

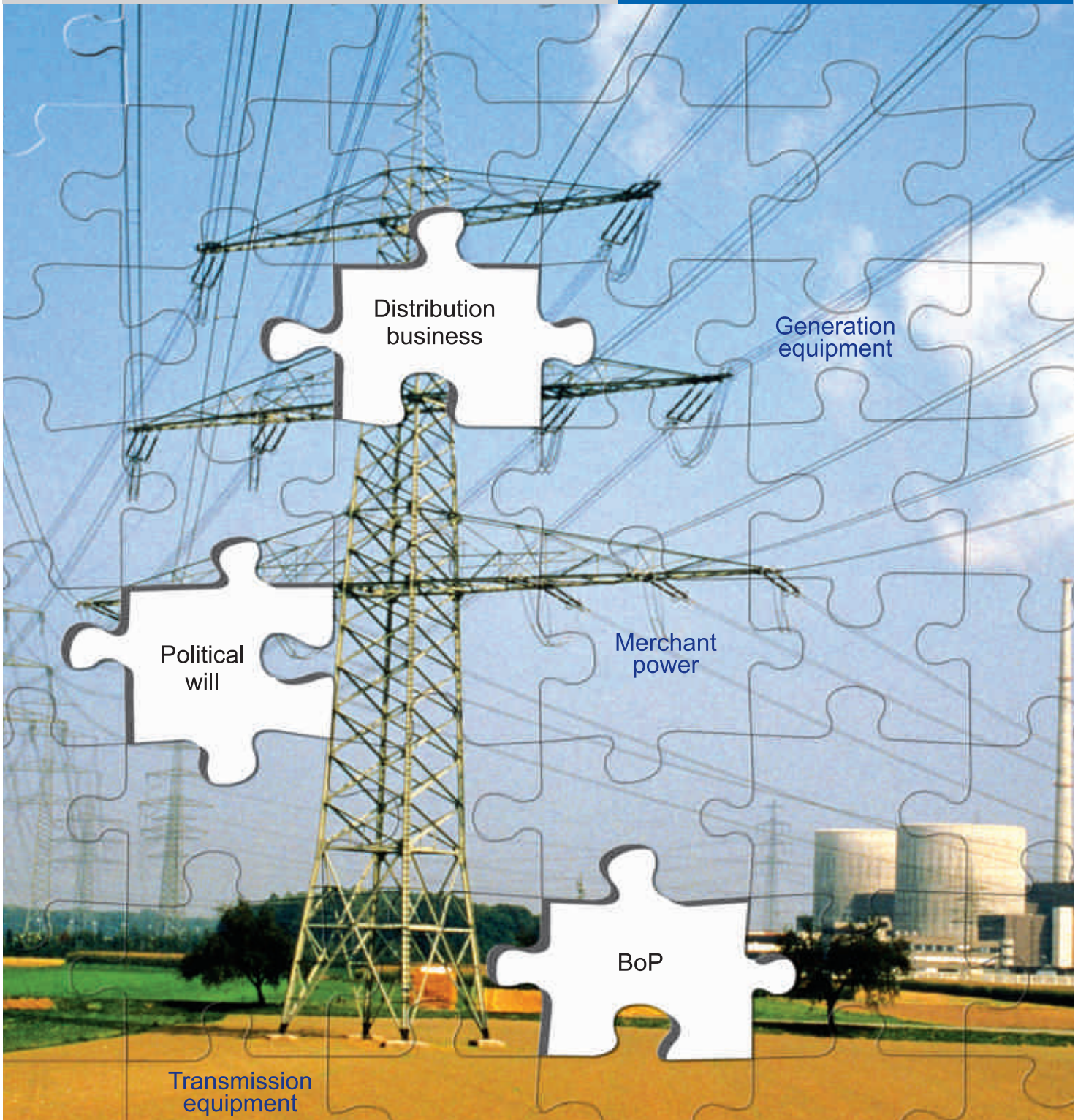
Power

Deciphering the power puzzle

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Edelweiss
Ideas create, values protect



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Executive Summary

■ Indian power sector: A growth story from 2003 to 2030

Key structural changes in the Indian power sector since 2003 include lower credit risk for asset owners and higher incentives for private sector participation. We believe these are likely to drive the long-term growth story in the sector. India is projected to have power generation capacity of ~750 GW by 2030, ~5x the current capacity, which is expected to be the third highest globally. This implies annual capacity addition of 20-25 GW against the average annual capacity addition of 5-6 GW in the Eleventh Plan so far.

■ Opportunities galore; key concerns continue to be an overhang

Opportunities in the power sector across various segments are immense and are likely to remain lucrative over the Eleventh and Twelfth plan periods. However, it is noteworthy that even after the Electricity Act 2003, some key issues persist in the sector. While policy actions of the central government and regulators have been in the right direction, implementation of those regulations, which rests upon state governments, has been found wanting. Further, due to the sector's concurrent nature (implying it is under the purview of both Centre and states), the central government has been unable to implement reforms.

■ Introducing peak value: BTG, BoP to create most value till FY12E

We believe attractive opportunities exist across the power value chain. However, given the staggered expansion mode, these need to be analysed with regards to their risk profile and long-term potential. We introduce the concept of peak value creation (PVC) for such analysis. Peak value is created when the business maximises growth and RoCEs over the business cycle. We also note that market capitalisation tends to be a lead indicator. Our analysis highlights that all power equipment and contracting companies will enjoy PVC till FY12. Hence, upsides to valuation exist till FY12E, post which, valuations could de-rate as changing industry dynamics will result in lower value creation.

■ Top picks

Based on our analysis, we believe equipment and contracting companies and merchant power utilities are likely to reach peak value during FY10-12; regulated utilities will achieve their peak value over the next five years and competitively bid tariff companies are likely to reach peak value after FY12. Our top picks are **Tata Power and CESC**, amongst utilities. Amongst equipment and contracting companies, we like **BHEL, BGR Energy, and KEC International**.

