Energy Requirement - MU	626	657	689	723	758	795
Annual Load Factor - %	42.00	42.00	42.00	42.00	42.00	42.00
Peak Electricity Demand - MW	**170**	**179**	**187**	**197**	**206**	**216**
Energy Requirement (Ex Bus) - MU	**638**	**669**	**702**	**737**	**773**	**810**
T&D losses (Ex Bus) -%	28.67	27.49	26.31	25.13	23.96	22.78
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	37.5	38.3	39.1	39.8	40.4	41.1
Commercial	12.7	12.8	12.8	12.9	12.9	13.0
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	43.3	42.7	42.0	41.4	40.8	40.2
Others	6.4	6.3	6.1	6.0	5.8	5.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

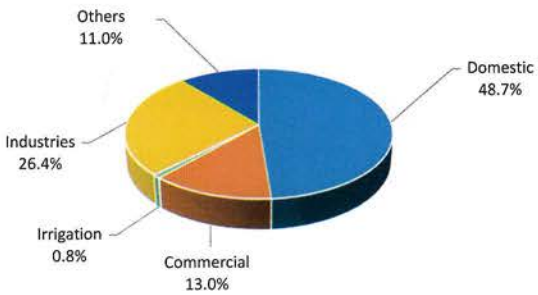
Table 5.78

ASSAM

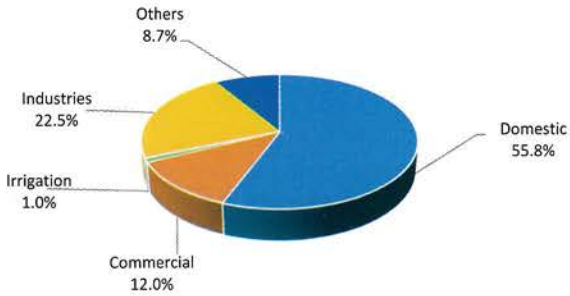
19TH ELECTRIC POWER SURVEY PROJECTION
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND
(CATEGORY WISE & YEAR WISE SUMMARY)
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	2960	3334	3805	4341	4923	5525	6142
Commercial	788	860	938	1022	1112	1210	1317
Public lighting	14	15	17	19	21	23	25
Public Water Works	78	85	93	101	111	121	131
Irrigation	51	61	72	83	92	101	111
Industries LT	87	95	105	116	128	141	155
Industries HT	1517	1636	1760	1890	2026	2168	2315
Railway traction	0	0	0	0	35	50	70
Bulk Supply	579	602	626	651	677	704	732
Total Energy Consumption	**6074**	**6689**	**7416**	**8223**	**9124**	**10042**	**10999**
T&D losses -MU	2026	2137	2267	2402	2545	2671	2786
T&D losses - %	25.01	24.21	23.41	22.61	21.81	21.01	20.21
Energy Requirement - MU	8100	8826	9683	10626	11669	12713	13785
Annual Load Factor - %	66.00	65.00	58.00	58.00	58.00	58.00	58.00
Peak Electricity Demand - MW	**1401**	**1550**	**1906**	**2091**	**2297**	**2502**	**2713**
Energy Requirement (Ex Bus) - MU	**8257**	**8997**	**9870**	**10831**	**11894**	**12959**	**14051**
T&D losses (Ex Bus) -%	26.43	25.65	24.86	24.08	23.29	22.51	21.72
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	48.7	49.8	51.3	52.8	54.0	55.0	55.8
Commercial	13.0	12.9	12.6	12.4	12.2	12.1	12.0
Irrigation	0.8	0.9	1.0	1.0	1.0	1.0	1.0
Industries	26.4	25.9	25.2	24.4	23.6	23.0	22.5
Others	11.0	10.5	9.9	9.4	9.2	8.9	8.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.78 (Contd.)

ASSAM

19TH ELECTRIC POWER SURVEY PROJECTION

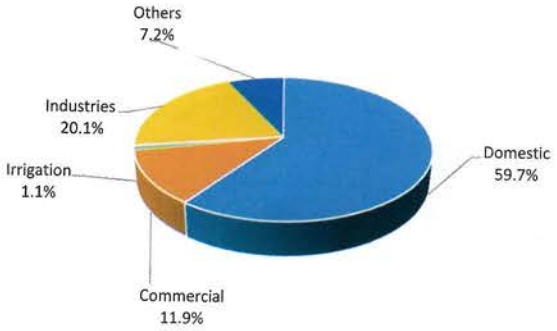
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	6142	6789	7498	8272	9118	10042
Commercial	1317	1433	1559	1696	1844	2005
Public lighting	25	28	30	33	36	39
Public Water Works	131	143	155	169	184	200
Irrigation	111	122	134	148	163	179
Industries LT	155	171	188	207	228	250
Industries HT	2315	2468	2626	2789	2956	3128
Railway traction	70	73	76	79	83	87
Bulk Supply	732	761	791	823	856	890
Total Energy Consumption	**10999**	**11988**	**13058**	**14216**	**15467**	**16819**
T&D losses -MU	2786	2887	2986	3080	3170	3254
T&D losses - %	20.21	19.41	18.61	17.81	17.01	16.21
Energy Requirement - MU	13785	14876	16044	17296	18638	20073
Annual Load Factor - %	58.00	57.00	56.00	55.00	55.00	55.00
Peak Electricity Demand - MW	**2713**	**2979**	**3271**	**3590**	**3868**	**4166**
Energy Requirement (Ex Bus) - MU	**14051**	**15164**	**16355**	**17631**	**18998**	**20462**
T&D losses (Ex Bus) -%	21.72	20.94	20.15	19.37	18.58	17.80
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	55.8	56.6	57.4	58.2	59.0	59.7
Commercial	12.0	12.0	11.9	11.9	11.9	11.9
Irrigation	1.0	1.0	1.0	1.0	1.1	1.1
Industries	22.5	22.0	21.6	21.1	20.6	20.1
Others	8.7	8.4	8.1	7.8	7.5	7.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.79

MANIPUR

19TH ELECTRIC POWER SURVEY PROJECTION

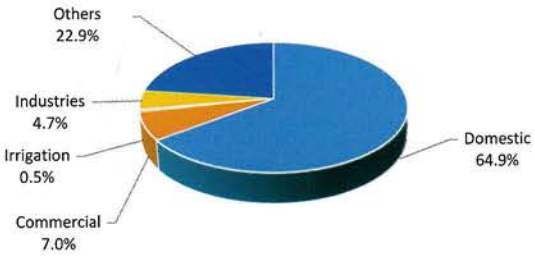
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

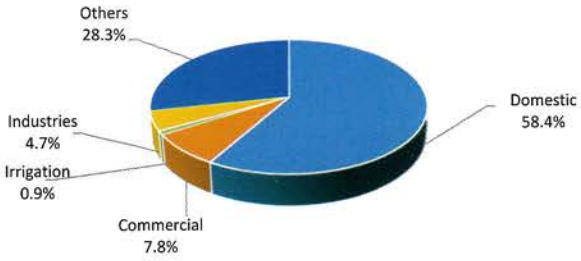
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	363	427	494	570	658	761	876
Commercial	39	49	59	72	85	99	117
Public lighting	5	5	5	6	6	7	8
Public Water Works	17	21	23	26	29	33	37
Irrigation	3	4	6	10	11	12	14
Industries LT	20	24	30	37	42	48	55
Industries HT	7	8	10	13	13	15	15
Railway traction	0	0	0	0	0	0	0
Bulk Supply	106	267	313	343	373	375	380
Total Energy Consumption	**559**	**807**	**941**	**1076**	**1218**	**1350**	**1502**
T&D losses -MU	295	401	441	475	505	525	547
T&D losses - %	34.52	33.22	31.92	30.62	29.32	28.02	26.72
Energy Requirement - MU	854	1208	1383	1551	1723	1875	2049
Annual Load Factor - %	59.81	59.50	59.00	58.50	58.00	57.50	57.00
Peak Electricity Demand - MW	**163**	**232**	**267**	**303**	**339**	**372**	**410**
Energy Requirement (Ex Bus) - MU	**877**	**1240**	**1419**	**1592**	**1769**	**1925**	**2103**
T&D losses (Ex Bus) -%	36.21	34.94	33.67	32.41	31.14	29.87	28.61
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	64.9	53.0	52.4	53.0	54.1	56.3	58.4
Commercial	7.0	6.1	6.3	6.7	6.9	7.4	7.8
Irrigation	0.5	0.6	0.7	0.9	0.9	0.9	0.9
Industries	4.7	4.0	4.3	4.6	4.6	4.7	4.7
Others	22.9	36.3	36.3	34.8	33.5	30.7	28.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

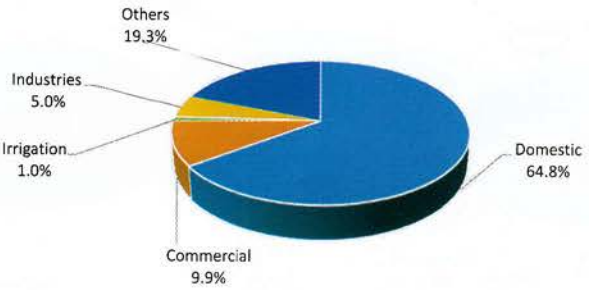
Table 5.79 (Contd.)

