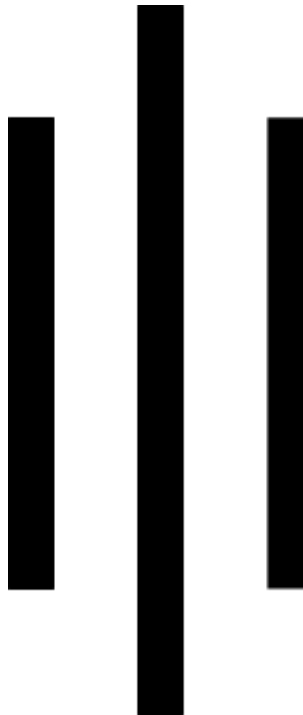


NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY



A Project Report On **Electricity Consumption Pattern in Nepal**



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ACKNOWLEDGEMENT

I want to express my special Gratitude to - **Bimal Adhikari sir** who gave me this opportunity to present a report on the topic of **ELECTRICITY CONSUMPTION PATTERN IN NEPAL**. I want to extend my gratitude to my parents who supported and motivated me while doing the Project. I want to thank my friends, **Hrithik Chand, Prasab Kunwar, and Ashish Chand** who helped me to finish this report within a limited time. I have also taken some references from websites mentioned on the last page.

**THANKS TO EVERYBODY WHO HELPED ME
WITH THIS PROJECT**

Amrit Pant

Certificate of Completion

This is to certify that this Project is made by **Amrit Pant** a student of **Class 11 (Section F)**. From the **National Academy of Science and Technology** on the topic of **Electricity Consumption Patter in Nepal**. Under the guidance of **Mr. Bimal Adhikari** and have been completed.

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INTRODUCTION

The property's consumption of electricity for operating heating systems and other technical installations, including but not limited to cooling and ventilation systems. • Water consumption: The property's joint consumption of water, water charges, and share of common water expenses. If the Landlord estimates that the Tenant's water consumption is particularly high, the Landlord may, at the Tenant's expense, install water meters on all water supply connections or on those where high water consumption is expected to be observed. In that case, the Tenant is obliged to pay for the consumption as per meter readings as well as any taxes and charges related thereto, including water drainage charge, green taxes, etc. • Service subscriptions: Electrolysis and other subscriptions to servicing of systems and installations.

Nepal Electricity Consumption: Total data was reported at 7,318.000 GWh in 2021. This records an increase previous number of 6,525.000 GWh for 2020. Nepal Electricity Consumption: Total data is updated yearly, averaging 1,051.400 GWh from July 1975 to 2021, with 47 observations. The data reached an all-time high of 7,318.000 GWh in 2021 and a record low of 91.800 GWh in 1975. Nepal Electricity Consumption; Total data remains active status in CEIC and is reported by the Ministry of Finance. The data is categorized under Global Database's Nepal-Table NP RB002: Electricity Consumption.

