

BSE Sensex  
29,459

S&P CNX  
8,957

**CMP: INR274**
**TP: INR320 (17%)**
**Buy**


## Stock Info

Bloomberg	BHEL IN
Equity Shares (m)	2,447.6
M.Cap.(INR b)/(USD b)	670.2/10.8
52-Week Range (INR)	300/161
1, 6, 12 Rel. Per (%)	-7/3/24
AvgVal(INRm)/Vol '000	1,512/6,605
Free float (%)	36.9

## Financial Snapshot (INR Billion)

Y/E Mar	2015E	2016E	2017E
Net Sales	292.7	303.6	346.1
EBITDA	25.7	37.3	48.3
Adj PAT	18.0	29.8	43.2
EPS (INR)	7.3	12.2	17.7
EPS Gr. (%)	-50.0	66.1	45.0
BV/Sh. (INR)	140.6	149.9	163.3
RoE (%)	5.3	8.4	11.3
RoCE (%)	7.7	12.1	16.0
Payout (%)	20.0	20.0	20.0

## Valuations

P/E (x)	37.3	22.5	15.5
P/BV (x)	1.9	1.8	1.7
EV/EBITDA (x)	21.1	12.4	8.4
Div Yield (%)	0.5	0.9	1.3

## Beginning of a new dawn

**BTG ordering to be up meaningfully; Expanding product portfolio**

### Business possibilities 'Revving up'

- BTG award pipeline is showing signs of strong recovery in FY16 with ~18-20GW likely to be awarded. This is meaningfully higher than our previous estimate of ~10-12GW, and compares with project awards of 6.3GW in FY14 / ~10-11GW in FY15E. This could be a tipping point, particularly for the equipment manufacturers, given that industry capacity for super-critical boilers and turbines stands at ~21-24GW pa. The largest delta change v/s previous estimate is led by NTPC, and we now expect 12GW to be awarded in next 12-15 months (incremental 6.9GW v/s previous estimates).
- BHEL has been L1 in ~3GW of projects including: i) 1.3GW Udangudi (EPC, ~INR78b) and ii) 1.1GW Manuguru project (INR54b, on nomination basis, Telangana). Thus, the cumulative L1 pipeline of BHEL stands at INR184b, and we believe that orders worth at least INR140b would be accounted for in Mar 2015. This will entail healthy news flow in project awards.
- New segments like solar PV cell manufacturing and Defense indigenization opens up interesting avenues. BHEL has plans to set up an integrated manufacturing facility for 480MW Solar PV systems (Wafers-Cells-Modules), with a 40% capex subsidy (project cost INR27b) from National Clean Cess Fund. In Dec 2014, BHEL, Hindustan Shipyards and Mishra Dhatu Nigam have formed a consortium to bid for construction of six Scorpene submarines (INR530b order).

### Strong operating leverage, cyclical factors aid recovery

- BHEL is exposed to cyclical factors: i) contribution margins at ~42% versus expected EBITDA margin of 12.4% (adjusted) in FY14, leading to a meaningful operating leverage, ii) core NWC stable at 200 days; cyclical factors of retention money (at 181 days in FY14 versus 55-60 days in FY07-09) and customer advances (deteriorated from 63% of revenue in FY09 to 38% in FY14), that impacted reported NWC are expected to normalize as we expect BTB to increase from 3.4x currently to 3.8x in FY16E.
- We expect operating cash flow to improve from an average of ~INR40b pa in FY13-14 to INR73b pa in FY15E-17E.

### BTB inched up to 3.4x in 3QFY15: a key trend driving cyclical factors

- We maintain **Buy** with target price of INR320 (PER of 18x FY17E). Our target multiple of 18x is based on average one-year forward PER during FY06-11, a period when the power sector ordering was robust.
- The key variables to watch out are the impact of the Pay Commission recommendation (effective Jan 2017) and could be an important swing factor. Another important variable is the coal mine auctions.

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Investors are advised to refer through disclosures made at the end of the Research Report.

Motilal Oswal research is available on [www.motilaloswal.com/Institutional-Equities](http://www.motilaloswal.com/Institutional-Equities), Bloomberg, Thomson Reuters, Factset and S&P Capital.

## #1 Project pipeline building-up; NTPC to potentially award 12GW in next 12-15 months

BTG pipeline is showing signs of a strong recovery in FY16 with projects of ~18-20GW likely to be awarded in the next 12-15 months. This is meaningfully higher than our previous estimate of ~10-12GW, and compares with project awards of 6.3GW in FY14 / ~10-11GW in FY15E. We believe that project awards of 18-20GW could be a tipping point, particularly for the equipment manufacturers, given that industry capacity for super-critical boilers and turbines stands at ~21-24GW pa.

The largest delta change vs previous estimates is led by NTPC, as we now expect incremental 6.9GW to be awarded

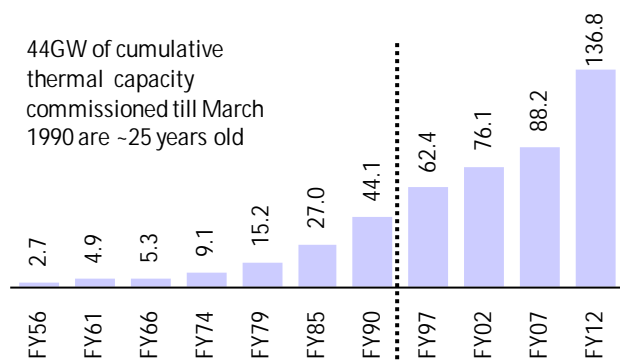
- n The largest delta change v/s previous estimates is led by NTPC, and we now expect Pudimadaka (4GW, Andhra Pradesh), Ramagundem (1.6GW, Telangana) and Maitree Project (1.3GW, Bangladesh) to be also awarded in the next 12-15 months. This is in addition to existing pipeline of projects including: 1.3GW of Khargone (L&T is L1), 2.6GW of Barethi (where four consortiums have submitted bids) and 1.3GW of Katwa rebid (Doosan was earlier L1).
- n We expect possible project awards of 5-7GW by the state sector from a pipeline comprising of: Maharashtra (4.6GW), Bihar (2.6GW), Uttar Pradesh (1.3GW), Tamil Nadu (1.3GW) and Haryana (0.8GW).
- n In addition, Telangana and Andhra Pradesh are likely to potentially award ~8-10GW of new projects, of which we believe ~4-5GW can be awarded in the next 15 months. Telangana state government has recently awarded contracts to BHEL for 1.9GW at Kothagudem and Manuguru, and has entered into MOU to cumulatively award 6GW of projects. AP Genco is also planning to set up 2.4GW extension plants at three locations in Krishnapatnam, Vijayawada and Kothugundem; and we believe that few of these projects will be awarded in FY16.
- n Central Government has approved automatic transfer of coal linkages from old and inefficient plants (more than 25 years old) in public sector to new supercritical plants, being set up in the same state. Union Budget FY16 mentions about five UMPP projects of 4GW each on a 'Plug and Play' method. This also opens up interesting possibilities over the medium term.