MANIPUR

19TH ELECTRIC POWER SURVEY PROJECTION
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND
(CATEGORY WISE & YEAR WISE SUMMARY)
(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Energy Consumption in MUs						
Domestic	876	1005	1148	1305	1476	1662
Commercial	117	137	160	187	219	255
Public lighting	8	8	9	10	10	11
Public Water Works	37	41	46	51	58	64
Irrigation	14	15	17	20	22	25
Industries LT	55	63	72	82	93	105
Industries HT	15	17	18	21	21	22
Railway traction	0	0	0	0	0	0
Bulk Supply	380	385	390	400	410	420
Total Energy Consumption	**1502**	**1671**	**1859**	**2076**	**2309**	**2565**
T&D losses -MU	547	570	591	614	633	650
T&D losses - %	26.72	25.42	24.12	22.82	21.52	20.22
Energy Requirement - MU	2049	2241	2450	2689	2942	3215
Annual Load Factor - %	57.00	56.50	56.00	55.50	55.00	55.00
Peak Electricity Demand - MW	**410**	**453**	**499**	**553**	**611**	**667**
Energy Requirement (Ex Bus) - MU	**2103**	**2300**	**2515**	**2760**	**3020**	**3300**
T&D losses (Ex Bus) -%	28.61	27.34	26.07	24.81	23.54	22.27
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	58.4	60.1	61.7	62.9	63.9	64.8
Commercial	7.8	8.2	8.6	9.0	9.5	9.9
Irrigation	0.9	0.9	0.9	1.0	1.0	1.0
Industries	4.7	4.8	4.8	4.9	4.9	5.0
Others	28.3	26.0	23.9	22.2	20.7	19.3
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.80

MEGHALAYA

19TH ELECTRIC POWER SURVEY PROJECTION

ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

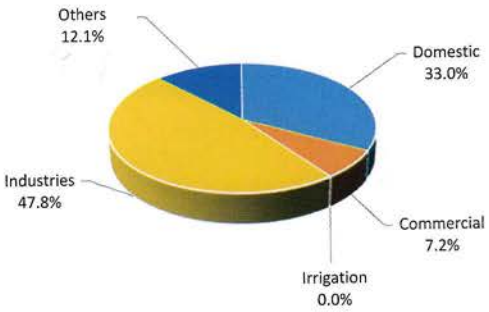
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	423	483	539	596	647	692	740
Commercial	92	99	107	116	125	134	145
Public lighting	1	1	1	1	1	2	2
Public Water Works	37	45	48	50	53	56	59
Irrigation	0	0	0	0	0	0	0
Industries LT	6	6	6	6	6	6	7
Industries HT	608	626	641	658	674	691	708
Railway traction	0	0	0	0	0	0	0
Bulk Supply	117	142	151	160	170	181	191
Total Energy Consumption	**1283**	**1402**	**1494**	**1587**	**1676**	**1762**	**1852**
T&D losses -MU	611	611	591	568	611	614	616
T&D losses - %	32.25	30.36	28.36	26.36	26.71	25.83	24.95
Energy Requirement - MU	1894	2014	2085	2156	2287	2375	2467
Annual Load Factor - %	57.66	57.66	57.66	57.66	57.66	57.66	57.66
Peak Electricity Demand - MW	**375**	**399**	**413**	**427**	**453**	**470**	**488**
Energy Requirement (Ex Bus) - MU	**1973**	**2094**	**2168**	**2242**	**2378**	**2470**	**2566**
T&D losses (Ex Bus) -%	34.96	33.04	31.12	29.20	29.53	28.68	27.84

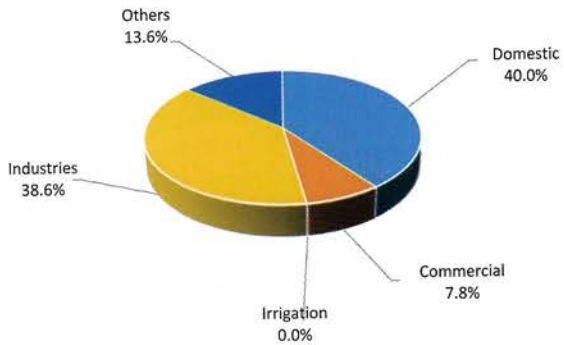
Pattern of Utilisation

Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	33.0	34.4	36.1	37.5	38.6	39.3	40.0
Commercial	7.2	7.1	7.2	7.3	7.4	7.6	7.8
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	47.8	45.0	43.3	41.8	40.6	39.6	38.6
Others	12.1	13.5	13.4	13.4	13.4	13.5	13.6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.80 (Contd.)

MEGHALAYA

19TH ELECTRIC POWER SURVEY PROJECTION

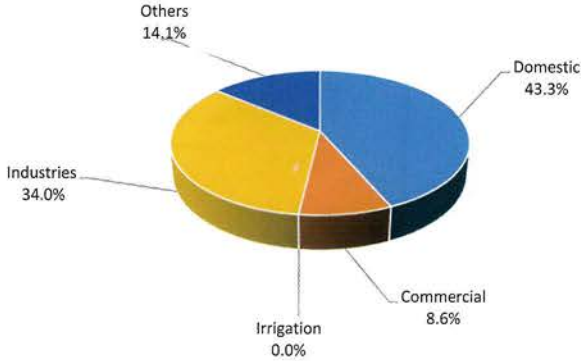
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	740	791	846	904	966	1031
Commercial	145	155	167	179	192	205
Public lighting	2	2	2	2	2	2
Public Water Works	59	63	66	70	73	77
Irrigation	0	0	0	0	0	0
Industries LT	7	7	7	7	8	8
Industries HT	708	726	745	763	782	802
Railway traction	0	0	0	0	0	0
Bulk Supply	191	203	214	228	242	257
Total Energy Consumption	**1852**	**1947**	**2047**	**2152**	**2265**	**2382**
T&D losses -MU	616	617	618	636	655	674
T&D losses - %	24.95	24.08	23.20	22.81	22.43	22.04
Energy Requirement - MU	2467	2564	2665	2788	2919	3055
Annual Load Factor - %	57.66	57.66	57.66	57.66	57.66	57.66
Peak Electricity Demand - MW	**488**	**508**	**528**	**552**	**578**	**605**
Energy Requirement (Ex Bus) - MU	**2566**	**2667**	**2771**	**2900**	**3036**	**3177**
T&D losses (Ex Bus) -%	27.84	27.00	26.15	25.78	25.41	25.04
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	40.0	40.6	41.3	42.0	42.6	43.3
Commercial	7.8	8.0	8.1	8.3	8.5	8.6
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	38.6	37.7	36.7	35.8	34.9	34.0
Others	13.6	13.7	13.8	13.9	14.0	14.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.81

NAGALAND

19TH ELECTRIC POWER SURVEY PROJECTION

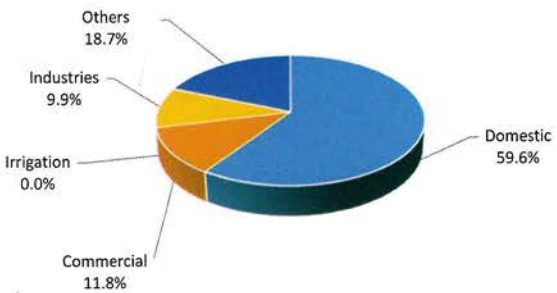
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

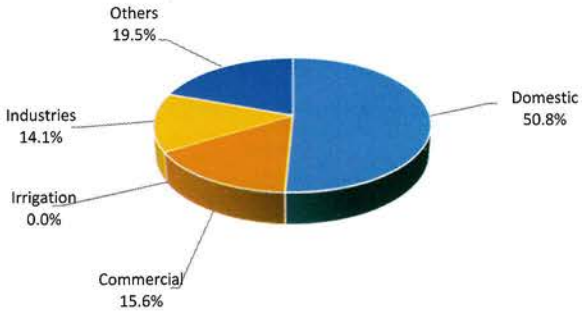
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	328	344	358	375	386	403	425
Commercial	65	74	85	97	110	122	131
Public lighting	10	11	11	11	12	12	13
Public Water Works	5	6	7	8	9	9	11
Irrigation	0	0	0	0	0	0	0
Industries LT	54	58	67	78	94	106	118
Industries HT	0	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0	0
Bulk Supply	87	95	101	110	117	130	140
Total Energy Consumption	**550**	**588**	**628**	**678**	**728**	**781**	**837**
T&D losses -MU	198	208	217	230	241	253	266
T&D losses - %	26.50	26.10	25.70	25.30	24.90	24.50	24.10
Energy Requirement - MU	748	796	846	908	969	1034	1103
Annual Load Factor - %	54.71	54.80	54.60	54.40	54.20	54.00	53.80
Peak Electricity Demand - MW	**156**	**166**	**177**	**191**	**204**	**219**	**234**
Energy Requirement (Ex Bus) - MU	**765**	**815**	**866**	**930**	**992**	**1059**	**1129**
T&D losses (Ex Bus) -%	28.21	27.82	27.43	27.04	26.65	26.26	25.87
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	59.6	58.5	56.9	55.2	53.1	51.5	50.8
Commercial	11.8	12.6	13.5	14.3	15.0	15.6	15.6
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	9.9	9.9	10.6	11.5	13.0	13.5	14.1
Others	18.7	19.0	19.0	19.0	18.9	19.4	19.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.81 (Contd.)