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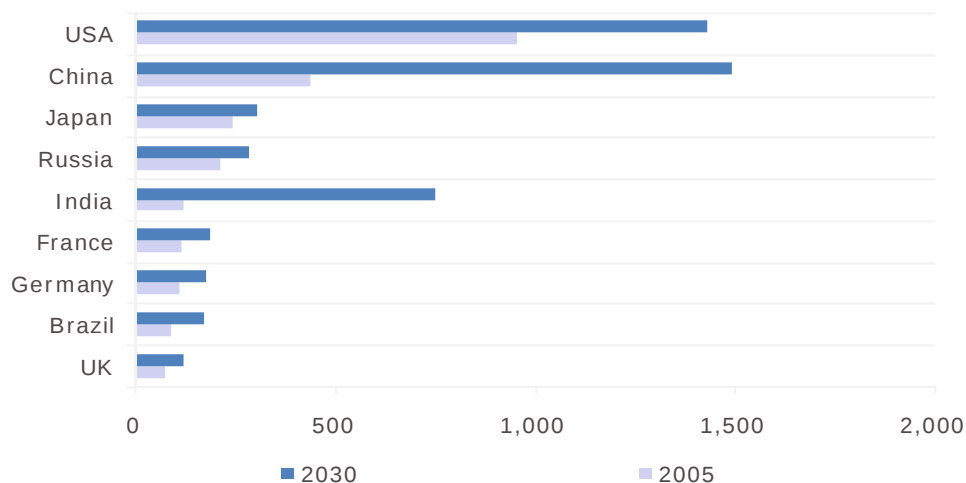
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Power Sector: From 2003 to 2030

India is projected to have power generation capacity of ~750 GW by 2030¹, ~5x the current capacity, which is expected to be the third highest globally. This implies annual capacity addition of 20-25 GW against average annual capacity addition of 5-6 GW in the Eleventh Plan so far.

Chart 1: Installed power generation capacities (GW)

India's power generation capacity is expected to be the third highest globally by 2030

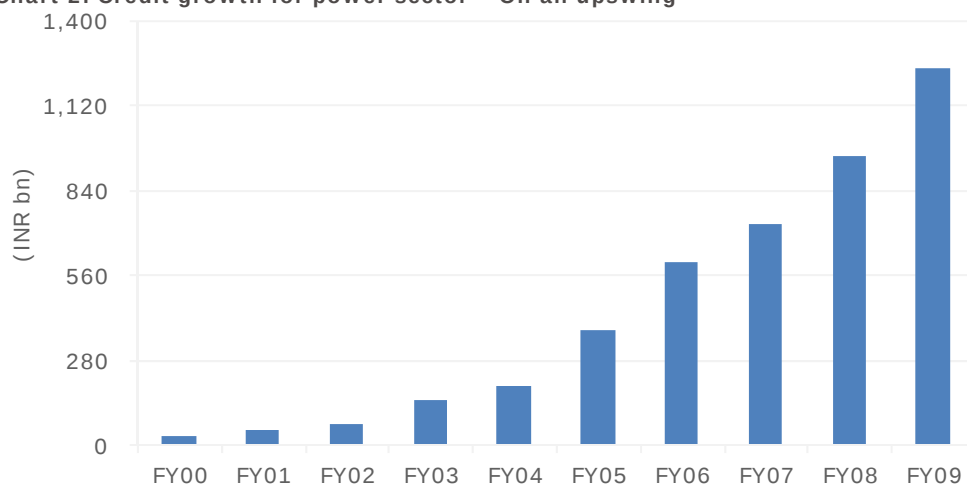


Source: Central Electricity Authority (CEA), Edelweiss research

The macro story of the sector implies high growth, long-term visibility and sustainable returns. This, together with the demand-supply gap (~16% peak deficit), has been attracting investments into the power sector. As can be seen in Chart 1, the sector's credit growth has posted CAGR of 50%, highest in the infrastructure sector over FY00-09.

Chart 2: Credit growth for power sector – On an upswing

Credit growth to power sector had a CAGR of 50% over FY00-09, highest in the infrastructure sector



Source: RBI, Edelweiss research

¹ As indicated by the Indian Planning Commission 2006: Integrated Energy Policy; more optimistic estimate by Ministry of Power: 900 – 1100 GW (8- 9% GDP growth)

■ Game changers for the sector from 2003

Since FY03, Government of India (GoI) has undertaken many initiatives to correct structural faults that had developed in the sector over the years. These measures, described below, clearly had long-term impact on the power sector:

• Power for all by 2012

In 2001, the central government introduced 'Power for all by 2012' - a comprehensive blueprint for all power sector development projects. It aimed at adding at least 100 GW by 2012 and increasing the per capita availability of electricity to over 1,000 units by 2012. This blueprint formed the core of various power reforms that were introduced in the sector in ensuing years under the Tenth and Eleventh plans.