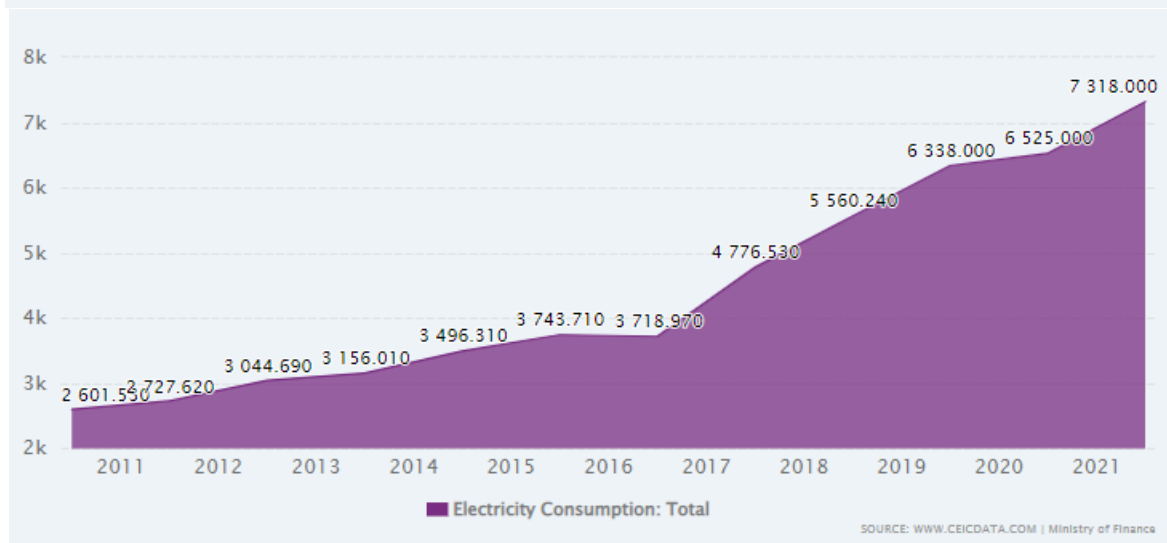
ENERGY BALANCE

Electricity	total	Nepal per capita
Own consumption	4.98 bn kWh	167.92 kWh
Production	4.24 bn kWh	143.02 kWh
Import	2.18 bn kWh	73.29 kWh
Export	2.69 m kWh	0.09 kWh

HISTORY

Total data is updated yearly, averaging 1,051.400 GWh from Jul 1975 to 2021, with 47 observations. The data reached an all-time high of 7,318.000 GWh in 2021 and a record low of 91.800 GWh in 1975.

Nepal's Electricity Consumption: Total from 1975 to 2021 in the chart.



FACT TABLE

A fact table or a fact entity is a table or entity in a star or snowflake schema that stores measures that measure the business, such as sales, cost of goods, or profit. Fact tables and entities aggregate measures, or the numerical data of a business.

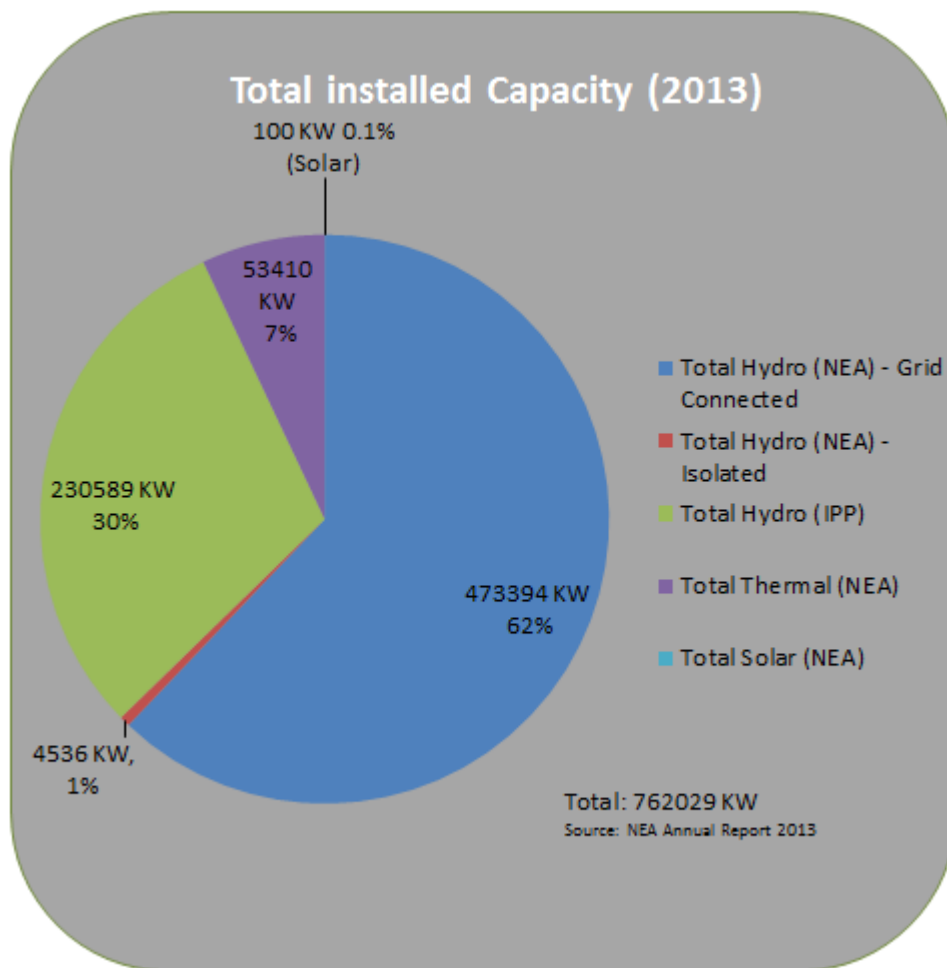


Fig 1: TOTAL INSTALLED CAPACITY OF ELECTRICITY.