NAGALAND

19TH ELECTRIC POWER SURVEY PROJECTION

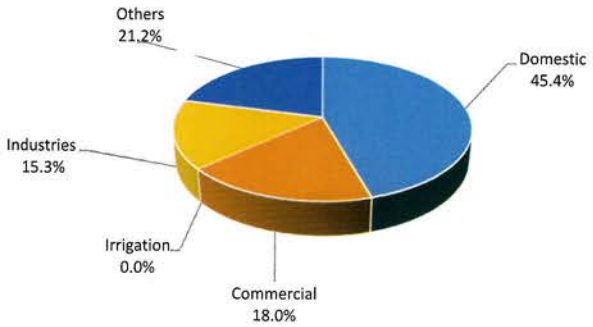
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	425	450	462	486	507	527
Commercial	131	147	156	172	190	208
Public lighting	13	13	14	14	15	15
Public Water Works	11	11	12	13	14	15
Irrigation	0	0	0	0	0	0
Industries LT	118	123	137	147	163	178
Industries HT	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0
Bulk Supply	140	150	173	189	203	216
Total Energy Consumption	**837**	**895**	**955**	**1021**	**1091**	**1159**
T&D losses -MU	266	278	290	303	317	329
T&D losses - %	24.10	23.70	23.30	22.90	22.50	22.10
Energy Requirement - MU	1103	1172	1245	1325	1407	1488
Annual Load Factor - %	53.80	53.60	53.40	53.20	53.00	52.80
Peak Electricity Demand - MW	**234**	**250**	**266**	**284**	**303**	**322**
Energy Requirement (Ex Bus) - MU	**1129**	**1200**	**1275**	**1356**	**1441**	**1524**
T&D losses (Ex Bus) -%	25.87	25.48	25.09	24.70	24.31	23.91
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	50.8	50.3	48.4	47.5	46.5	45.4
Commercial	15.6	16.4	16.4	16.9	17.4	18.0
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	14.1	13.8	14.3	14.4	14.9	15.3
Others	19.5	19.5	20.9	21.2	21.2	21.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.82

TRIPURA

19TH ELECTRIC POWER SURVEY PROJECTION

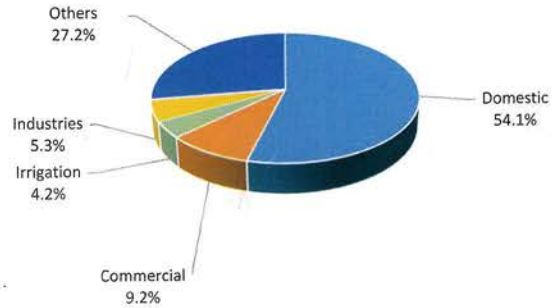
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

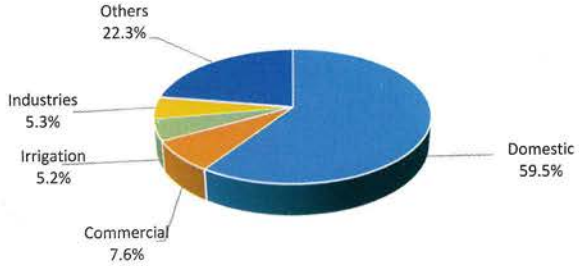
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	440	502	542	585	629	676	724
Commercial	75	78	80	83	86	89	92
Public lighting	40	39	40	42	44	45	47
Public Water Works	79	82	87	92	94	99	105
Irrigation	34	41	44	49	53	58	63
Industries LT	21	26	28	29	30	32	34
Industries HT	22	25	26	27	29	30	31
Railway traction	0	0	0	0	0	0	0
Bulk Supply	102	103	107	110	113	116	120
Total Energy Consumption	**813**	**895**	**954**	**1017**	**1078**	**1146**	**1216**
T&D losses -MU	343	358	362	364	365	365	365
T&D losses - %	29.67	28.57	27.47	26.37	25.27	24.17	23.07
Energy Requirement - MU	1156	1253	1316	1381	1443	1511	1581
Annual Load Factor - %	48.52	48.12	47.72	47.32	46.92	46.52	46.12
Peak Electricity Demand - MW	**272**	**297**	**315**	**333**	**351**	**371**	**391**
Energy Requirement (Ex Bus) - MU	**1167**	**1265**	**1328**	**1394**	**1456**	**1525**	**1595**
T&D losses (Ex Bus) -%	30.31	29.23	28.14	27.05	25.96	24.87	23.78
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	54.1	56.1	56.8	57.5	58.4	59.0	59.5
Commercial	9.2	8.7	8.4	8.2	8.0	7.8	7.6
Irrigation	4.2	4.5	4.7	4.8	4.9	5.1	5.2
Industries	5.3	5.7	5.6	5.5	5.5	5.4	5.3
Others	27.2	25.0	24.5	24.0	23.2	22.8	22.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.82 (Contd.)

TRIPURA

19TH ELECTRIC POWER SURVEY PROJECTION

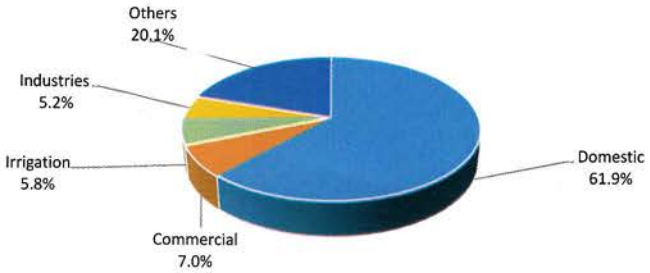
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	724	773	823	873	924	975
Commercial	92	96	99	102	106	110
Public lighting	47	49	50	52	53	55
Public Water Works	105	107	112	114	120	123
Irrigation	63	68	74	80	86	92
Industries LT	34	35	37	39	41	43
Industries HT	31	33	35	36	38	40
Railway traction	0	0	0	0	0	0
Bulk Supply	120	124	127	131	135	139
Total Energy Consumption	**1216**	**1284**	**1358**	**1428**	**1504**	**1576**
T&D losses -MU	365	362	358	352	345	336
T&D losses - %	23.07	21.97	20.87	19.77	18.67	17.57
Energy Requirement - MU	1581	1646	1716	1780	1849	1912
Annual Load Factor - %	46.12	45.72	45.32	44.92	44.52	44.12
Peak Electricity Demand - MW	**391**	**411**	**432**	**452**	**474**	**495**
Energy Requirement (Ex Bus) - MU	**1595**	**1661**	**1731**	**1796**	**1866**	**1930**
T&D losses (Ex Bus) -%	23.78	22.69	21.60	20.51	19.42	18.33
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	59.5	60.2	60.6	61.2	61.5	61.9
Commercial	7.6	7.4	7.3	7.2	7.0	7.0
Irrigation	5.2	5.3	5.4	5.6	5.7	5.8
Industries	5.3	5.3	5.3	5.3	5.2	5.2
Others	22.3	21.7	21.4	20.8	20.5	20.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.83

ARUNACHAL PRADESH

19TH ELECTRIC POWER SURVEY PROJECTION

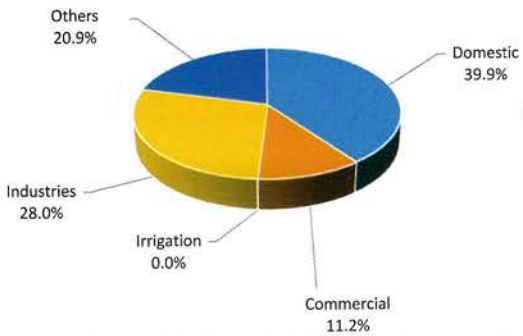
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

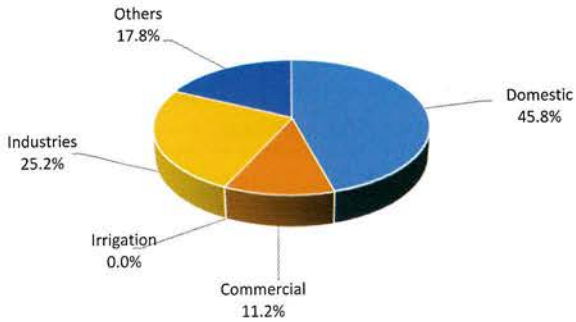
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	138	199	230	265	306	354	409
Commercial	39	47	55	64	74	86	100
Public lighting	12	16	19	23	28	33	40
Public Water Works	0	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0	0
Industries LT	97	112	128	148	170	195	224
Industries HT	0	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0	0
Bulk Supply	60	68	76	85	95	106	119
Total Energy Consumption	**346**	**441**	**508**	**585**	**673**	**775**	**892**
T&D losses -MU	358	422	448	476	505	535	567
T&D losses - %	50.86	48.86	46.86	44.86	42.86	40.86	38.86
Energy Requirement - MU	704	863	956	1061	1178	1310	1459
Annual Load Factor - %	59.52	60.00	60.00	60.00	60.00	60.00	60.00
Peak Electricity Demand - MW	**135**	**164**	**182**	**202**	**224**	**249**	**278**
Energy Requirement (Ex Bus) - MU	**723**	**886**	**982**	**1089**	**1210**	**1345**	**1498**
T&D losses (Ex Bus) -%	52.13	50.18	48.23	46.28	44.33	42.38	40.44
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	39.9	45.0	45.2	45.4	45.5	45.7	45.8
Commercial	11.2	10.6	10.8	10.9	11.1	11.2	11.2
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	28.0	25.3	25.3	25.2	25.2	25.2	25.2
Others	20.9	19.1	18.8	18.5	18.2	18.0	17.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.83 (Contd.)