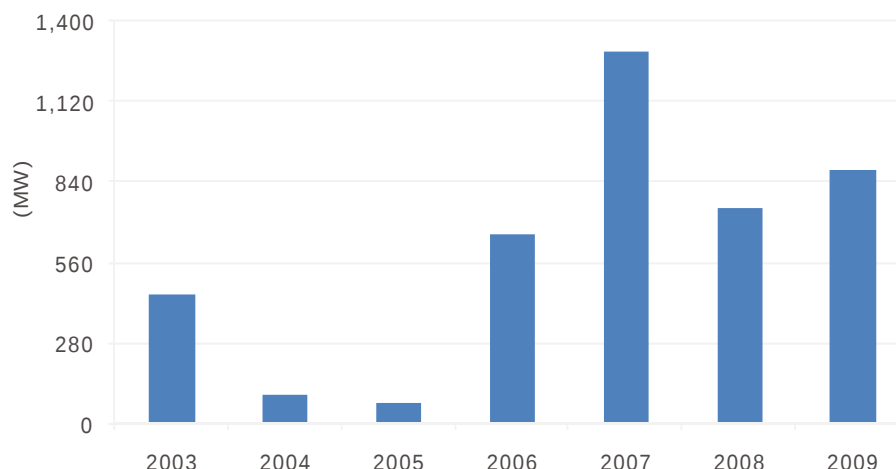
Through 'Power for all by 2012', we saw GoI give impetus across the power value chain. The target acted as a guiding force, ensuring later reforms in the form of Electricity Act, 2003, which opened up the generation sector by encouraging private sector participation. The transmission and distribution legs were provided fillip through distribution up-gradation and rural electrification programmes like Accelerated Power Development and Reform Programme (APDRP) and Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY), respectively. To achieve targets across various legs of the power sector, reform agendas were put in place in each aspect:

- Generation focus was on low-cost power, optimisation of fuel mix, technology upgradation (like super critical) and harnessing renewable potential.
- Transmission reforms targeted creation of national grid with focus on reducing cost of transporting power with minimal line losses.
- Distribution focused on system upgradation, theft/loss reduction and improving power quality.

• The Electricity Act 2003

Amongst some of the most important covenants of the Electricity Act 2003 were freeing of power generation from licensing requirements and elimination of the 'single buyer' model for generation companies. This essentially dealt directly with one of the most important problems of 'credit security' that was plaguing generation capacity addition by the private sector. These two important measures, amongst others, resulted in higher incentives for the private sector to set up generation capacities.

Chart 3: Capacity addition by private sector



Source: CEA, Edelweiss research

Target to increase per capita electricity consumption from ~700 units currently to 1,000 units by FY12

Electricity Act 2003 guaranteed credit security and incentivised private sector participation

Prior to 2003, one of the main problems of the power sector in India was the credit risk faced by generating companies due to risk of late payments and defaults by state electricity boards (SEBs). The Electricity Act 2003 proposed unbundling of SEBs into generation, transmission and distribution entities. This move resulted in cleaning up the act of SEBs by isolating the loss making units and enabling the generation SEBs to be credit worthy and, hence, take up generation capacity expansion.

Addition of generation capacities resulted in significant growth opportunities for the generation equipment and project companies. Further, the shoring up of generation capacities had a positive impact on transmission and distribution value chains.

- **One-time settlement 2003**

Until early 2001, most SEBs were on the verge of bankruptcy due to high T&D losses, irrational tariffs, degraded equipment and high workforce. Since they were the only entities with access to end consumers, restoring their financial health and ensuring that they operated and maintained an efficient network was critical. To restore SEBs' financial health, GoI introduced a financial restructuring package that entailed writing-off of ~25% of outstanding dues (principal + interest) and issuing 15-year bonds bearing coupon of 8.5% (tax free) by securitising the balance dues. The scheme also set a landmark by forcing various states to sign MoUs with GoI, entailing reform-based performance milestones, failing which GoI would deduct allocations/assistance to the respective defaulting state.

One-time settlement scheme cleared outstanding dues of ~INR 374 bn for central PSUs in FY03

- **National Tariff Policy 2006**

The objective of National Electricity Policy (NEP) 2006 was to ensure competitive tariffs, financial turnaround and commercial viability of state utilities and providing electricity to India's poor. The policy has set targets under each segment of power such as: (1) adding 100 GW in 2002–12, ensuring at least one 33/11 kv substation in every block, so that at least one distribution transformer is installed in every village; (2) encouraging renewable energy and renovation and modernisation (R&M) programmes; (3) opening the sector for private sector participation; and (4) set benchmarks for cross-subsidy levels. The initiatives set the tone for INR 10 tn capex across generation, transmission and distribution segments over a decade. With GoI constrained for finances and public utilities cash strapped, restructuring the existing loss making entities was the perfect ground to solicit private sector participation.

National Tariff Policy 2006 enforced adoption of competitive bidding and multi-year tariffs

Taking cues from NEP, the National Tariff Policy introduced competitive bidding as the basis for all future projects (except for government owned projects). It also directed the regulatory commissions to promote transparency, consistency and predictability in regulations with an objective to promote competition, efficiency in operations and improvement in quality of supply. Enforcing adoption of multi-year tariffs by all regulatory commissions from April 1, 2006, was a turning point for Indian power reforms. The tariff policy also recommended limiting cross-subsidisation up to 20% of average cost of supply by FY11.

- **Reducing inefficiencies through APDRP**

GoI introduced Accelerated Power Development and Reforms Programme (APDRP) in FY01 with an outlay of INR 400 bn, to reduce T&D losses from 32% to 10% by FY07. Even as the scheme achieved limited success in terms of reducing T&D losses (currently at 26.9%), funding through the scheme resulted in capital availability for the distribution utilities; the utilities could, therefore, undertake distribution up-gradation projects, which enhanced their revenue visibility. As per APDRP, the central government was required to fund 50% of the total spending on T&D

upgradation (1:1 ratio of grant and loan), while SEBs were supposed to finance the balance through various financial institutions or through their own funds.

In the second half of the Tenth Plan period, the aforementioned policy actions brought about changes that had far reaching impact on the Indian power sector. Most importantly, they have driven capital into areas like power generation and transmission, and opened up growth opportunities across the value chain.