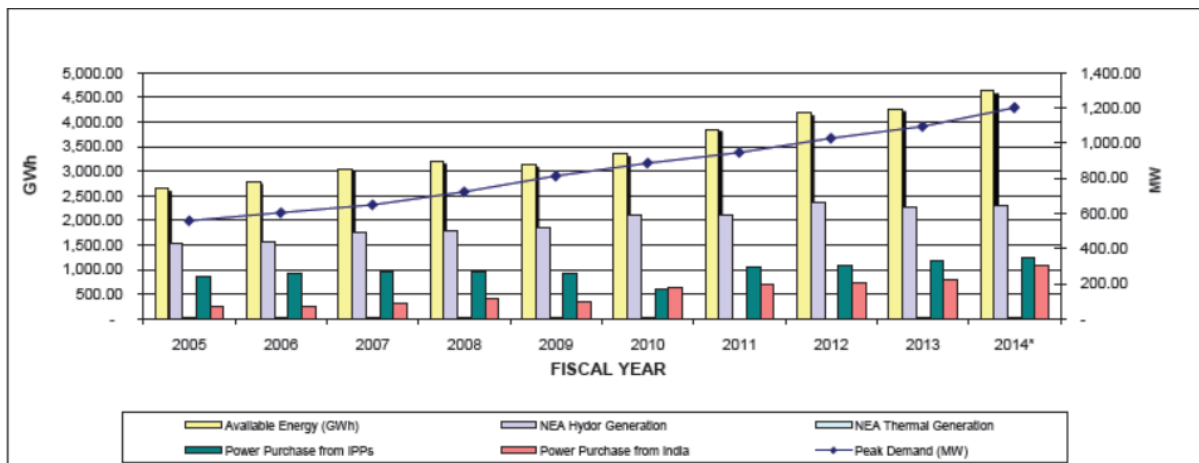


FIG 2: PEAK ENERGY DEMAND IN NEPAL(2014).

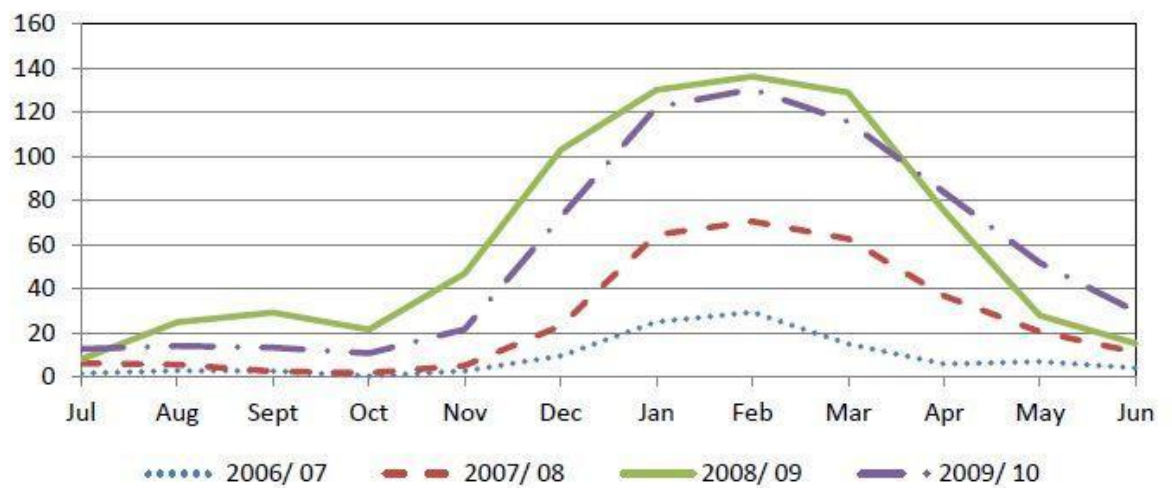


Figure 3: Electricity Supply & Demand Gap in GWh (2006 – 2010)

LIMITATIONS

Nepal's average annual per capita electricity consumption is about 161 kWh (CBS2013)– one of the lowest consumption in South Asia. Despite its vast hydropower potential, Nepal suffers from a severe and long-lasting electricity supply crisis.

The Confederation may restrict or prohibit the consumption of electrical power. Appliances, systems, or light sources that are not absolutely necessary, such as shop windows, advertising, or public lighting, can be completely switched off. The actual list of all prohibited power-consuming devices depends on the degree of undersupply and is released by the government when the measure comes into force.

Although only a small proportion of electrical power can be saved by employing this measure, it has a great psychological impact in terms of self-discipline. It makes it clear to everyone that the country is in an exceptional situation. In addition, in order to reduce peak demand, the times at which production processes occur can be adjusted (e. g. producing only at night) and set in specific agreements with large consumers.