ARUNACHAL PRADESH

19TH ELECTRIC POWER SURVEY PROJECTION

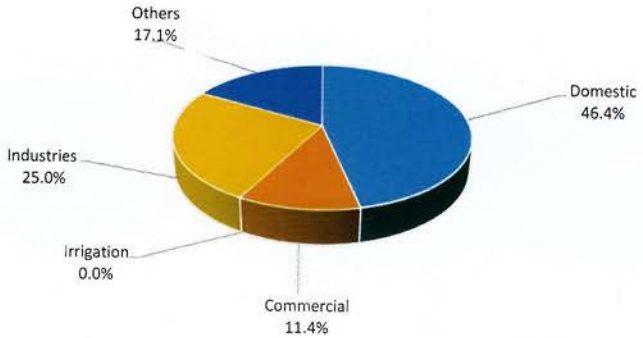
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	409	472	545	628	725	837
Commercial	100	116	134	155	179	206
Public lighting	40	48	58	69	83	100
Public Water Works	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Industries LT	224	258	297	341	393	451
Industries HT	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0
Bulk Supply	119	133	149	167	187	209
Total Energy Consumption	**892**	**1027**	**1182**	**1361**	**1567**	**1803**
T&D losses -MU	567	599	633	666	699	731
T&D losses - %	38.86	36.86	34.86	32.86	30.86	28.86
Energy Requirement - MU	1459	1626	1815	2027	2266	2534
Annual Load Factor - %	60.00	60.00	60.00	60.00	60.00	60.00
Peak Electricity Demand - MW	**278**	**309**	**345**	**386**	**431**	**482**
Energy Requirement (Ex Bus) - MU	**1498**	**1669**	**1863**	**2081**	**2326**	**2601**
T&D losses (Ex Bus) -%	40.44	38.49	36.54	34.59	32.64	30.69
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	45.8	45.9	46.1	46.2	46.3	46.4
Commercial	11.2	11.3	11.3	11.4	11.4	11.4
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	25.2	25.1	25.1	25.1	25.1	25.0
Others	17.8	17.6	17.5	17.4	17.2	17.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.84

MIZORAM

19TH ELECTRIC POWER SURVEY PROJECTION

ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

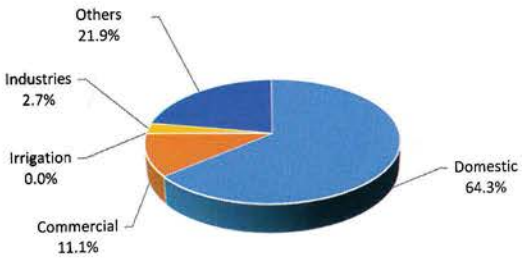
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Energy Consumption in MUs							
Domestic	218	257	288	323	361	404	451
Commercial	37	42	46	51	56	61	67
Public lighting	7	8	8	9	9	10	10
Public Water Works	49	55	60	65	71	78	85
Irrigation	0	0	0	0	0	0	0
Industries LT	2	2	2	3	3	3	4
Industries HT	7	8	9	10	10	11	12
Railway traction	0	0	0	0	0	0	0
Bulk Supply	18	20	21	23	25	27	29
Total Energy Consumption	**339**	**392**	**435**	**483**	**536**	**594**	**658**
T&D losses -MU	183	171	174	178	180	182	182
T&D losses - %	35.12	30.31	28.58	26.87	25.15	23.41	21.66
Energy Requirement - MU	522	563	610	661	716	776	840
Annual Load Factor - %	54.15	54.45	54.75	55.05	55.35	55.65	55.95
Peak Electricity Demand - MW	**110**	**118**	**127**	**137**	**148**	**159**	**171**
Energy Requirement (Ex Bus) - MU	**537**	**580**	**628**	**681**	**737**	**799**	**866**
T&D losses (Ex Bus) -%	37.01	32.34	30.66	29.00	27.33	25.64	23.95

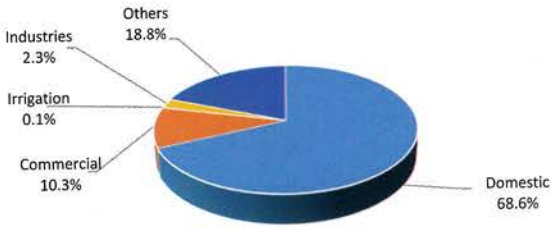
Pattern of Utilisation

Category	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Domestic	64.3	65.5	66.1	66.7	67.4	68.0	68.6
Commercial	11.1	10.7	10.6	10.5	10.4	10.3	10.3
Irrigation	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Industries	2.7	2.6	2.6	2.6	2.4	2.3	2.3
Others	21.9	21.1	20.6	20.1	19.7	19.2	18.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.84 (Contd.)

MIZORAM

19TH ELECTRIC POWER SURVEY PROJECTION

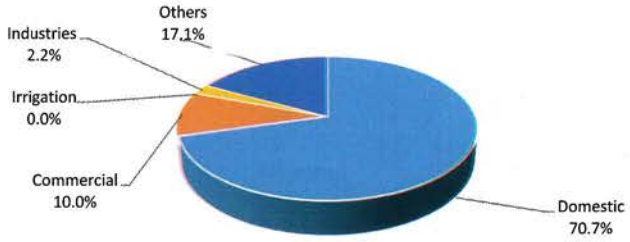
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	451	503	560	622	690	763
Commercial	67	74	81	89	98	107
Public lighting	10	10	11	11	12	12
Public Water Works	85	92	100	109	119	129
Irrigation	0	0	0	0	0	1
Industries LT	4	4	4	5	5	5
Industries HT	12	13	14	15	17	18
Railway traction	0	0	0	0	0	0
Bulk Supply	29	31	34	37	40	43
Total Energy Consumption	**658**	**729**	**805**	**889**	**980**	**1080**
T&D losses -MU	182	181	178	173	167	189
T&D losses - %	21.66	19.87	18.10	16.32	14.53	14.89
Energy Requirement - MU	840	909	983	1063	1147	1269
Annual Load Factor - %	55.95	56.25	56.55	56.85	57.15	57.45
Peak Electricity Demand - MW	**171**	**185**	**199**	**213**	**229**	**252**
Energy Requirement (Ex Bus) - MU	**866**	**937**	**1013**	**1095**	**1181**	**1307**
T&D losses (Ex Bus) -%	23.95	22.20	20.49	18.76	17.02	17.37
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	68.6	69.1	69.5	70.0	70.3	70.7
Commercial	10.3	10.2	10.1	10.0	10.0	10.0
Irrigation	0.1	0.1	0.1	0.1	0.0	0.0
Industries	2.3	2.3	2.3	2.2	2.2	2.2
Others	18.8	18.4	18.1	17.7	17.4	17.1
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.85

ANDAMAN & NICOBAR ISLANDS

19TH ELECTRIC POWER SURVEY PROJECTION

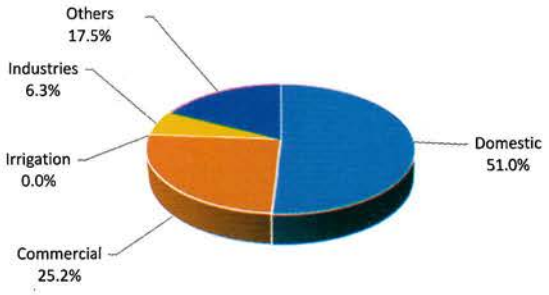
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

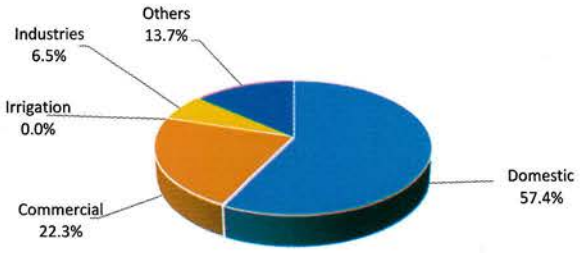
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	125	139	154	171	189	206	223
Commercial	62	66	69	74	78	82	87
Public lighting	10	10	11	12	12	14	14
Public Water Works	0	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0	0
Industries LT	15	17	18	20	22	23	25
Industries HT	0	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0	0
Bulk Supply	33	34	35	36	37	38	39
Total Energy Consumption	**245**	**266**	**288**	**312**	**337**	**363**	**388**
T&D losses -MU	59	63	68	72	77	82	87
T&D losses - %	19.39	19.20	19.00	18.80	18.60	18.50	18.40
Energy Requirement - MU	304	329	356	385	414	446	475
Annual Load Factor - %	56.00	56.00	56.00	56.00	56.00	56.00	56.00
Peak Electricity Demand - MW	**62**	**67**	**73**	**78**	**84**	**91**	**97**
Energy Requirement (Ex Bus) - MU	**304**	**329**	**356**	**385**	**414**	**446**	**475**
T&D losses (Ex Bus) -%	19.39	19.20	19.00	18.80	18.60	18.50	18.40
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	51.0	52.3	53.6	54.8	56.0	56.7	57.4
Commercial	25.2	24.7	24.1	23.5	23.1	22.6	22.3
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	6.3	6.3	6.4	6.4	6.4	6.5	6.5
Others	17.5	16.7	15.9	15.2	14.5	14.2	13.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.85 (Contd.)