INR 17 tn Opportunity Over XI and XII Plans

Over the Eleventh and Twelfth plans (FY07-17), India targets to add ~170 GW, creating huge investment opportunities across the power value chain. Assuming a rough cut capex of INR 50 mn per MW for generation, and similar spend for T&D in 1:1 ratio, the country is likely to invest INR 17 tn over 2007-17. The fundamental growth across verticals of power is well documented. High growth, long-term visibility and sustainable returns make the sector an attractive investment option. However, it needs to be noted that even as the sector provides numerous investment opportunities, characteristics of various verticals in the sector differ vastly. Below, we classify the sector into different segments:

Table 1: Opportunities across the power sector value chain

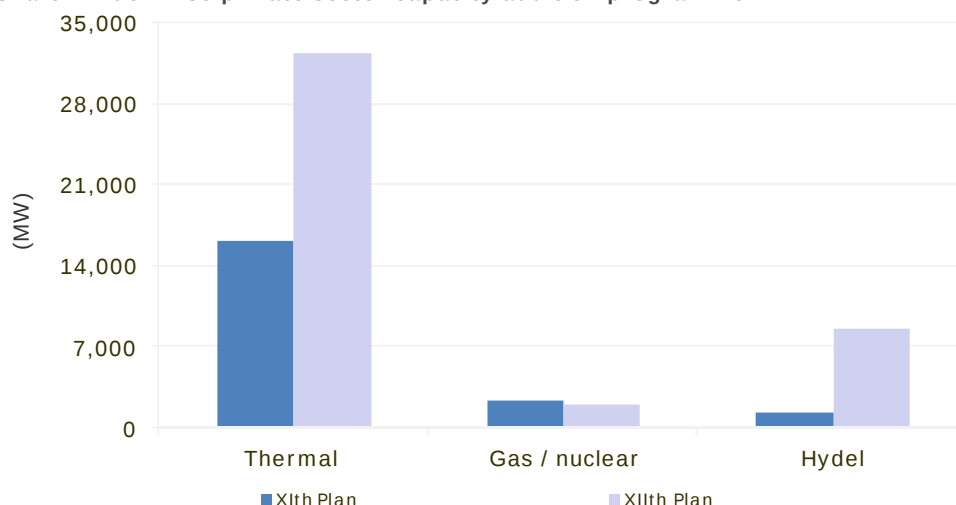
Opportunities profiling	Utilities- Regulated and unregulated	Equipments and contractors	Projects/ Services
Generation (INR 8.5 tn)	Regulated tariffs	Boiler turbine generator (INR 4.25 tn)	Civil construction (INR 1.25 tn)
	Competitive tariff projects	Balance of plants (INR 3 tn)	EPC for power projects
	Merchant power plant		
Transmission (INR 4.25 tn)	Government owned regulated entities	Transmission equipment (INR 3.5 tn)	Projects for power transmission lines and substations
		Transmission line towers (INR 0.75 tn)	EPC for transmission lines
Distribution (INR 4.25 tn)	Private (BoT) projects		EPC for sub stations
	Government owned regulated entities	Distribution equipment	EPC projects for RGGVY
			EPC projects for APDRP

Source: Edelweiss research

■ Opportunities for regulated and unregulated utilities

Utilities comprise generation, transmission and distribution companies in India. Of these, transmission and distribution are almost owned by government entities. While most of the existing generation capacities are also government owned, the private sector is likely to be the largest contributor to capacity addition (on an incremental basis) over the next 10 years.

Chart 4: Fuel-wise private sector capacity addition programme



Private sector to be the largest contributor to capacity addition over the next 10 years

Source: CEA, Edelweiss research

The capacity addition target of 170 GW over the next eight years entails an investment of INR 17 tn, assuming INR 50 mn/MW generation and an equal amount in T&D. India continues to remain largely dependent on coal as fuel for its power plants. While hydro potential has been estimated at 50 GW, geological and environmental issues have been key impediments in meeting targets. Even after the huge gas find through Reliance Industries' (RIL) KG basin, India is likely to continue to be powered largely by coal.

Table 2: Cost of setting up of various types of power plants

Cost of a setting up a power plant	(INR mn / MW)
Coal	50 - 55
Gas	35 - 40
Hydro	60 - 80
Nuclear	80 - 100
Wind	50 - 55

Source: Edelweiss research

Setting up a power plant can cost between INR 35 mn/ MW to INR 100 mn/ MW depending on the fuel

Bulk of private sector participation is envisaged in the generation space. Only in select cities the private sector is active, with most of its operations fully integrated in terms of presence across generation, transmission and distribution. While the focus of planners and orientation of the private sector have largely been on the generation space, the national average AT&C losses (~40%) is a cause for great concern (as much as it is a potential opportunity). With most distribution assets under the control of state governments, these losses have built up over a period of time due to commercial indiscipline and neglect of infrastructure spend. Owing to their weak financial health, the state utilities are considering to bid out the distribution assets for private sector participation.

Table 3: SEB losses (on subsidy received basis) (INR bn)

	FY05	FY06	FY07	FY08
SEB losses (subsidy received basis)	122.6	96.8	142.1	155.4

Source: CEA, Power Finance Corporation (PFC), Edelweiss research

After trying different privatisation models (Orissa - complete privatisation; Delhi – JV model; Bhiwandi, Maharashtra, – franchisee model), rapid success achieved in the franchisee route has enthused policymakers. During our interactions with industry officials, we have learnt that many states are likely to invite bids on this route. We, therefore, expect huge opportunities in distribution franchisee to come in the future. Since most of them are likely to be on bidding mode, most of the companies involved in this business would stand to benefit depending on the rollout.