### Exhibit 1: Telangana power demand supply - Severe power deficit

MUs	FY15	FY16	FY17	FY18	FY19
Energy Requirement	54998	63047	67902	77164	84496
Energy Availability (Existing Sources)	45795	45037	44030	43896	43754
Energy Deficit	-9203	-18010	-23872	-33268	-40742
Energy Deficit, %	-16.7%	-28.6%	-35.2%	-43.1%	-48.2%

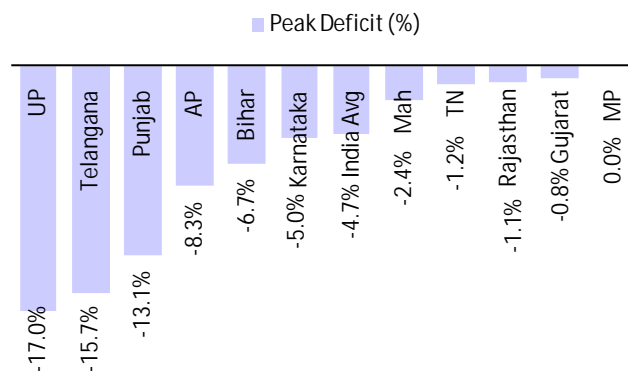
Source: Report of the Task Force on Energy, Govt of Telangana, Nov 2014

**Exhibit 2: 44GW thermal capacity are ~25 years old, can potentially be replaced by supercritical plants (GW)**



Source: CEA

**Exhibit 3: Several states like UP, Telangana, Punjab, AP, Bihar, etc have large deficits**



Data from April – Nov 2014; Source: CEA

We understand that a part of the coal mine auctions will be earmarked towards setting up Case 2 projects, which could add to the potential pipeline

Key states that are likely to award projects include Telangana, Andhra Pradesh, Tamilnadu, Maharashtra, Bihar, Uttar Pradesh, etc. Several of these states face power deficits, given the regional imbalances

**Exhibit 4: Potential pipeline of ~34GW to be awarded over next 2-3 years, largely from the Central / State sector**

Project	Owner	Sector	Cap (MW)	Comments
Udangudi	TN Genco	State	1,320	BHEL is L1
Tuticorin		Private	525	BHEL is L1
Khargone	NTPC	Central	1,320	L&T is L1
Barethi	NTPC	Central	2,640	
Katwa	NTPC	Central	1,320	
Ramagundem	NTPC	Central	1,600	
Pudimadaka	NTPC	Central	4,000	
Lakhisarai	Bihar (26%) - NTPC (74%)	Central	1,320	
Maitree Project	NTPC	Bangladesh	1,320	
Ghatampur	Neyveli	Central	1,980	
Pirpainty	Bihar (26%) – NHPC (74%)	Central	1,320	
Gorakhpur	Nuclear Power	Central	1,400	Nuclear
Telangana		State	4,000	MOU with BHEL
Bhusawal	Mahagenco	State	660	
Chandrapur	Mahagenco	State	1,320	
Koradi	Mahagenco	State	1,980	
Latur	Mahagenco	State	1,320	
Krishnapatnam, Vijayawada, Kothugundem	Andhra Pradesh	State	2,400	
Panipat Thermal (Unit 9)	Haryana	State	660/800	
Orba Extension	UPRUVNL	State	600	
Hardauganj Extension	UPRUVNL	State	660	
<b>Potential Pipeline</b>			<b>~34,000</b>	

Source: MOSL, Company

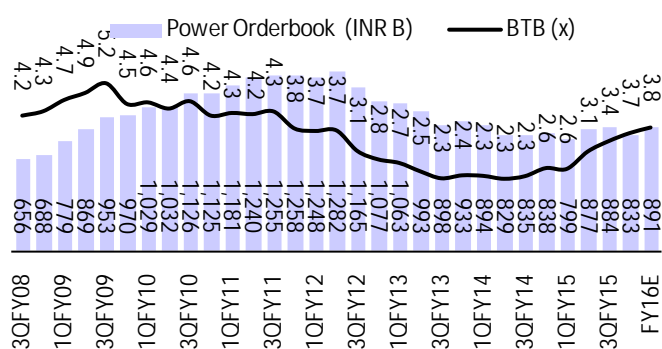
## #2 BHEL's intake in 4QFY15 could be robust given large L1 pipeline

BHEL's management, in the recent concall, stated that the company is L1 in ~3GW of projects including: i) 1,320MW Udangudi (EPC, ~INR78b), ii) 500MW Tuticorin (BTG, INR12b), iii) 1GW of Pakal DUL Hydro power with Patel Engg (~INR90b JV share, BHEL likely at INR10b), iv) 1.2GW Pranhita Lift Irrigation (INR30b), and v) 1.1GW Manuguru project (INR54b, on nomination basis, Telangana).

Thus, the cumulative L1 pipeline of BHEL stands at INR184b, and we believe that orders worth at least INR140b would be accounted for in March 2015. This will entail a very healthy news flow in terms of project awards.

During FY15, we model BHEL's order intake at INR308b (up 10% YoY); intake in 9MFY15 stands at INR207b. Thus, the asking run-rate in 4QFY15 is INR101b. We believe that the actual intake could possibly be higher than our estimates, and we would be watchful of the trends.

**Exhibit 5: Expect BTB to bounce back to 3.8x in FY16E, from lows of 2.3x in 2QFY14**



Rapid Gun Mounts and integrated platform management systems, which would also open up interesting possibilities.

#### **Project 75i: six diesel-electric submarines (cost of ~INR530b+)**

Project 75i, to acquire six diesel-electric submarines, was cleared in Oct 2014 by the Defense Acquisition Council at a cost of ~INR530b under the 'Buy & Make' (Indian) category. The decision comes nearly four years after the Indian Navy first released a request for information. This represents a departure from the navy's earlier plan in which two submarines were planned to be imported from a foreign yard and four built at Indian yards under collaboration. We believe that Mazgaon Dock (already building six Scorpene submarines under Project 75i), L&T (Hazira yard had fabricated the hull of INS Arihant and three other boats in its class), Hindustan Shipyard (completed INS Sindhukriti's refit which included completely rebuilding parts of the submarine like conning tower etc), and Pipavav Defense are the possible contenders. Recently, BHEL, Mishra Dhatu Nigam and Hindustan Shipyards came together to form a consortium to build submarines indigenously. For BHEL, we note that it can leverage the manufacturing facilities of BHPV, which is located very near to Hindustan Shipyard's facilities.

**Exhibit 7: BHPV manufacturing located just ~10kms from Hindustan Shipyard**



Source: MOSL, Company

#### **Solar an important driver, with ambitious targets**

Ministry of New Renewable Energy has revised its target of renewable energy capacity to 175GW till 2022, comprising 100GW Solar, 60GW Wind, 10GW Biomass and 5GW Small Hydro.