ANDAMAN & NICOBAR ISLANDS

19TH ELECTRIC POWER SURVEY PROJECTION

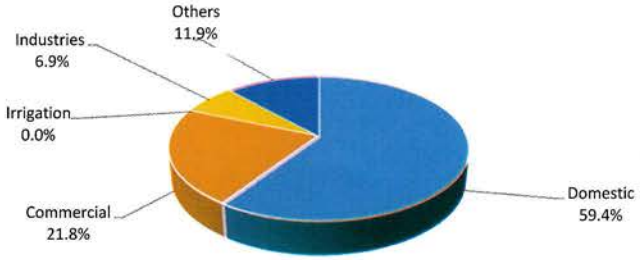
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	223	239	256	273	290	308
Commercial	87	91	96	102	107	113
Public lighting	14	15	15	16	17	18
Public Water Works	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Industries LT	25	27	29	31	33	36
Industries HT	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0
Bulk Supply	39	40	41	42	43	44
Total Energy Consumption	**388**	**412**	**437**	**464**	**490**	**518**
T&D losses -MU	87	92	97	102	108	114
T&D losses - %	18.40	18.30	18.20	18.10	18.00	18.00
Energy Requirement - MU	475	504	535	566	598	632
Annual Load Factor - %	56.00	56.00	56.00	56.00	56.00	56.00
Peak Electricity Demand - MW	**97**	**103**	**109**	**115**	**122**	**129**
Energy Requirement (Ex Bus) - MU	**475**	**504**	**535**	**566**	**598**	**632**
T&D losses (Ex Bus) -%	18.40	18.30	18.20	18.10	18.00	18.00
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	57.4	58.0	58.4	58.8	59.2	59.4
Commercial	22.3	22.2	22.0	21.9	21.9	21.8
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	6.5	6.6	6.7	6.7	6.8	6.9
Others	13.7	13.3	12.9	12.5	12.2	11.9
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.86

LAKSHADWEEP

19TH ELECTRIC POWER SURVEY PROJECTION

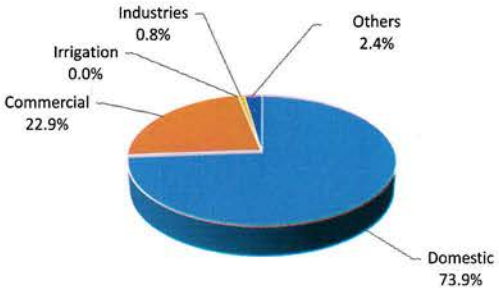
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

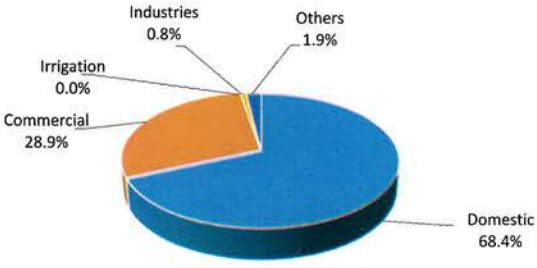
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	34	35	36	37	37	38	39
Commercial	11	11	12	13	14	15	16
Public lighting	1	1	1	1	1	1	1
Public Water Works	0	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0	0
Industries HT	0	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0	0
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**46**	**48**	**50**	**51**	**53**	**55**	**57**
T&D losses -MU	4	4	4	4	4	4	5
T&D losses - %	7.41	7.39	7.40	7.39	7.40	7.40	7.40
Energy Requirement - MU	50	52	54	55	57	59	62
Annual Load Factor - %	62.03	62.01	61.99	62.01	62.02	61.98	61.97
Peak Electricity Demand - MW	**9**	**10**	**10**	**10**	**11**	**11**	**11**
Energy Requirement (Ex Bus) - MU	**50**	**52**	**54**	**55**	**57**	**59**	**62**
T&D losses (Ex Bus) -%	7.41	7.39	7.40	7.39	7.40	7.40	7.40
Pattern of Utilisation							
Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	73.9	73.0	72.1	71.2	70.3	69.4	68.4
Commercial	22.9	23.9	24.8	25.8	26.8	27.9	28.9
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Others	2.4	2.3	2.2	2.1	2.1	2.0	1.9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.86 (Contd.)

LAKSHADWEEP

19TH ELECTRIC POWER SURVEY PROJECTION

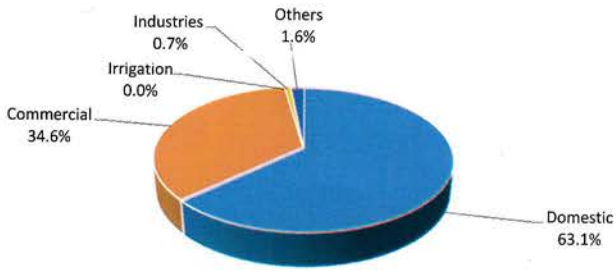
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	39	40	40	41	42	42
Commercial	16	18	19	20	22	23
Public lighting	1	1	1	1	1	1
Public Water Works	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0
Industries HT	0	0	0	0	0	0
Railway traction	0	0	0	0	0	0
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**57**	**59**	**61**	**63**	**65**	**67**
T&D losses -MU	5	5	5	5	5	5
T&D losses - %	7.40	7.40	7.40	7.40	7.40	7.40
Energy Requirement - MU	62	64	66	68	70	73
Annual Load Factor - %	62.00	62.00	62.00	62.00	62.00	62.00
Peak Electricity Demand - MW	**11**	**12**	**12**	**13**	**13**	**13**
Energy Requirement (Ex Bus) - MU	**62**	**64**	**66**	**68**	**70**	**73**
T&D losses (Ex Bus) -%	7.40	7.40	7.40	7.40	7.40	7.40
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	68.4	67.4	66.3	65.3	64.2	63.1
Commercial	28.9	30.0	31.1	32.2	33.4	34.6
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	0.8	0.8	0.8	0.7	0.7	0.7
Others	1.9	1.9	1.8	1.7	1.7	1.6
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.87

DVC

19TH ELECTRIC POWER SURVEY PROJECTION

ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

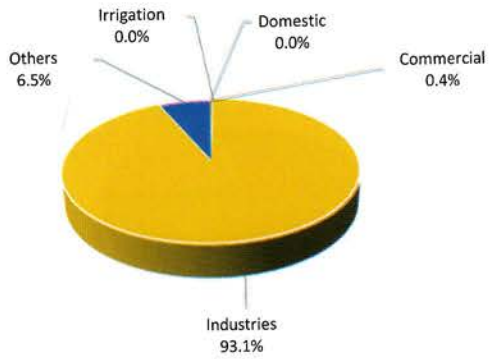
(2015-16 to 2021-22) (Utilities Only)

Consumption Categories	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Energy Consumption in MUs							
Domestic	0	0	0	0	0	0	0
Commercial	46	58	59	60	62	63	65
Public lighting	0	0	0	0	0	0	0
Public Water Works	0	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0	0
Industries HT	11146	12466	13424	14465	15596	16825	18161
Railway traction	774	805	836	869	903	938	975
Bulk Supply	0	0	0	0	0	0	0
Total Energy Consumption	**11967**	**13328**	**14320**	**15395**	**16561**	**17826**	**19201**
T&D losses -MU	375	483	519	558	565	608	655
T&D losses - %	3.04	3.50	3.50	3.50	3.30	3.30	3.30
Energy Requirement - MU	12342	13812	14839	15953	17126	18435	19856
Annual Load Factor - %	59.35	61.07	61.55	62.50	62.50	63.00	63.00
Peak Electricity Demand - MW	**2374**	**2582**	**2752**	**2914**	**3128**	**3340**	**3598**

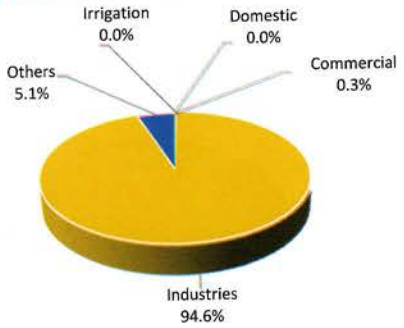
Pattern of Utilisation

Category	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Domestic	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.4	0.4	0.4	0.4	0.4	0.4	0.3
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industries	93.1	93.5	93.7	94.0	94.2	94.4	94.6
Others	6.5	6.0	5.8	5.6	5.5	5.3	5.1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2015-16



PATTERN OF UTILISATION FOR 2021-22



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

Table 5.87 (Contd.)