Table 4: Distribution circles identified by CRISIL

State	Cities / towns
Andhra Pradesh	Hyderabad, Vishakapatnam, Vijaywada
Gujarat	Vadodara, Rajkot
Haryana	Faridabad
Karnataka	Bangalore
Madhya Pradesh	Indore, Bhopal, Jabalpur
Maharashtra	Pune, Nagpur, Nashik, Aurangabad, Solapur
Rajasthan	Jaipur
Uttar Pradesh	Kanpur, Lucknow, Agra, Varanasi, Meerut, Allahabad, Ghaziabad
West Bengal	Asansol

Source: CRIS-Infac

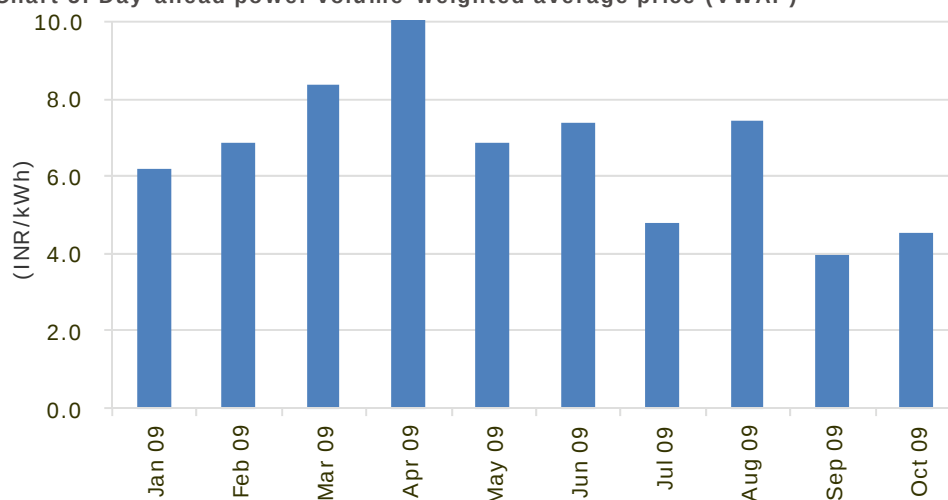
~25 circles identified to be opened up for distribution franchisee

Until recently, the power utility business was entirely regulated with a fixed RoE revenue model. Post 2007, the sector has, however, been opened up for wider participation through competitive bidding. Since the license scheme was also abolished, some merchant power companies were set up.

By and large, power generation projects earn RoE of 17-20%. Merchant power plants, on the other hand, due to the ~16% peak deficit, are currently enjoying very high RoE (100%+) as the spot rate of power is ~INR 6/kwh.

Chart 5: Day-ahead power volume-weighted average price (VWAP)

VWAP of exchange traded power at ~INR 4.5/ unit touched peak of ~INR 10/ unit in run-up to the general elections



Source: India Energy Exchange, Edelweiss research

In the Eleventh Plan, 73,800 MW is expected to be on regulated/competitive bidding basis and 6,200 MW is expected to be on merchant basis, which will be split up amongst the central, state and private utilities in the ratio 42%, 31% and 27%, respectively. In the Twelfth Plan, 90,000 MW will be added, with majority on competitive bidding or merchant basis. In transmission, PGCIL (central sector) is targeting capex of INR 550 bn in the Eleventh Plan and INR 700 bn in the Twelfth Plan. The remaining spend is likely to come from state utilities. Earnings will be regulated at 15.5% on the equity with marginal incentive gains. In the distribution business, most of the capex will be done by state utilities that are likely to earn regulated returns of 14-16% on the equity base. The privatization drive in transmission and distribution is still in nascent stages, and we expect the same to be rolled out in FY12 and beyond.

Focus on distribution to increase in the Twelfth plan

Table 5: GTD spend over next 10 years

	(INR bn)	
	XI Plan	XII Plan
Generation	4,109	4,951
Transmission	1,400	2,400
Distribution	2,870	4,001
Others	1,937	
	10,316	11,352

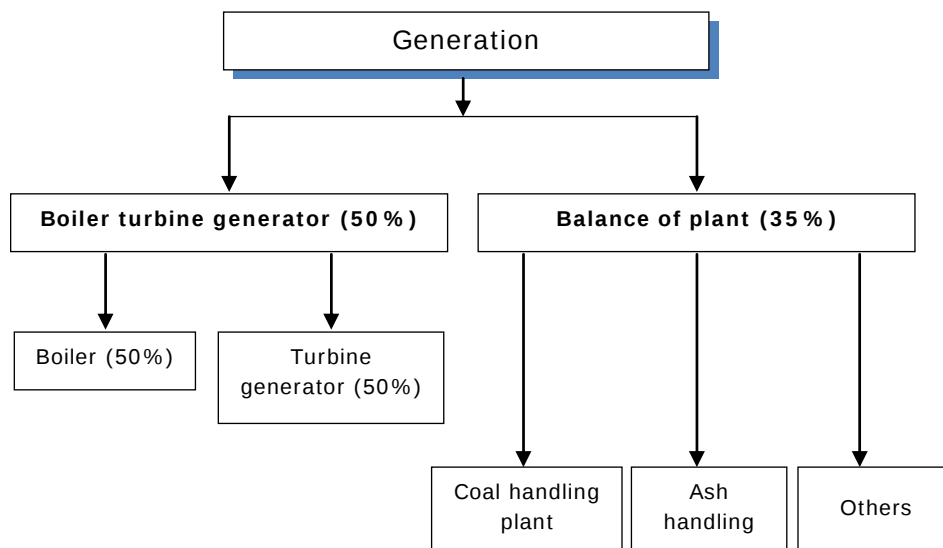
Source: PFC

■ Opportunities for equipment and contracting

• Opportunities for generation equipment

Generation equipment broadly comprises boiler-turbine-generator (BTG), balance of plants (BoP) and civil construction. While BTG involves products, most of BoP and civil construction is classified under projects. Below, we represent various components of a generation system:

Fig 1: Breakup of various equipment of a thermal power generation plant



Source: Crisil, Edelweiss research

BTG equipment industry has grown by ~2x over FY97-07

Assuming INR 50 mn/MW capex for a power plant, the BTG opportunity is likely to be ~INR 4.25 tn (50% of the overall spend), which can be broadly split into 50:50 for boilers and turbine generators. Going ahead, during the Eleventh and Twelfth plans, India targets to add ~170 GW of generation capacity, thereby, creating a huge market for equipment vendors. This implies growth of ~2x over FY97-07. BHEL and Thermax have been key boiler manufacturers in India; BHEL, along with Siemens, has been a key player in turbine generators. BHEL, the largest equipment vendor in the country, has 10 GW annual BTG capacity. However, according to the Eleventh Plan capacity addition targets, the BTG industry is required to have an annual capacity of ~15 GW. Given this gap in demand and supply, imports will play a vital role in meeting this demand. Among foreign players, Chinese and Korean (Shanghai, Doosan, and Dong Fang) manufacturers have been particularly active in India due to their ability of executing standardized 300 and 600 MW plants on lower time schedules and lower initial capex.

Order backlog to sales, a growth indicator for BTG companies, is at an all-time high, implying huge growth in the BTG space, driven by capacity additions. Consequently, we are likely to see high margins and profitability for BTG companies at least over the Eleventh Plan period, until capacities continue to lag demand.

Chart 6: Order backlog /trailing sales for BHEL



Source: Company, Edelweiss research

Order backlog to sales, is at all time highs, implying high growth in the BTG sector over Eleventh plan period

- Opportunities for contracting: Generation (BoP and civil construction)**

Apart from the main plant equipment (BTG), balance-of-plants (BoP) and civil contractors play an important role in execution of a power plant. In a typical power plant of INR 50 mn capex per MW, ~INR 17-18 mn is spent across various BoP packages. As detailed below, BoP mainly comprises the following seven packages:

Table 6: Key vendors for various BoP packages

BoP package	Key vendors
Coal handling plant	Techpro Systems , BGR Energy, Elecon Engineering, L&T
Ash handling plant	Indure, Mecawber Beekay
Demineralised plant	Driplex, Thermax, BGR , Doshi Ion Exchange
Cooling towers	Paharpur Cooling Towers, Gammon India
Chimney	NBCC, Gammon India, Simplex
Fuel oil system	BHEL, Techno Electric
PT plant	Driplex, Thermax

Source: CEA, Edelweiss research

Balance of Plants opportunity at INR 2.9 tn over the Eleventh and Twelfth plan periods

During the Eleventh and Twelfth plans, India targets to add ~170 GW, entailing BoP opportunity worth INR 2.9 tn (INR 17 mn per MW). Given the huge opportunity and limited number of players eyeing it, we are likely to see rapid revenue growth with stable margins over the medium term for BoP players. Across the seven packages, there are capacity constraints, most aggravated in the 'ash handling' package.

Table 7: Capacities across BoP packages

Capacities	No constraint	Moderate constraint	Severe constraint
Coal handling	✓		
Ash handling			✓
Dimineralized plant		✓	
Cooling towers		✓	
Chimney			✓
Fuel oil system			✓
PT plant			✓

Source: CEA, Edelweiss research

We believe the current dynamics of the BoP industry offers existing players an opportunity to scale up capacities. However, even as the opportunity exists, we have seen very little capacity addition by various BoP vendors.

We believe this can be attributed to the low-end nature of BoP contractors, which results in higher bargaining power of core contractors. However, one of the trends observed in the BoP industry has been emergence of contractors, who take up all the seven BoP packages and then further sub-contract them to various specialized BoP contractors like Punj Lloyd and BGR Energy. In the absence of specialised players like Techno Electric (specialised in fuel oil package) increasing capacities, we are likely to see full service BoP contractors benefitting from growth opportunities in the BoP segment.

- **Opportunities for transmission equipment**

As most generation capacities are concentrated in eastern regions (near coal supplies), power has to be transmitted to other regions at high voltage (as it is cheaper to transmit power rather than fuel). Transfer of power has increased tremendously over past 4-5 years, as the West and North India have started drawing/consuming more power.

In India, power transmission comprises inter-regional grids (high voltage), state grids (medium voltage) and distribution grids (low voltage). The inter-regional grid is operated by PGCIL, while state and distribution grids are operated by their respective state transmission utilities or SEBs.

India has a power transmission network of ~6.94 mn ckt kms. Of this, 4.15 mn ckt kms is constituted by distribution lines.

The current inter-regional transmission is at 20,750 MW, and is expected to be 37,150 MW by the end of the Eleventh Plan

Table 8: Power – transmission lines infrastructure in India

(ckt kms)	HVDC	800	400	230/220	132/110/90	78/66	33/22/20	15/11	6.6/3.3/2.2	Distribution lines	Total
FY94	1,667	-	27,129	72,916	93,929	36,613	226,362	1,465,796	4,421	2,949,195	4,878,028
FY95	1,667	-	28,025	75,572	96,551	37,675	231,348	1,504,618	4,452	3,038,451	5,018,359
FY96	1,667	-	28,349	76,203	97,446	37,042	238,876	1,523,749	4,518	3,081,842	5,089,692
FY97	1,667	-	36,166	80,039	99,309	37,042	239,900	1,533,518	4,522	3,108,830	5,140,993
FY98	1,672	-	36,497	83,390	103,902	39,028	255,797	1,593,105	3,332	3,405,788	5,522,511
FY99	1,672	-	36,122	85,141	105,744	41,044	263,165	1,634,840	4,494	3,568,189	5,710,411
FY00	1,672	-	37,636	86,963	107,522	41,646	269,963	1,660,453	4,431	3,525,121	5,735,407
FY01	3,176	-	38,004	92,470	110,110	43,169	274,103	1,711,619	4,562	3,570,347	5,847,560
FY02	4,104	-	40,887	97,238	118,180	43,849	288,226	1,753,331	4,737	3,679,596	6,030,148
FY03	5,876	-	51,785	99,779	120,958	43,202	302,981	1,936,689	4,558	3,985,909	6,551,737
FY04	5,876	-	53,616	101,667	121,925	43,297	283,240	1,869,371	6,362	3,859,504	6,344,858
FY05	6,841	563	57,185	104,758	124,344	45,884	299,639	1,971,722	6,431	3,953,456	6,570,823
FY06	6,841	563	57,840	108,261	129,465	47,231	309,708	2,047,460	6,474	4,064,516	6,778,359
FY07	6,841	563	58,018	111,572	132,124	49,462	314,538	2,085,897	6,431	4,149,923	6,939,529