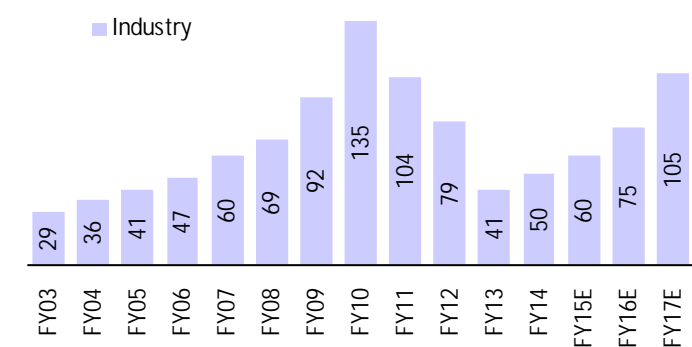
To expedite project execution and provide a 'Plug and Play' concept, the Ministry has approved setting up of 25 solar parks each with capacity of 500MW (financial support of INR41b from Central Government) with a targeted capacity of 20GW. In-principle approvals for setting up Solar Parks have been given in Gujarat, Andhra

Pradesh, Uttar Pradesh, Meghalaya, Rajasthan, Madhya Pradesh, Tamil Nadu, Karnataka, Punjab and Telangana. Projects under Central/State Schemes shall come up in these Solar Parks.

#### Key solar plant capacity additions announced

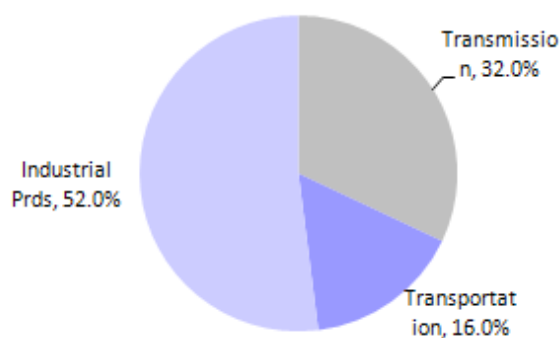
- n Support of INR10b to Central PSUs to set up 1GW of grid connected solar projects.
- n Setting up 300MW of Solar projects by Defense and Para Military establishments (INR7.5b as VGF).
- n Development of 100MW Grid Connected Solar PV Power Plants on Canal Banks and Canal Tops during the 12th Plan period at cost of INR10b and with Central Financial Assistance of INR2.3b.
- n Grid Connected Solar PV Power Projects with VGF (750 MW).
- n Grid Connected Solar PV Power Projects (3.3GW) by NTPC and other PSUs.
- n Ultra Mega Solar Power projects in Rajasthan, Gujarat, TN and Ladakh.

**Exhibit 8: Industrial segment to be an important medium term driver (INR b)**



Source: MOSL, Company

**Exhibit 9: Industrial segment revenue composition (FY12-14)**



Source: MOSL, Company



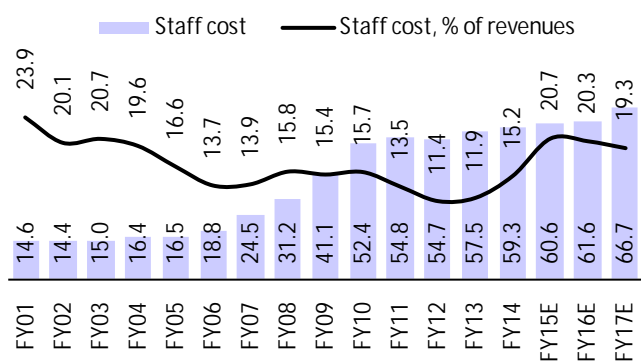
### Strong operating leverage, cyclical factors aid recovery

BHEL is strongly exposed to cyclical factors: i) contribution margins at ~44% versus expected EBITDA margin of 12.4% (adjusted) in FY14, leading to a meaningful operating leverage, ii) core NWC stable at 200 days; cyclical factors of Retention money (at 181 days in FY14 versus 55-60 days in FY07-09) and customer advances (deteriorated from 63% of revenue in FY09 to 38% in FY14) that impacted reported NWC are expected to normalize as we expect power segment BTB to increase from 3.4x in Dec 2014 to 3.8x in FY16.

### Expect EBITDA margin to bottom in FY15, aided by operating leverage

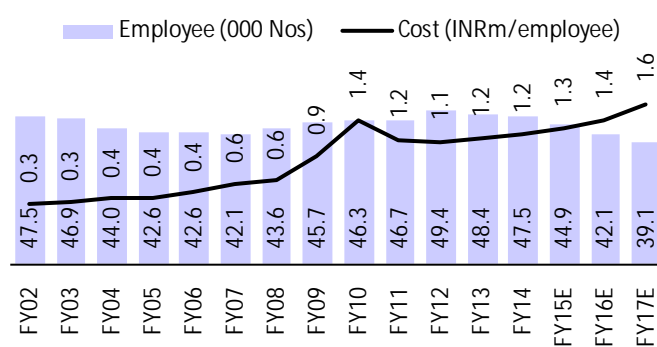
- n We expect BHEL's EBITDA margin to decline from 19.4% in FY13 to 8.8% in FY15E, and improve to 12.3% in FY16E/13.9% in FY17E. During this period, we expect contribution margins at ~44%, and thus the expectations of margin expansion are largely a function of operating leverage, particularly staff costs (19.3% in FY17E, v/s 20.7% in FY15E) and provisions, including Liquidated Damages (at 1% in FY17E v/s 5.8% in FY14).
- n Staff cost for BHEL is largely fixed in nature and resulting into a very strong operating leverage: during FY01-12, staff cost declined meaningfully from 23.9% of revenue to 11.4%, and given the poor operating leverage, we expect the same to increase to 21% of revenues in FY15E. Provisions also have a cyclical character and are a function of the execution stage of projects. Given the meaningful cost and time overruns in project execution over the last two to three years, the quantum had increased meaningfully to 5.8% of revenue in FY14. We expect the increased quantum of writebacks in FY16E/17E, and thus expect net provisions at 1-1.5% of revenue and then normalizing at ~2.5-3.5% from FY18E onwards.