DVC

19TH ELECTRIC POWER SURVEY PROJECTION

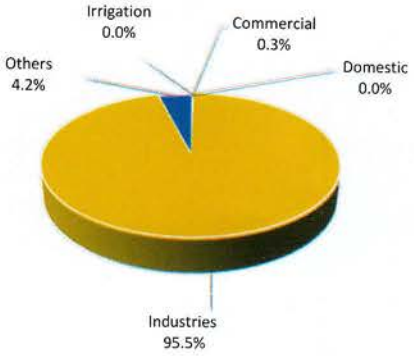
ELECTRICAL ENERGY CONSUMPTION, ENERGY REQUIREMENT AND PEAK ELECTRICITY DEMAND

(CATEGORY WISE & YEAR WISE SUMMARY)

(2021-22 to 2026-27) (Utilities Only)

Consumption Categories	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Energy Consumption in MUs						
Domestic	0	0	0	0	0	0
Commercial	65	66	68	69	71	72
Public lighting	0	0	0	0	0	0
Public Water Works	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Industries LT	0	0	0	0	0	0
Industries HT	18161	19632	21232	22974	24872	26939
Railway traction	975	1014	1054	1096	1143	1192
Bulk Supply	0	0	0	0	0	0
Total Energy Consumption	**19201**	**20712**	**22354**	**24140**	**26086**	**28204**
T&D losses -MU	655	685	739	747	807	872
T&D losses - %	3.30	3.20	3.20	3.00	3.00	3.00
Energy Requirement - MU	19856	21396	23093	24886	26893	29076
Annual Load Factor - %	63.00	63.50	63.50	64.00	64.00	65.00
Peak Electricity Demand - MW	**3598**	**3846**	**4151**	**4439**	**4797**	**5106**
Pattern of Utilisation						
Category	**2021-22**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**
Domestic	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.3	0.3	0.3	0.3	0.3	0.3
Irrigation	0.0	0.0	0.0	0.0	0.0	0.0
Industries	94.6	94.8	95.0	95.2	95.3	95.5
Others	5.1	4.9	4.7	4.5	4.4	4.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

PATTERN OF UTILISATION FOR 2026-27



Note: Bulk supply includes supply to Distribution Licensees which have been considered as point load by the main distribution licensee, Government/Defence establishments, airports, open access consumers, temporary connection etc.

CHAPTER – 6

Perspective electricity demand projection for the years 2031-32 and 2036-37

Chapter-6

Perspective Electricity Demand Projection for the years 2031-32 and 2036-37

6.0 Introduction

This chapter covers the long term projection of electrical energy consumption, electrical energy requirement, peak electricity demand, T&D losses and load factor for the years 2031-32 and 2036-37. Projection has been done for States/UTs, Regions and all-India.

6.1 Projection of electricity demand for the years 2031-32 and 2036-37 on all-India basis

The electricity consumption on all-India basis during the year 2031-32 and 2036-37 has been assessed as 2192 BU and 2672 BU respectively. The electrical energy requirement on all-India basis during the year 2031-32 and 2036-37 has been projected as 2531 BU and 3049 BU respectively. The peak electricity demand on all-India basis has been assessed as 370 GW and 448 GW during the year 2031-32 and 2036-37 respectively. Electrical energy consumption, T&D loss, electrical energy requirement, peak electricity demand and load factor on all-India basis for the years 2031-32 and 2036-37 is summarized in Table 6.1. Projections for the year 2026-27 is also given in the table. CAGR of electrical energy consumption, electrical energy requirement and peak electricity demand is summarized in Table 6.2.

Table 6.1

Electricity energy consumption, T&D losses, peak electricity demand and load factor for the years 2031-32 & 2036-37 on all-India basis (utilities)

	2026-27	2031-32	2036-37
Electrical energy consumption (MU)	1743,036	2192,305	2672,302
T&D losses (%)	14.87	13.37	12.37
Electrical energy Requirement (MU)	2047,434	2530,531	3049,478
Peak Electricity Demand (MW)	298,774	370,462	447,702
Derived Load factor (%)	78.23	77.98	77.76

Table 6.2

CAGR of electrical energy consumption, electrical energy requirement and peak electricity demand on all-India basis

	CAGR (%)	
	2026-27 to 2031-32	2031-32 to 2036-37
Electrical energy consumption	4.69	4.04
Electrical energy requirement	4.33	3.80
Peak electricity demand	4.40	3.86

6.2 Region-wise projection of electricity demand for the years 2031-32 and 2036-37

Region-wise electricity demand projection for the years 2031-32 and 2036-37 is summarized in Table 6.3. Projections for the year 2026-27 is also given in the table.

Table 6.3

Summary of region-wise electrical energy requirement and peak electricity demand for the years 2031-32 & 2036-37

Region	Electrical Energy Requirement (MU)			Peak Electricity Demand (MW)		
	2026-27	2031-32	2036-37	2026-27	2031-32	2036-37
Northern	616345	758701	917617	97182	118844	144161
Western	627624	782039	932817	94825	119277	142355
Southern	550992	680149	824657	83652	104900	128655
Eastern	217468	263665	317567	35674	42968	51420
North -Eastern	34301	45114	55787	6710	8373	10007
A&N Islands	632	777	932	129	153	177
Lakshadweep	73	86	101	13	16	18
All-India	**2047,434**	**2530,531**	**3049,478**	**298,774**	**370,462**	**447,702**

6.3 State/UT-wise projection of electricity demand for the years 2031-32 and 2036-37

State/UT-wise projection of electrical energy consumption, T&D losses, electrical energy requirement, load factor and peak electricity demand for the years 2031-32 and 2036-37 is summarized in Tables 6.4 - 6.8. Projections for the year 2026-27 is also given in the table.

Table 6.4

State-wise/UT-wise electrical energy consumption (Utilities)

(MU)

State/UTs	2026-27	2031-32	2036-37
Delhi	38467	45576	53999
Haryana	71391	90250	108752
Himachal Pradesh	12621	15549	19155
Jammu & Kashmir	19604	26809	33345
Punjab	79889	101864	123814
Rajasthan	106051	138933	173550
Uttar Pradesh	158529	197178	245250
Uttarakhand	22062	27717	33191
Chandigarh	2328	2861	3516
Northern Region	510941	646737	794572
Goa	5951	7095	8460
Gujarat	159167	203142	247153
Chhattisgarh	42942	54832	66744
Madhya Pradesh	106068	133832	160957
Maharashtra	214415	268353	320107
D. & N. Haveli	11374	14365	17293
Daman & Diu	3120	3864	4785
Western Region	543036	685483	825499
Andhra Pradesh	101101	131635	163414
Telangana	89714	111693	139057
Karnataka	95441	119392	142350
Kerala	33718	40552	48771
Tamil Nadu	154071	187722	228722
Puducherry	3887	4718	5726
Southern Region	477932	595712	728039
Bihar	45292	58330	71618
Jharkhand	34276	41903	51226
Odisha	30116	35785	42522
West Bengal	72848	89315	109504
Sikkim	626	783	933
Eastern Region	183157	226116	275804
Assam	16819	22904	28365
Manipur	2565	3734	4949
Meghalaya	2382	2921	3584
Nagaland	1159	1461	1754
Tripura	1576	1949	2409
Arunachal Pradesh	1803	3122	4611
Mizoram	1080	1507	1914
North- Eastern Region	27384	37598	47587
Andaman & Nicobar Islands	518	660	802
Lakshadweep	67	79	93
All- India (Electrical Energy Consumption)	1743,036	2192,305	2672,302

Table 6.5

State/UT-wise T&D losses (%)

State/UTs	2026-27	2031-32	2036-37
Delhi	13.10	12.10	11.60
Haryana	16.74	14.74	13.74
Himachal Pradesh	13.41	12.41	11.91
Jammu & Kashmir	22.37	17.37	14.37
Punjab	16.48	14.48	13.48
Rajasthan	16.03	14.03	13.03
Uttar Pradesh	18.84	15.84	13.84
Uttarakhand	16.68	14.68	13.68
Chandigarh	15.54	13.54	12.54
Northern Region	17.10	14.76	13.41
Goa	14.15	13.15	12.15
Gujarat	10.93	10.43	9.93
Chhattisgarh	15.94	13.94	12.94
Madhya Pradesh	15.41	13.41	12.41
Maharashtra	14.11	13.11	12.11
D. & N. Haveli	8.08	8.08	8.08
Daman & Diu	11.29	10.79	10.29
Western Region	13.48	12.35	11.50
Andhra Pradesh	9.31	9.31	9.31
Telangana	14.02	13.02	12.02
Karnataka	13.52	12.52	12.02
Kerala	14.33	13.33	12.33
Tamil Nadu	14.87	13.87	12.87
Puducherry	12.62	12.12	11.62
Southern Region	13.26	12.41	11.72
Bihar	16.69	14.69	13.69
Jharkhand	12.68	12.18	11.68
Odisha	19.59	16.59	14.59
West Bengal	14.89	13.89	12.89
Sikkim	22.78	17.78	14.78
Eastern Region	15.78	14.24	13.15
Assam	17.80	14.80	13.80
Manipur	22.27	17.27	14.27
Meghalaya	25.04	20.04	15.04
Nagaland	23.91	18.91	15.91
Tripura	18.33	15.33	13.33
Arunachal Pradesh	30.69	25.69	20.69
Mizoram	17.37	14.37	13.37
North Eastern Region	20.16	16.66	14.70
Andaman & Nicobar Islands	18.00	15.00	14.00
Lakshadweep	7.41	7.41	7.41
All - India (T&D losses)	14.87	13.37	12.37