Source: CEA

Note: Decline in 2003-04 is due to reconciliation in data done by the Data Supplying Organisation in 33/22 kV, 15/11 kV and in distribution lines up to 500 volts

India has five regional grids. State grids are interconnected through high voltage transmission lines to form a regional grid, which facilitates power transfer between neighboring states. By FY12, regional grids are expected to be integrated to form a national grid, which is likely to result in transfer of power from power surplus regions to power deficit regions. The current inter-regional transmission capacity stands at 20,750 MW, and is expected to reach 37,150 MW by the end of the Eleventh Plan.

The requirement for inter-regional evacuation of power is likely to lead to the setting up of a high-voltage circuit-based transmission grid. We believe the same is likely to be effective for lowering transmission losses and providing opportunity for the power transmission equipment suppliers. The total capital expenditure planned by PGCIL, state transmission utilities and the private sector is detailed in the table below:

Table 9: Capital expenditure planned in power transmission sector- Eleventh Plan (INR bn)

	FY03	FY04	FY05	FY06	FY07	Total 10th Plan	FY08	FY09	FY10E	FY11E	FY12E	Total 11th Plan
Northern region	8.0	8.6	12.2	14.9	15.4	59.1	22.3	26.2	30.6	30.1	26.2	135.3
Western region	3.6	4.0	3.7	3.6	16.0	30.8	15.6	33.3	53.2	38.6	22.9	163.6
Southern region	10.2	12.5	12.9	13.5	33.4	82.4	39.2	42.1	20.6	19.2	30.1	151.1
Eastern region	10.6	10.6	13.2	16.9	23.4	74.7	21.0	40.7	54.1	25.6	19.5	160.8
North Eastern region	0.5	0.6	1.2	1.3	2.4	5.9	5.8	8.3	8.6	9.2	7.4	39.2
Central Sector	28.0	24.9	32.8	42.0	66.9	194.5	66.0	116.1	135.7	129.6	114.4	561.8
Private Sector	-	-	-	-	-	-	25.0	30.0	40.0	45.0	50.0	190.0
Total	60.9	61.1	76.0	92.1	157.3	447.4	194.9	296.7	342.7	297.2	270.4	1,401.8

Source: CEA, Edelweiss research

As detailed in Table 9, capacity expansion in the Eleventh Plan is likely to be in excess of 2.5x of the capacity expansion in the Tenth Plan. Thus, we believe, there is high growth opportunity for companies catering to the power transmission capacity build out.

Investment in the power transmission system is equally divided amongst transmission lines and sub-stations. Based on Central Electricity Authority's (CEA) projections for the Eleventh Plan, our estimate for investment in each vertical of the power transmission space is shown below:

Table 10: Power transmission spending across various components (INR bn)

	FY08	FY09	FY10E	FY11E	FY12E
Transmission lines					
Transmission line towers	34.1	51.9	60.0	52.0	47.3
Conductors	43.8	66.7	77.1	66.9	60.8
Others	19.5	29.7	34.3	29.7	27.0
Substations					
Transformers	29.2	44.5	51.4	44.6	40.6
Others	68.2	103.8	119.9	104.0	94.6
Total	194.9	296.7	342.7	297.2	270.4

Source: CEA, Edelweiss research

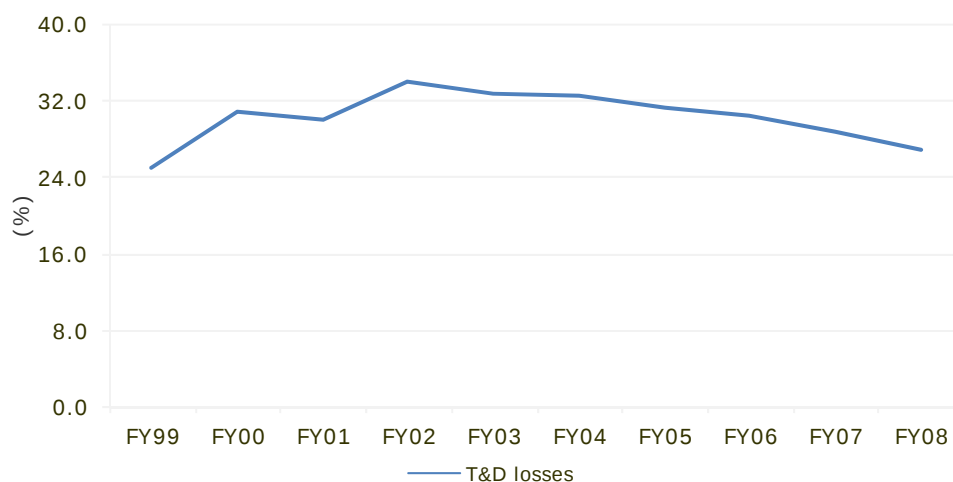
Transmission capacity expansion in the Eleventh Plan is likely to be in excess of 2.5x of the capacity expansion in the Tenth Plan

In addition, we expect significant investment in the power distribution sector, which will benefit companies in distribution of transformer, power cables and meters. The electricity distribution sector has been a laggard in terms of attracting investments, primarily due to poor financial health of the state distribution utilities and higher inefficiencies in the system. Outdated distribution network and lower automation level continue to result in high technical and commercial losses. The accumulated financial losses of most state distribution utilities have increased to INR 550 bn in FY05 from ~INR 300 bn in FY03. Though some states have gradually reduced their T&D losses, nationwide T&D losses stood at ~26.9% against 10-15% in developed countries. High AT&C losses and auxiliary consumption has resulted in only ~65% of the power bill recovered from consumers.