**Exhibit 10: Expect staff costs at 21% of revenue in FY15E, thus completing a full circle (INR b)**

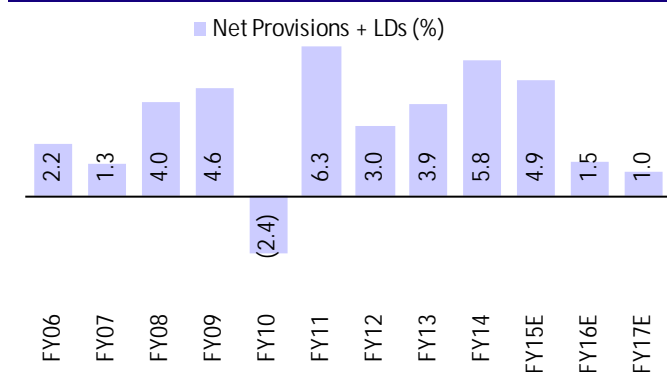


Source: MOSL, Company

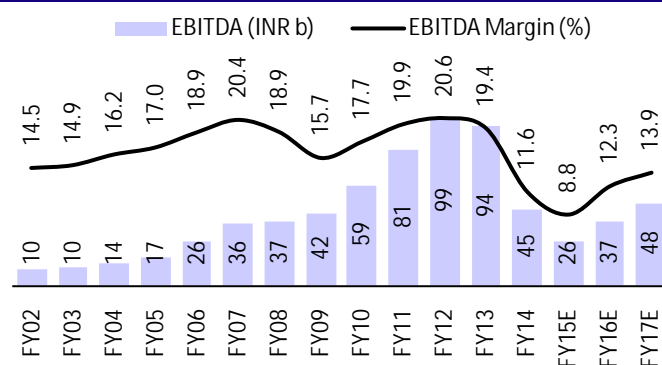
**Exhibit 11: Expect employee attrition to average at ~2,500-3,000pa during FY15E-17E**



Source: MOSL, Company

**Exhibit 12: Net provisions are contingent on the stage of project execution and liquidity conditions (% of revenue)**

Source: MOSL, Company

**Exhibit 13: EBITDA margin to bottom in FY15E, expect margins to expand in FY16E/17E aided by operating leverage**

Source: MOSL, Company

**Operating cash flows to improve; core NWC stable**

- n A large part of the variation in BHEL's reported net working capital is being driven by cyclical factors such as retention money (at 181 days in FY14 v/s 55-60 days in FY07-09) and customer advances (deteriorated from 63% of revenue in FY09 to 38% in FY14, but stable as a percentage of order book at 12-14%). While the core net working capital has been fairly stable at ~200 days, the reported number has been volatile from negative 24 days in FY09 to 154 days in FY14. As the cyclical factors correct, we expect the reported NWC to improve from 154 days in FY14 to 76 in FY17E.
- n As we expect the above cyclical factors, impacting NWC, to support in FY15/16, we expect operating cash flows to improve from an average of ~INR40b pa in FY13-14 to INR73b pa in FY15E-17E. Even during FY14, operating free cash flow had improved meaningfully to INR54.2b v/s INR24.4b in FY13. This will lead to a meaningful increase in net cash from INR92b in FY14 to INR260b in FY17E (~40% of current market cap).

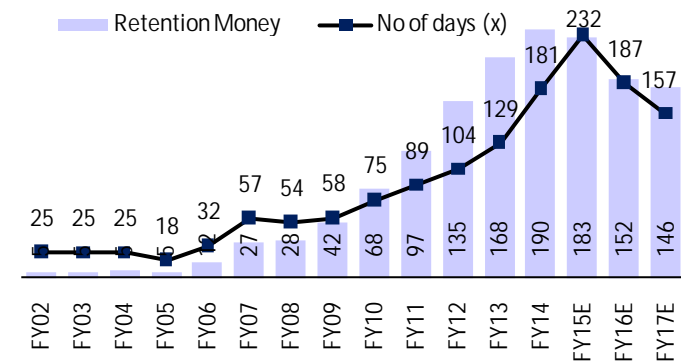
**Exhibit 14: NWC volatility - a function of cyclical factors; expect meaningful improvement in FY16/17 (days)**

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15E	FY16E	FY17E
<b>NWC (Structural Factors)</b>																
Debtors (excl Retention)	220	190	185	211	164	148	173	164	155	163	172	177	199	208	198	177
Inventories	107	105	96	112	102	89	108	109	103	100	105	90	93	97	95	91
Loans and Advances	53	50	47	47	33	24	22	34	31	30	23	22	30	37	33	31
Sundry Creditors	99	96	79	80	77	75	84	81	84	74	84	80	90	82	80	84
Other Liabilities	17	17	15	17	14	12	14	15	14	19	9	14	21	25	23	20
<b>Core NWC</b>	<b>264</b>	<b>232</b>	<b>234</b>	<b>273</b>	<b>208</b>	<b>174</b>	<b>206</b>	<b>211</b>	<b>190</b>	<b>200</b>	<b>207</b>	<b>195</b>	<b>211</b>	<b>235</b>	<b>222</b>	<b>195</b>
<b>NWC (Cyclical factors)</b>																
Retention Money	25	25	25	18	32	57	54	58	75	89	104	129	181	232	187	157
Customer Advances	101	95	143	176	150	165	215	229	213	187	154	124	139	163	183	173
Provisions	29	37	49	47	40	47	56	64	42	70	59	69	98	119	114	102
<b>Reported NWC</b>	<b>158</b>	<b>125</b>	<b>68</b>	<b>68</b>	<b>50</b>	<b>20</b>	<b>(12)</b>	<b>(24)</b>	<b>10</b>	<b>32</b>	<b>97</b>	<b>131</b>	<b>154</b>	<b>186</b>	<b>111</b>	<b>76</b>

Source: MOSL, Company

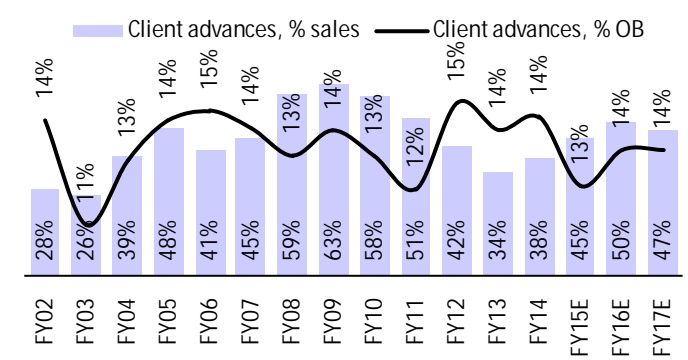


**Exhibit 15: Retention money largely function of negotiation with customers, expect quantum to decline (INR b)**



Source: MOSL, Company

**Exhibit 16: Customer advances remained stable (as % of order book), but volatile as % of revenue**



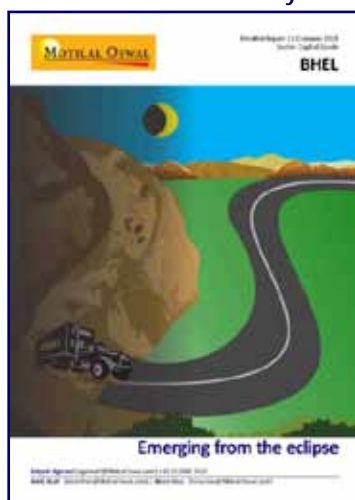
Source: MOSL, Company

## Valuation and view

### Maintain Buy, Revised Price Target of INR320 (18x FY17E PER)

We expect BHEL to report an EPS of INR7.3 in FY15E, INR12.2 in FY16E, INR17.7 in FY17E. At the CMP, the stock quotes at PER of 37.3x FY15E / 22.5x FY16E/ 15.5x FY17E. We maintain **Buy** with target price of INR320/sh (PER of 18x FY17E). Our target multiple of 18x is based on average one-year forward PER during FY06-11, a period when the power sector ordering was robust.