Table 6.6

State-wise/UT-wise Electrical Energy Requirement at power station bus bars (Utilities)

(MU)

State/UTs	2026-27	2031-32	2036-37
Delhi	44,267	51,850	61,085
Haryana	85,743	105,853	126,074
Himachal Pradesh	14,576	17,752	21,745
Jammu & Kashmir	25,254	32,445	38,941
Punjab	95,658	119,111	143,104
Rajasthan	126,290	161,606	199,552
Uttar Pradesh	195,323	234,290	284,645
Uttarakhand	26,480	32,487	38,451
Chandigarh	2,756	3,309	4,020
Northern Region	616,345	758,701	917,617
Goa	6932	8170	9630
Gujarat	178693	226797	274401
Chhattisgarh	51088	63714	76664
Madhya Pradesh	125394	154559	183762
Maharashtra	249628	308842	364213
D. & N. Haveli	12373	15627	18813
Daman & Diu	3517	4331	5334
Western Region	627624	782039	932817
Andhra Pradesh	111485	145148	180190
Telangana	104345	128412	158055
Karnataka	110368	136480	161798
Kerala	39357	46788	55630
Tamil Nadu	180989	217952	262507
Puducherry	4448	5368	6479
Southern Region	550992	680149	824657
Bihar	54363	68374	82978
Jharkhand	39252	47714	58001
Odisha	37453	42903	49786
West Bengal	85590	103722	125708
Sikkim	810	952	1095
Eastern Region	217468	263665	317567
Assam	20462	26882	32906
Manipur	3300	4513	5773
Meghalaya	3177	3654	4218
Nagaland	1524	1802	2086
Tripura	1930	2301	2779
Arunachal Pradesh	2601	4202	5814
Mizoram	1307	1760	2210
North- Eastern Region	34301	45114	55787
Andaman & Nicobar Islands	632	777	932
Lakshadweep	73	86	101
All- India (Electrical Energy Requirement)	2047,434	2530,531	3049,478

Table 6.7

State/UT-wise Load Factor (%)

State/UTs	2026-27	2031-32	2036-37
Delhi	56.38	58.38	60.38
Haryana	58.28	60.28	61.28
Himachal Pradesh	70.00	70.00	70.00
Jammu & Kashmir	63.00	64.00	65.00
Punjab	57.11	59.11	61.11
Rajasthan	69.42	69.42	67.00
Uttar Pradesh	70.78	68.78	67.00
Uttarakhand	65.40	65.40	65.40
Chandigarh	52.00	54.00	56.00
Northern Region	72.40	72.88	72.66
Goa	70.53	68.53	68.53
Gujarat	71.30	69.30	69.30
Chhattisgarh	67.45	67.45	67.45
Madhya Pradesh	70.00	70.00	70.00
Maharashtra	69.24	69.24	69.24
D. & N. Haveli	75.76	71.76	69.76
Daman & Diu	70.00	70.00	70.00
Western Region	75.56	74.85	74.80
Andhra Pradesh	75.35	71.35	69.35
Telangana	62.87	63.87	64.87
Karnataka	67.80	67.80	67.80
Kerala	67.00	67.00	67.00
Tamil Nadu	74.66	72.66	70.66
Puducherry	70.00	70.00	70.00
Southern Region	75.19	74.02	73.17
Bihar	65.35	65.35	65.35
Jharkhand	66.79	66.79	66.79
Odisha	67.72	67.72	67.72
West Bengal	61.89	62.89	63.89
Sikkim	42.00	44.00	46.00
Eastern Region	69.59	70.05	70.50
Assam	55.00	57.00	59.00
Manipur	55.00	57.00	59.00
Meghalaya	57.66	59.66	61.66
Nagaland	52.80	54.80	56.80
Tripura	44.12	46.12	48.12
Arunachal Pradesh	60.00	62.00	63.00
Mizoram	57.45	59.45	61.45
North Eastern Region	58.35	61.50	63.64
Andaman & Nicobar Islands	56.00	58.00	60.00
Lakshadweep	62.00	63.00	64.00
All - India (Load Factor)	78.23	77.98	77.76

Table 6.8

State/UT-wise Peak Electricity Demand at power station bus bars (Utilities)

(MW)

State/UTs	2026-27	2031-32	2036-37
Delhi	8751	10139	11549
Haryana	16451	20046	23486
Himachal Pradesh	2331	2895	3546
Jammu & Kashmir	4482	5787	6839
Punjab	18809	23003	26732
Rajasthan	20131	26575	34000
Uttar Pradesh	31064	38885	48498
Uttarakhand	4538	5670	6712
Chandigarh	587	699	819
Northern Region	97182	118844	144161
Goa	1096	1361	1604
Gujarat	28387	37359	45201
Chhattisgarh	8518	10783	12975
Madhya Pradesh	19682	25205	29968
Maharashtra	39828	50918	60047
D. & N. Haveli	1798	2486	3079
Daman & Diu	553	706	870
Western Region	94825	119277	142355
Andhra Pradesh	16820	23223	29661
Telangana	18653	22951	27814
Karnataka	18481	22979	27242
Kerala	6603	7972	9478
Tamil Nadu	27392	34242	42409
Puducherry	708	875	1057
Southern Region	83652	104900	128655
Bihar	9308	11944	14495
Jharkhand	6626	8155	9913
Odisha	6273	7232	8392
West Bengal	15680	18827	22461
Sikkim	216	247	272
Eastern Region	35674	42968	51420
Assam	4166	5384	6367
Manipur	667	904	1117
Meghalaya	605	699	781
Nagaland	322	375	419
Tripura	495	570	659
Arunachal Pradesh	482	774	1054
Mizoram	252	338	411
North Eastern Region	6710	8373	10007
Andaman & Nicobar Islands	129	153	177
Lakshadweep	13	16	18
All - India (Peak Electricity Demand)	298,774	370,462	447,702

CHAPTER – 7

Electricity Generation from Captive Power Plants

Chapter-7

Electricity Generation from Captive Power Plants

7.0 Introduction

Large number of captive power plants including co-generation power plants of varied type and sizes exist in the country which are either utilized in process industry or for in-house consumption. Some captive plants are also installed as standby units for operation only during emergencies when the grid supply is not available. Captive power plants including co-generation power plants, therefore play a supplementary role in meeting the country's electricity demand. This Chapter covers the electrical energy generated by Captive Power Plants in the past, projections of electrical energy generation in future and a scenario analysis considering the additional electrical energy requirement from utility grid if the industries transfer part of their electricity demand from captive power plants to the utility grid.

7.1 Enabling framework for Captive Power Plants

Provisions of Electricity Act, National Electricity Policy and MoP notification for Captive Power Plants

7.1.1 After the enactment of Electricity Act 2003, there has been a renewed interest in captive power plants. Surplus power, if any, from the captive power plants may be fed into the grid as open access has been allowed. Electricity Act 2003 has laid special emphasis on captive power generation and its provisions are as follows:

Section-2, Clause-8

"Captive Generating plant means a power plant set up by any person to generate electricity primarily for his own use, and includes a power plant set up by any cooperative society or association of persons for generating electricity primarily for use of members of such co-operative society or association".

Section-2, Clause-12

"Cogeneration means a process which simultaneously produces two or more forms of useful energy (including electricity)".

Captive Generation – Section 9, (1) & (2)

Section 9 (1)-Notwithstanding anything contained in this Act, a person may construct, maintain or operate a captive generating plant and dedicated transmission lines:

Provided that the supply of electricity from the captive generating plant through the grid

shall be regulated in the same manner as the generating station of a generating company.

Section 9(2) - Every person, who has constructed a captive generating plant and maintains and operates such plant, shall have the right to open access for the purposes of carrying electricity from his captive generating plant to the destination of his use:

Provided that such open access shall be subject to availability of adequate transmission facility and such availability of transmission facility shall be determined by the Central Transmission Utility or the State Transmission Utility, as the case may be:

Provided further that any dispute regarding the availability of transmission facility shall be adjudicated upon by the Appropriate Commission.

Section 38(2)(d): In case of Central Transmission System, surcharge shall not be leviable in case of open access is provided to Captive Generating plant for carrying electricity to destination of his use.