DRAWBACKS

Despite a number of promising developments in recent years and months, the power sector in Nepal has entered a stage where the main issue is how to manage surplus power. This apart, there are still many institutional and infrastructural issues to be set right.

1)Reducing Power Tariff

At present the price of electricity for end users in Nepal is very high. It may be lower compared to some countries, but such cross-country comparisons do not make sense in the case of electricity. The right analysis should be based on the production cost within the country and the cost that the end users within the country pay.

The normal price that NEA pays the power producers at present is less than Rs five per unit while it is as high as Rs 13 per unit for the end users. This 100 percent markup by the intermediary is simply illogical. Meanwhile, the price at which the power is exported is as low as Rs two or Rs three. This shows that there is plenty of scopes to reduce the end-user price to Rs six or seven. The rate can be reduced for bulk buyers like industries immediately.

2) Power Export Debate

The lobbying against power export is very strong, not because it has strong logic, but because it is very vocal. The opposition to power export is not based on economic reasons, rather it is guided by politically vested interests. For example, the opponents say that electricity is raw material or input for manufacturing and agriculture. Therefore, the focus has to be on utilizing the power in increasing agricultural and manufacturing products which should be exported. They also argue that prosperity comes by utilizing the raw material available in the country to produce the end products, not by exporting the raw material itself.

On the surface, it sounds convincing, but with a bit of deeper analysis with examples from many other countries, this logic is wrong. There are plenty of countries around the world that are thriving even by exporting raw materials. Australia, Chile, Argentina, Brazil, and Russia export minerals and food grains, and Saudi Arabia and the like export petroleum. Similar examples can be found also in Indonesia and Malaysia from where Nepal is importing crude palm oil and timber.

3) NEA to Set Up Charging Stations for Electric Vehicles

Nepal Electricity Authority (NEA) has started constructing 50 charging stations at 32 places on major highways.

The construction of the charging stations began last year with the financial assistance of the Asian Development Bank. Along with the East-West Highway, charging stations will be set up on the highways including Prithvi, Siddhartha, BP, and Madan Bhandari. The work will be completed in the next six months.

According to NEA, a car will be fully charged in half an hour and a 142 kW DC charger will be kept at the station. The construction cost of a charging station is estimated to be around Rs eight million. According to NEA, in the first phase, there will be 10 stations in Kathmandu Valley.

According to NEA sources, it is estimated that an additional 7,000 kilowatts of electricity will be consumed after the charging station comes into operation. Private-level electric vehicles currently in operation have been charging in their own garages.

The government's budget has completely reduced the excise duty on the import of electric vehicles to promote the use of environmentally friendly means of transportation.

WAYS TO IMPROVE

Reducing energy use in your home saves you money, increases your energy security, and reduces the pollution that is emitted from non-renewable sources of energy. If you are planning to install a small renewable energy system to make your own electricity, such as a solar electric system or small wind turbine, reducing your electricity loads is the first step because it allows you to purchase a smaller and less expensive system.

There are many ways through which we can save electricity in our homes like-

- **APPLIANCE AND ELECTRONICS** -- Purchase energy-efficient products and operate them efficiently. Use an advanced power strip to reduce "vampire loads"--electricity that is wasted when electronics are not in use.
- **LIGHTING** -- Purchase energy-efficient products, operate them efficiently and incorporate more daylighting into your home using energy-efficient windows and skylights.
- **ELECTRIC SPACE HEATING AND COOLING** -- Purchase energy-efficient electric systems and operate them efficiently. Incorporate passive solar design concepts into your home, which include using energy-efficient windows. Properly insulate and air seal your home. Select an energy-efficient heating system that doesn't use electricity.
- **ELECTRIC WATER HEATING** -- Purchase an Energy Star heat pump water heater and operate it efficiently.
- **Reduce your "always-on" appliances.** If your home has a smart meter and you can see your hourly consumption, then examine your consumption at 3 AM. It should be significantly less than your use at 7 pm. If it isn't then you might have "vampire loads.". Look for electronics that you don't use (like VCRs!) or can switch off, or perhaps get rid of that extra refrigerator.

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CONCLUSION

From Above Report we know about the recent electricity consumption pattern of Nepal and also about its history like its previous condition and I observe that there is much more change and improvement in electricity consumption pattern of Nepal. I also introduce its fact table through which we see the result in graphs and I also present its: present status, limitations, and drawbacks.

REFERENCES

I have completed the project with the help of my brother and also my friends all other sources are listed below:

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