Please see our detailed report on BHEL dated 12 January 2015



### Key investment arguments

- n Our macro analysis suggests that normative industry ordering will stand at ~20-24GW pa (power demand at 1.6BUs in FY20E). The journey from 6-7GW pa in FY14 to 10-12GW pa in FY15E-17E and then at 20-24GW pa provides interesting possibilities.
- n Project pipeline has been building up, particularly for BHEL, given that the company has bagged projects on nomination basis and also intends to leverage cash reserves for equity stage to bag EPC contracts. Over the past three years, BHEL has expanded its offerings in the power segment meaningfully and will also enable it to capture a larger share in project execution, going forward.
- n Company is making efforts to expand the contribution from industry business, particularly transmission and transportation segments. Going forward, new segments like solar PV cell manufacturing and Defense indigenization also opens up interesting possibilities.
- n BHEL is strongly exposed to cyclical factors: i) contribution margins at ~42% versus expected EBITDA margin of 12.4% (adjusted) in FY14, leading to a meaningful operating leverage, ii) core NWC stable at 200 days; cyclical factors of retention money (at 181 days in FY14 versus 55-60 days in FY07-09) and customer advances (deteriorated from 63% of revenue in FY09 to 38% in FY14), that impacted reported NWC would normalize as we expect power sector BTB to increase from 3.4x currently to 3.8x in FY16E. We expect operating cash flow to improve from an average of ~INR40b pa in FY13-14 to INR73b pa in FY15E-17E. Thus, net cash is likely to increase from INR92b in FY14 to INR260b in FY17E (~40% of current market cap).

### Key risks/variables

- n The key variable to watch out is the impact of Pay Commission's implementation in FY17 and could be a vital swing factor. However, we believe that a part of the impact will be mitigated by productivity improvements /operating leverage over the medium term, and thus the impact is possibly not structural.
- n Another variable is the uncertainty on coal block de-allocations and mine auctions, which could delay the order pipeline.

### Key Triggers

- n Projects awards, particularly 1.3GW Udangudi (Tamilnadu) and 1.1GW Manuguru (Telangana).
- n Successful coal mine auctions, sustained ramp up in Coal India production.

Exhibit 17: BHEL: one-year forward PE

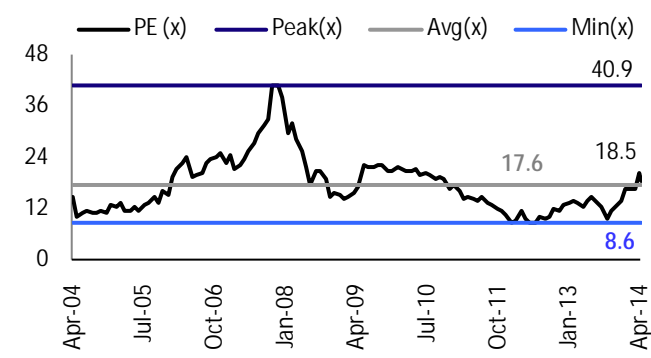
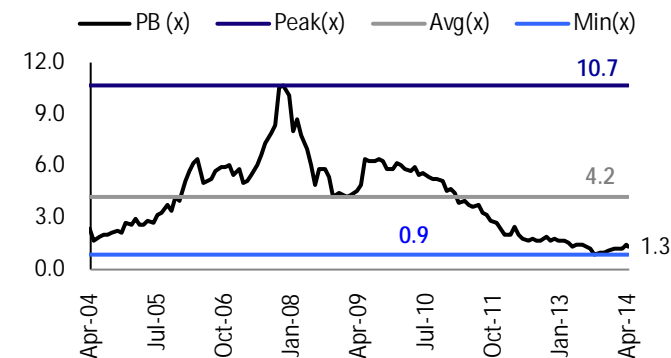


Exhibit 18: BHEL: one-year forward PB



## Exhibit 19: BHEL: Operating metrices

	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15E	FY16E	FY17E
<b>Order Intake (INR b)</b>												
Power (GW)	3.4	9.7	14.6	17.0	16.5	15.1	3.9	9.6	4.5	5.3	7.0	7.3
Power (INRM/MW)	27	25	27	26	24	29	45	24	38	35	35	35
Power	90	245	387	444	401	443	176	227	170	184	245	256
R&M	19	32	24	28	19	21	23	29	34	40	46	53
Industry	47	60	69	92	135	114	79	41	50	60	75	105
Internatl. Business	33	19	23	33	36	37	2	20	26	25	25	25
Cancellations	-	-	-	-	-	-	58	-	-	-	-	-
<b>Total Order Intake</b>	<b>189</b>	<b>356</b>	<b>503</b>	<b>597</b>	<b>590</b>	<b>605</b>	<b>221</b>	<b>317</b>	<b>280</b>	<b>308</b>	<b>391</b>	<b>439</b>
% YoY	4%	88%	41%	19%	-1%	2%	-63%	43%	-12%	10%	27%	12%
<b>Segmental Revenues</b>												
Power	98	127	159	213	269	348	379	396	325	228	233	264
Industry	37	50	44	56	57	90	102	100	62	53	56	64
Internl. Business	10	11	11	12	16	12	15	6	16	18	21	25
<b>Total Revenues</b>	<b>145</b>	<b>187</b>	<b>214</b>	<b>280</b>	<b>342</b>	<b>450</b>	<b>495</b>	<b>502</b>	<b>403</b>	<b>299</b>	<b>310</b>	<b>353</b>
EBITDA Margins (%)	18.9	20.4	18.9	15.7	17.7	19.9	20.3	19.4	12.0	8.8	12.3	13.9
<b>Contrib. Margins (%)</b>	<b>43.3</b>	<b>43.3</b>	<b>44.4</b>	<b>38.5</b>	<b>40.4</b>	<b>40.3</b>	<b>41.5</b>	<b>42.1</b>	<b>40.8</b>	<b>45.3</b>	<b>44.4</b>	<b>43.7</b>
Staff Costs (%)	13.7	13.9	15.8	15.4	15.7	13.5	11.4	11.9	14.8	20.7	20.3	19.3
Other Expenses (%)	10.7	9.0	9.7	7.4	6.9	9.5	9.4	10.9	14.1	15.8	11.8	10.4
Employees (in 000)	42.6	42.6	42.1	43.6	45.7	46.3	46.7	49.4	48.4	47.5	44.9	42.1
INR M/empl	0.4	0.6	0.6	0.9	1.4	1.2	1.1	1.2	1.2	1.3	1.4	1.6
<b>Cash / (Debt), INR B</b>												
Cash	41	58	84	103	98	96	67	77	119	149	230	286
Retention Money	12	27	28	42	68	97	135	168	190	183	152	146
Debt	-6	-1	-1	-1	-1	-1	-1	-14	-27	-26	-26	-26
<b>Net Cash / (Debt)</b>	<b>47</b>	<b>84</b>	<b>111</b>	<b>144</b>	<b>164</b>	<b>192</b>	<b>200</b>	<b>232</b>	<b>282</b>	<b>305</b>	<b>356</b>	<b>406</b>
<b>INR/sh</b>	<b>19</b>	<b>34</b>	<b>45</b>	<b>59</b>	<b>67</b>	<b>79</b>	<b>82</b>	<b>95</b>	<b>115</b>	<b>125</b>	<b>146</b>	<b>166</b>
Net Profit (INR b)	17	24	25	36	47	57	69	66	36	18	30	43
EPS (INR / sh)	6.9	9.9	10.3	14.6	19.2	23.2	28.2	26.9	14.7	7.4	12.2	17.7
RoE (%)	25.2	30.0	25.7	30.1	32.5	31.4	30.3	23.5	11.3	5.3	8.4	11.3