Section 39(2)(d): In case of State Transmission System, surcharge shall not be leviable in case of open access is provided to Captive Generation plant for carrying electricity to destination of his use.

Section 42(2): For use of Distribution System, surcharge shall not be leviable in case open access is provided to a CPP for carrying electricity to destination of his use.

7.1.2 Further as per MoP notification dated 08.06.2005, the requirements of Captive Generating Plant are as under: -

No power plant shall qualify as a 'captive generating plant' under Section 9 read with clause (8) of Section 2 of the Act unless –

7.1.2.1 In case of power plant -

- *not less than twenty-six percent of the ownership is held by the captive user(s), and*
- *not less than fifty one percent of the aggregate electricity generated in such plant, determined on an annual basis, is consumed for the captive use:*

Provided that in case of power plant set up by registered cooperative society, the conditions mentioned above in para 7.1.2.1 shall be satisfied collectively by the members of the co-operative society;

Provided further that in case of association of persons, the captive user(s) shall hold not less than twenty-six percent of the ownership of the plant in aggregate and such captive user(s) shall consume not less than fifty-one percent of the electricity generated, determined on annual basis, in proportion to their shares in ownership of

the power plant within a variation not exceeding ten percent;

7.1.2.2 In case of a generating station owned by a company formed as special purpose vehicle for such generating station, a unit or units of such generating station identified for captive use and not the entire generating station satisfy(s) the conditions stipulated in paragraphs 7.1.2.1above including the following:

- The electricity required to be consumed by captive users shall be determined with reference to such generating unit or units in aggregate identified for captive use and not with reference to generating station as a whole; and
- The equity shares to be held by the captive user(s) in the generating station shall not be less than twenty-six per cent of the proportion of the equity of the company related to the generating unit or units identified as the captive generating plant.

7.1.3 The National Electricity Policy 2006 mentions that a liberal provision with respect to setting up captive power plant has been made in the Electricity Act 2003, to not only secure reliable, quality and cost effective power but also to facilitate creation of employment opportunities through speedy and efficient growth of industry.

The provision relating to captive power plants to be set up by a group of consumers is primarily aimed at enabling small and medium industries or other consumers that may not individually be in a position to set up plant of optimal size in a cost effective manner.

The Policy also recognizes that a large number of captive and standby generating stations in India have surplus capacity that could be supplied to the grid continuously or during certain time periods for meeting demand for electricity. Grid inter-connection for captive generators shall also be facilitated. This should be done on priority basis to enable captive generation to become available as distributed generation along the grid.

Appropriate commercial arrangements would need to be instituted between licensees and the captive generators for harnessing of spare capacity energy from captive power plants. The appropriate Regulatory Commission shall exercise regulatory oversight on such commercial arrangements between captive generators and licensees and determine tariff when a licensee is the off-taker of power from captive plant.

The National Tariff Policy 2016 mentions that captive generation is an important means to making competitive power available. Appropriate Commission should create an enabling environment that encourages captive power plants to be connected to the grid.

Such captive plants could supply surplus power through grid, subject to the same regulation as applicable to generating companies.

7.2 Installed Capacity of Captive Power Plants and electricity generation

The growth of captive plants in India can be broadly attributed to

- need for backup power arrangement
- requirement of better quality supply
- the co-generation benefits of steam and electricity from production process of industries
- need to generate electricity at costs lower than the high industrial tariffs set to cross subsidize other categories of consumers.

Captive plants over the years have evolved from plants owned by single promoter to group captive to the medium of maximizing the benefit by selling its surplus power. The Installed Capacity of Captive Power plants (1 MW and above) has grown substantially from 588 MW in 1950 to 44,657 MW as of March, 2015. This comprises 26,088.6 MW from steam, 13,309.7 MW from diesel including wind, 5,193.44 MW from gas and 65.09 MW from hydro based stations. The energy generated by this capacity of captive plants was 1,62,057 MU in 2014-15. The details are indicated in Table 7.1.

Table 7.1

Mode wise installed capacity and electricity generation from captive power plants (1MW & above as on 31.03.2015)

Sl.No.	Mode	Installed Capacity (1 MW & above) (MW)	Gross Electricity Generation (MU) in the year 2014-15
1	Hydro	65.09	1461.69
2	Steam	26088.59	128401.06
3	Diesel	13309.73	12376.00
4	Gas	5193.44	21135.25
	Total	44656.85	162057.00

7.2.1 Status of captive generation- self use by the industry and exported to the grid

In view of the thrust given to captive power plants as also the liberal provisions of the Act encouraging feeding of surplus power into the grid, the captive generating plants have also been feeding electricity into the Grid. Details are given in Table 7.2.

Table 7.2

Installed capacity of captive power plants (capacity 1 MW & above) and electricity fed into the grid

Year	Installed capacity of Captive Power Plants (MW)	Net Electricity generation from Captive Power Plants (MU)	Electricity used by industry having CPP for self- use (MU)	Electricity export to grid (MU)	Plant Load Factor (%)
2007-08	24986.39	83438.52	75982.84	7455.68	41.34
2008-09	26673.68	92013.73	83729.74	8283.99	42.68
2009-10	31516.87	97444.67	88412.33	9032.34	38.44
2010-11	34444.12	110326.40	96098.37	14228.03	40.07
2011-12	39375.37	122524.78	112261.61	10263.17	38.96
2012-13	40726.39	131511.93	115457.79	16054.14	40.37
2013-14	42257.87	136301.05	122300.32	14000.73	40.25
2014-15	44656.85	147468.49	134271.80	13196.69	41.43

7.2.2 Growth of Installed Capacity and Plant load factor of Captive Power Plants

Though capacity of captive power plants in India has been growing, the average capacity utilization of these plants is quite low. In recent years, the plant load factor (PLF) of the captive power plants has been about 40% as given in Table 7.2. This is due to the fact that a substantial part of this capacity is used for back-up generation. Within industries also there is significant variation in captive capacity utilization. Metals, heavy engineering, chemicals, petroleum, paper, and cement industries account for 70 % of the total captive capacity and 85 % of the total electricity generated by captive power plants.

7.2.3 Forecast of energy generation by Captive Power Plants (CPP) for self- use by own industry

The forecast methodology adopted is discussed below:

7.2.3.1 The CAGR of energy consumed from captive power plants for self-use by industries (having captive power plants of capacity 1 MW and above) from 2010-11 to 2014-15 is about 8.7 %. It has been considered that this is likely to decrease in future to about 8.0% in 2021-22 and to about 7.5 % in the year 2026-27 due to the fact that the supply from utility grid will considerably improve in future as large amount of generation capacity (utilities) has been added in the past few years.

7.2.3.2 Captive Power Plants were installed during the commissioning of the industries and have served the industry for a long time. With the improvement in grid supply, a scenario of grid supply partially replacing the supply from captive power plants has been worked out. Assuming that about 25% of electricity consumption from captive power plants could be replaced by electricity from the utility grid by the year 2026-27 gradually, the likely energy consumption from the grid has been worked out.

7.2.3.3 Tables 7.3 and 7.4 shows the Scenarios of the forecast of self-use energy which will be met out of CPP generation from 2016-17 to 2026-27 without any transfer of industrial consumption to the grid and the forecast of self-use energy which will be met out of captive generation with transfer of 15% electrical energy from CPP to utility grid in the year 2021-22 and transfer of 25% electrical energy from CPP to utility grid in the year 2026-27.

The details of forecast of electrical energy requirement for the years 2016-17, 2021-22 and 2026-27 is shown in Table 7.3 and Table 7.4.

Table 7.3

Forecast of electricity consumption (self-use) from CPP generation

Year	CPP generation for self-use (MU)	Reduction of electricity consumed from CPP by transfer to grid supply (%)	Net electricity consumed by industries from CPP after partial transfer to grid supply (MU)
2016-17	159,675	0	159,675
2021-22	234,627	15	199,433
2026-27	339,382	25	254,987

Table 7.4

Forecast of Electrical Energy Requirement considering transfer of electricity consumed by Industries from captive power plants to grid supply

Year	Electrical Energy Requirement (Utilities-grid supply) (MU)	Increase of energy requirement by industries from utility grid due to partial transfer of energy consumed from CPP to the utility grid (includes T&D losses) (MU)	Revised electrical energy requirement on all-India basis considering partial transfer of energy consumed by industries from captive power plants to grid supply (MU)
2016-17	1160,429	0	1160,429
2021-22	1566,023	41,163	1607,186
2026-27	2047,434	97,634	2145,068

If 15% and 25% of the energy consumed by industries from captive power plants is transferred to the utility grid in the year 2021-22 and 2026-27 respectively, it is estimated that additional electrical energy of about 41 BU in the year 2021-22 and 97 BU in the year 2026-27 would be required by the industries from the utility grid.

However, since the electricity tariff for industrial and commercial consumers are high at present as these are cross-subsidizing small consumers, it may be cheaper for industrial and commercial consumers to take power from their own captive power plants. Indeed, there has been increasing interest to set up or take equity in captive power plants, signifying a shift away from grid supply. Therefore, the above has not been considered as a likely scenario in electricity demand projections.