Source: Company, MOSL

## BHEL: What went wrong...What company did...What is the underlying potential?

### Euphoria!! (2007-2009)

Phase of excesses! Perennial power deficit! Sky-rocketing prices! BTG project awards at 30GW+ pa...record levels



### What has company done in last five years?

- Expanded capacity from 7GW to ~20GW. Also built capabilities for EPC execution, expanded offerings (in terms of Auxillaries / Balance of Plant to capture increasing part of the value addition), rationalized cost structure, improved operational efficiencies, etc.
- Attempt to broad-base revenues in segments like Transportation (Greenfield unit for MEMU, expanding locos capacity), Defence Renewable (solar manufacturing), Power T&D (HVDC, STATCOM, 765kva transformers, GIS, etc). R&D spend increased to 2.8% of revenues in FY14, several projects expedited on a Mission mode.

### What went wrong in the five years?

- Industry ordering declined from peak levels of ~30-35GW pa during FY07-10 to ~6-10GW pa levels during FY12-15.
- Post NTPC bulk tender, BTG prices declined by ~20-25% over the last 4 years; despite increased commodity prices. Competitive intensity was severe with foreign players contributing 43% of the current projects under construction in the country.
- Industry business failed to provide support in a constrained environment as ~60% of the revenues were largely from Captive Power plants.

### Self-correction (2010-2014)

Reality hits! SEBs curtail high-cost power. Hibernation in project awards



### What is the underlying potential?

Meaningful operating leverage, both on P&L (staff costs at 21% of revenues in FY15E, vs 11.4% in FY12) and Balance Sheet (core NWC stable at ~200-210 days, while reported NWC at 154 days in FY14 vs negative 24 days in FY09). Expect net cash to increase from INR92b in FY14 to INR286b in FY17E (~45% of mkt cap).

2007

BHEL'S PRICE PERFORMANCE

2015

**Exhibit 20: Macro Power Demand / Supply analysis suggests that the next cycle of powergen capex to kickstart in the next 12-18 months**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15E	FY16E	FY17E	FY18E	FY19E
<b>Power Requirement</b>												
GDP	9.3%	6.7%	8.6%	8.9%	6.7%	4.5%	4.9%	5.8%	6.5%	7.5%	8.0%	8.0%
Elasticity to GDP growth	0.8	0.8	0.8	0.4	1.3	1.4	0.1	1.5	1.3	1.1	1.1	1.1
<b>Requirement (MUs)</b>	<b>739,345</b>	<b>777,039</b>	<b>830,300</b>	<b>861,591</b>	<b>937,199</b>	<b>995,557</b>	<b>1,002,257</b>	<b>1,088,702</b>	<b>1,177,159</b>	<b>1,274,274</b>	<b>1,386,410</b>	<b>1,508,415</b>
Demand Growth	7.1%	5.1%	6.9%	3.8%	8.8%	6.2%	0.7%	8.6%	8.1%	8.3%	8.8%	8.8%
<b>Capacity (MW)</b>												
Hydro	35,909	36,878	36,863	37,567	38,990	39,491	40,531	41,901	43,701	45,701	47,201	48,701
Coal	76,049	77,649	84,198	93,198	112,022	130,221	145,273	160,273	174,773	190,273	206,273	222,273
Gas	14,656	14,877	17,056	17,706	18,381	20,110	21,782	21,782	21,782	21,782	21,782	21,782
Diesel	1,202	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Nuclear	4,120	4,120	4,560	4,780	4,780	4,780	4,780	4,780	6,180	7,580	7,580	7,580
Renewables	11,125	13,242	15,521	18,455	24,503	27,542	29,463	32,463	35,963	39,463	42,963	46,463
<b>Total</b>	<b>143,061</b>	<b>147,965</b>	<b>159,398</b>	<b>173,626</b>	<b>199,877</b>	<b>223,344</b>	<b>243,029</b>	<b>262,399</b>	<b>283,599</b>	<b>305,999</b>	<b>326,999</b>	<b>347,999</b>
<b>Generation (MUs)</b>												
Hydro	123,423	112,361	103,896	114,257	130,510	113,720	134,731	132,140	133,989	140,121	144,720	149,319
Coal	490,210	511,247	514,732	535,340	584,787	691,555	746,087	849,417	964,539	1,091,751	1,228,729	1,362,980
Gas	68,778	67,399	92,517	100,257	93,464	66,836	44,522	43,886	49,610	57,243	57,243	57,243
Diesel						2,285	1,868	2,000	2,000	2,000	2,000	2,000
Nuclear	16,776	14,716	18,654	26,285	32,287	32,866	34,228	33,498	43,309	53,121	53,121	53,121
<b>Total</b>	<b>699,187</b>	<b>718,658</b>	<b>765,832</b>	<b>822,064</b>	<b>872,392</b>	<b>912,057</b>	<b>961,552</b>	<b>1,060,942</b>	<b>1,193,448</b>	<b>1,344,235</b>	<b>1,485,812</b>	<b>1,624,662</b>
Growth (%)	5.8%	2.8%	6.6%	7.3%	6.1%	4.5%	5.4%	10.3%	12.5%	12.6%	10.5%	9.3%
Base Deficit (%)	5.4%	7.5%	7.8%	4.6%	6.9%	8.4%	4.1%	2.5%	-1.4%	-5.5%	-7.2%	-7.7%
<b>Capacity addition (MW)</b>												
Hydro	1,256	969	-15	704	1,423	501	1,040	1,370	1,800	2,000	1,500	1,500
Coal	4,927	1,600	6,549	9,000	18,824	18,199	15,052	15,000	14,500	15,500	16,000	16,000
Gas	964	221	2,179	650	675	1,729	1,672	-	-	-	-	-
Diesel	-	-2	-	-	-	-	-	-	-	-	-	-
Nuclear	220	-	440	220	-	-	-	-	1,400	1,400	-	-
Renewables	3,365	2,117	2,279	2,934	6,048	3,039	1,921	3,000	3,500	3,500	3,500	3,500
<b>Total</b>	<b>10,732</b>	<b>4,904</b>	<b>11,432</b>	<b>13,508</b>	<b>26,970</b>	<b>23,468</b>	<b>19,685</b>	<b>19,370</b>	<b>21,200</b>	<b>22,400</b>	<b>21,000</b>	<b>21,000</b>
<b>Utilization/PLF(%)</b>												
Hydro	39.2%	34.8%	32.2%	34.7%	38.2%	32.9%	37.9%	36%	35%	35%	35%	35%
Coal	73.6%	75.2%	69.8%	65.6%	59.6%	60.6%	58.6%	61%	63%	66%	68%	70%
Gas	53.6%	51.7%	61.9%	64.6%	58.0%	37.9%	23.3%	23%	26%	30%	30%	30%
Nuclear	46.5%	40.8%	46.7%	62.8%	77.1%	78.5%	81.7%	80%	80%	80%	80%	80%

Coal PLF in FY19 at 70% calculated as: Centre 80%, Private 70%, State 65%

Source: Company, MOSL



## Financials and valuations

Income Statement								(INR Million)
Y/E March	2010	2011	2012	2013	2014	2015E	2016E	2017E
Total Income	333,545	404,443	479,788	484,247	391,088	292,664	303,627	346,149
Change (%)	25.4	21.0	18.8	0.8	-19.4	-25.2	3.7	14.0
Staff Cost	52,432	54,769	54,654	57,528	59,338	60,620	61,646	66,744
Mfg. Expenses	198,857	230,816	280,845	280,156	231,565	159,989	168,884	195,038
Selling Expenses	23,059	38,325	45,213	52,665	54,987	46,334	35,789	36,102
<b>EBITDA</b>	<b>59,196</b>	<b>80,532</b>	<b>99,076</b>	<b>93,898</b>	<b>45,198</b>	<b>25,722</b>	<b>37,308</b>	<b>48,264</b>
Change (%)	40.3	36.0	23.0	-5.2	-51.9	-43.1	45.0	29.4
% of Net Sales	17.7	19.9	20.6	19.4	11.6	8.8	12.3	13.9
Depreciation	4,580	5,441	8,000	9,534	9,829	10,600	10,867	11,636
Interest	335	547	513	1,253	1,326	776	1,105	1,111
Other Income	11,549	10,206	12,656	11,217	16,160	11,486	17,260	25,811
Extra-ord. Items (net)	73	5,305	-193	-4	-60	0	0	0
<b>PBT</b>	<b>65,903</b>	<b>90,055</b>	<b>103,026</b>	<b>94,324</b>	<b>50,143</b>	<b>25,831</b>	<b>42,596</b>	<b>61,328</b>
Tax	22,800	29,945	32,623	28,177	15,535	7,879	12,779	18,092
Rate (%)	34.6	33.3	31.7	29.9	31.0	30.5	30.0	29.5
<b>Reported PAT</b>	<b>43,103</b>	<b>60,110</b>	<b>70,403</b>	<b>66,147</b>	<b>34,608</b>	<b>17,953</b>	<b>29,817</b>	<b>43,236</b>
<b>Adjusted PAT</b>	<b>46,839</b>	<b>56,650</b>	<b>68,922</b>	<b>65,540</b>	<b>35,887</b>	<b>17,953</b>	<b>29,817</b>	<b>43,236</b>
Change (%)	31.3	20.9	21.7	-4.9	-45.2	-50.0	66.1	45.0

Balance Sheet								(INR Million)
Y/E March	2010	2011	2012	2013	2014	2015E	2016E	2017E
Share Capital	4,895	4,895	4,895	4,895	4,895	4,895	4,895	4,895
Reserves	154,278	196,643	248,837	299,546	325,575	339,219	361,881	394,740
<b>Net Worth</b>	<b>159,174</b>	<b>201,538</b>	<b>253,732</b>	<b>304,441</b>	<b>330,471</b>	<b>344,115</b>	<b>366,776</b>	<b>399,636</b>
Loans	1,278	1,021	1,234	14,152	26,548	26,250	26,250	26,250
Differed Tax Liability	-15,272	-21,636	-15,462	-15,507	-19,690	-19,690	-19,690	-19,690
<b>Capital Employed</b>	<b>145,179</b>	<b>180,924</b>	<b>239,504</b>	<b>303,086</b>	<b>337,329</b>	<b>350,675</b>	<b>373,336</b>	<b>406,196</b>
Gross Fixed Assets	65,801	80,497	97,066	107,832	120,505	130,231	139,521	148,811
Less: Depreciation	41,647	46,488	54,098	63,248	73,576	84,704	95,571	107,207
<b>Net Fixed Assets</b>	<b>24,154</b>	<b>34,009</b>	<b>42,968</b>	<b>44,585</b>	<b>46,929</b>	<b>45,527</b>	<b>43,950</b>	<b>41,604</b>
Capital WIP	15,296	17,338	13,476	11,716	6,421	5,000	5,000	5,000
Investments	798	4,392	4,617	4,292	4,202	4,202	4,202	4,202
<b>Curr. Assets</b>	<b>429,348</b>	<b>515,229</b>	<b>591,237</b>	<b>625,187</b>	<b>650,670</b>	<b>602,661</b>	<b>650,407</b>	<b>712,605</b>
Inventory	92,355	108,521	135,487	117,638	97,976	76,048	77,374	84,799
Debtors	206,888	274,656	357,405	398,882	399,530	346,400	313,597	310,496
Cash & Bank Balance	97,901	96,302	66,720	77,321	118,729	148,798	230,360	286,154
Loans & Advances	28,137	32,654	30,118	29,347	31,910	28,890	26,551	28,631
Other Current Assets	4,069	3,096	1,506	2,000	2,525	2,525	2,525	2,525
<b>Curr. Liab. &amp; Prov.</b>	<b>324,417</b>	<b>390,043</b>	<b>412,794</b>	<b>382,694</b>	<b>370,894</b>	<b>306,715</b>	<b>330,223</b>	<b>357,215</b>
Creditors	75,798	80,526	108,717	104,313	94,839	64,300	65,521	78,224
Other Liabilities	204,439	224,790	218,656	180,918	169,074	147,443	168,448	179,678
Provisions	44,180	84,728	85,421	97,462	106,981	94,971	96,253	99,313
<b>Net Current Assets</b>	<b>104,931</b>	<b>125,186</b>	<b>178,443</b>	<b>242,493</b>	<b>279,776</b>	<b>295,947</b>	<b>320,185</b>	<b>355,391</b>
<b>Appli. of Funds</b>	<b>145,179</b>	<b>180,924</b>	<b>239,504</b>	<b>303,085</b>	<b>337,329</b>	<b>350,675</b>	<b>373,336</b>	<b>406,196</b>

E: MOSL Estimates

## Financials and valuations

Ratios								
Y/E March	2010	2011	2012	2013	2014	2015E	2016E	2017E
Basic (INR)								
EPS	19.1	23.1	28.2	26.8	14.7	7.3	12.2	17.7
Change (%)	31.3	20.9	21.7	-4.9	-45.2	-50.0	66.1	45.0
Cash EPS	21.0	25.4	31.4	30.7	18.7	11.7	16.6	22.4
Book Value	65.0	82.3	103.7	124.4	135.0	140.6	149.9	163.3
DPS	4.7	6.2	6.4	5.4	2.8	1.5	2.4	3.5
Payout (incl. Div. Tax.)	26.5	25.4	22.3	20.0	20.0	20.0	20.0	20.0
Valuation (x)								
P/E				8.1	11.1	37.3	22.5	15.5
Cash P/E				7.1	8.7	23.5	16.5	12.2
EV/EBITDA				5.0	6.7	21.1	12.4	8.4
EV/Sales				1.0	0.8	1.9	1.6	1.2
Price/Book Value				1.8	1.2	1.9	1.8	1.7
Dividend Yield (%)				2.0	1.0	0.5	0.9	1.3
Return Ratio (%)								
RoE	32.5	31.4	30.3	23.5	11.3	5.3	8.4	11.3
RoCE	51.4	52.3	49.3	35.2	16.1	7.7	12.1	16.0
Turnover Ratios								
Debtors (Days)	221	241	263	290	362	423	369	321
Inventory (Days)	103	100	105	90	93	97	95	91
Creditors. (Days)	84	77	83	79	89	81	79	83
Asset Turnover (x)	13.6	11.7	11.0	10.7	8.2	6.3	6.8	8.2
Leverage Ratio								
Debt/Equity (x)	-0.8	-0.6	-0.5	-0.3	-0.2	-0.3	-0.4	-0.6

### Cash Flow Statement (INR Million)

Y/E March	2010	2011	2012	2013	2014	2015E	2016E	2017E
PBT bef. EO Items	65,830	84,750	103,218	94,329	50,203	25,831	42,596	61,328
Add : Depreciation	4,580	5,441	8,000	9,534	9,829	10,600	10,867	11,636
Interest	335	547	513	1,253	1,326	776	1,105	1,111
Less : Direct taxes paid	22,800	29,945	32,623	28,177	15,535	7,879	12,779	18,092
(Inc)/Dec in WC	-54,151	-36,596	-78,991	-14,873	24,026	34,296	34,962	7,743
CF from Operations	21,345	36,198	-4,588	24,456	54,269	45,153	97,926	75,230
EO Income	73	5,305	-193	-4	-60	0	0	0
CF from Op. Incl. EO Items	21,418	41,503	-4,780	24,452	54,209	45,153	97,926	75,230
(Inc)/dec in FA	-17,756	-17,339	-13,097	-9,390	-6,879	-7,777	-9,290	-9,290
Free Cash Flow	3,589	18,860	-17,685	15,065	47,390	37,376	88,636	65,940
(Pur)/Sale of Investments	-275	-3,593	-225	325	90	0	0	0
CF from Investments	-18,031	-20,932	-13,322	-9,065	-6,789	-7,777	-9,290	-9,290
(Inc)/Dec in Network	3,135	-6,369	6,169	-43	-4,657	0	0	0
(Inc)/Dec in Debt	-216	-256	213	12,918	12,396	-298	0	0
Less : Interest Paid	335	547	513	1,253	1,326	776	1,105	1,111
Dividend Paid	11,216	14,999	17,960	16,406	12,425	6,234	5,970	9,035
CF from Fin. Activity	-8,632	-22,171	-12,091	-4,784	-6,012	-7,307	-7,075	-10,145
Inc/Dec of Cash	-5,245	-1,599	-30,194	10,602	41,408	30,069	81,562	55,794
Add: Beginning Balance	103,147	97,901	96,302	66,720	77,321	118,729	148,798	230,360
Closing Balance	97,902	96,301	66,720	77,322	118,728	148,798	230,360	286,154

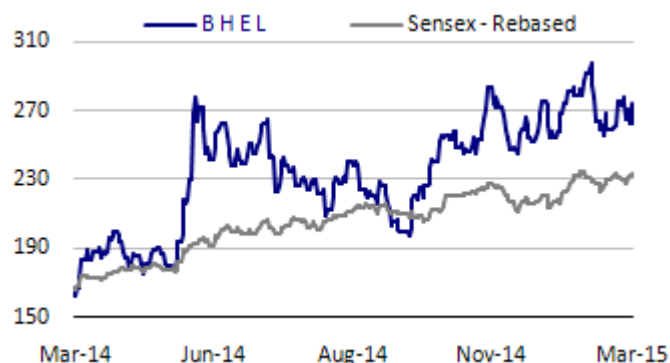
E: MOSL Estimates

## Corporate profile: BHEL

### Company description

- n BHEL is India's dominant producer of power and industrial machinery and a leading EPC company, established in the late 1950s as the government's wholly-owned subsidiary.
- n The company has 14 manufacturing divisions, 8 service centers, 4 power sector regional centers besides project sites spread across all over India and abroad.
- n It has a manufacturing capacity of 20GW spread across multiple factories in India; including for thermal, hydro and gas projects.

### Exhibit 21: Sensex rebased



### Exhibit 22: Shareholding pattern (%)

	Dec-14	Sep-14	Dec-13
Promoter	63.1	63.1	67.7
DII	17.3	16.9	12.0
FII	16.0	15.7	15.6
Others	3.7	4.3	4.7

Note: FII Includes depository receipts

### Exhibit 24: Top management

Name	Designation
B Prasada Rao	Chairman & Managing Director

### Exhibit 23: Top holders

Holder Name	% Holding
LIC of India	9.4
Comgest Growth PLC A/C. Comgest Growth Emerging	1.2
Lazard Asset Management LLC A/c Lazard Emerging	1.2
Magellan	1.1
LIC of India Market Plus -1 Growth Fund	1.0

### Exhibit 25: Directors

Name	Name
B Prasada Rao	W V K Krishna Shankar
P K Bajpai	A N Roy
R Krishnan	Harinder Hira
Atul Sobti	S K Bahri
T N Veeraraghavan	Rajesh Kumar Singh

\*Independent

### Exhibit 26: Auditors

Name	Type
Anjaneyulu & Co	Statutory
J V Ramanujam & Co	Statutory
Patel Mohan Ramesh & Co	Statutory
S B A & Co	Statutory
S N Dhawan & Co	Statutory
Vardhaman & Co	Statutory
Vinay Kumar & Co	Statutory
Wahi & Gupta	Statutory

### Exhibit 27: MOSL forecast v/s consensus

EPS (INR)	MOSL forecast	Consensus forecast	Variation (%)
FY15	7.3	9.1	-19.6
FY16	12.2	11.1	10.4
FY17	17.7	15.4	15.2

## Disclosures

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