- **Opportunities in distribution equipment and contracting**

Distribution, due to its last mile connectivity and largely being under the control of state governments, has often been neglected. Moreover, since the tariff is regulated with an inherent subsidy component for the poorer section and agricultural customers, this power vertical has been a politically sensitive subject. Under-investment in the space over the years has weakened the infrastructure, which, in turn, has resulted in high AT&C losses (see Chart 7). To encourage state utilities in undertaking capex in this space, GoI introduced APDRP and Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) programmes. APDRP has been further modified to RAPDRP in the Eleventh Plan.

Chart 7: All-India T&D losses



All India T&D losses have continued to be above 25% over the last ten years

Source: CRISIL, Edelweiss research

R-APDRP

APDRP was modified and renamed Restructured APDRP (R-APDRP) in 2007-08. R-APDRP is linked to actual demonstrable performance in terms of AT&C loss reduction to 15% or less by the end of the Eleventh Plan. Establishment of reliable automated systems for collection of accurate baseline data and adoption of information technology in the areas of energy accounting are necessary preconditions for sanctioning of projects for strengthening and up-grading sub-transmission and distribution networks. It also includes adoption of IT applications for meter reading, billing and collection, energy accounting and auditing, management information systems, redressal of consumer grievances and establishment of IT-enabled consumer service centres, besides asset mapping of the distribution network. Since its launch, R-APDRP has made rapid headway; by February 2009, it had sanctioned 599 projects in various towns and cities at a cost of INR 19.5 bn. Andhra Pradesh, Karnataka and Rajasthan together account for over 55% of the total amount sanctioned so far.

R- APDRP has increased focus on IT systems to stem distribution losses

Rural electrification

As per CEA, over 82% villages have been electrified as on date. GoI launched RGGVY in April 2005, with the goal of electrifying all (around 125,000) un-electrified villages and hamlets and providing electricity to all households in next five years. Under RGGVY, 59,882 villages have already been electrified and electricity connections had been provided to 5.4 mn below poverty line (BPL) households as on March 2009. Both RAPDRP and RGGVY schemes are aimed at upgrading the distribution infrastructure across rural and urban India. Capex for the same is likely to be undertaken by the state and private distribution utilities with assistance from GoI through these schemes. Consequently, there is likelihood of huge opportunity for the equipment and project companies targeting distribution.

Key Challenges

Opportunities in the power sector across various segments are immense and are likely to remain so over the Eleventh and Twelfth plan periods. However, since 2003, a few challenges have emerged for the sector, compelling us to analyse opportunities in view of these hassles. Even as the fundamental story of the power sector has been on a strong wicket over the past three years, we believe it is time to ascertain if there are any roadblocks for the sector over the medium-to-long term.

While the macro outlook for power looks robust, the following factors could hinder growth:

1. **Concurrent nature of power, entailing huge political will for success:** Power is a concurrent subject. Though policy formulation may happen at the central level, its implementation lies with states. Unlike the telecom sector, in power, the success or failure of implementation depends largely on the will of the ruling government at the state level to bring about reforms. Power is a highly politicised subject and often has a bearing on the outcome of elections. More often than not, reforms take a backseat, given the political nature of the sector. Most, importantly, in most cases state utilities control distribution assets along with access to end customers. Tariff for different consumer categories is determined by the respective state electricity regulator based on fixed RoE norms. Since the hike in tariff has not kept pace with the cost of supplying power, losses have been rising for distribution utilities.

Table 11: Year-wise cost and realisation of supplied power

Year	Cost of supply paise/kwh	Realisation paise/kwh	Only agri paise/kwh	Loss paise/kwh
FY02	246	181	59	65
FY03	238	195	77	43
FY04	239	203	72	36
FY05	254	209	76	45
FY06	258	221	79	37
FY07	276	227	71	49
FY08	290	232	71	58

Source: CEA, Edelweiss research

Cost of supply of power continues to be lower than realisation

One of the main reasons why state governments have been hesitant in hiking the agriculture/domestic tariff is that this segment forms the largest part of their vote banks. Consequently, tariffs are far higher for industrial users, forcing them to set-up captive power plants. If this trend continues, it could damage state financials further as industrial customers, who bore the brunt of high tariff, are going away (captive), leading to higher subsidy funding by state governments.

Power tariff continue to be influenced by political leadership at the state level even after NTP 2006

We analysed results of the assembly elections in recent times. It shows that states that have done reforms and have brought down T&D losses, have a higher chance of being voted back to power.

This is contrary to the common belief that by giving free/subsidised power to agricultural and domestic segments, the ruling government has a higher chance of being voted back to power.

Table 12: T&D losses in states that have gone to poll

(%)

State	Current party	Year	Current T&D loss	Last party	Year	Earlier T&D loss
Arunachal Pradesh	Indian National Congress	Apr-07	57.8	Coalition	Aug-03	47.5
Jammu and Kashmir	National Conference	Jan-09	52.0	Indian National Congress	Nov-05	44.9
Tamil Nadu	DMK	May-06	19.5	AIADMK	Mar-02	16.1
Andhra Pradesh	Indian National Congress	Sep-09	18.7	Indian National Congress	May-04	24.0
Assam	Indian National Congress	May-06	33.7	Indian National Congress	May-01	42.8
Chhattisgarh	Bharatiya Janata Party	Nov-08	31.7	Bharatiya Janata Party	Dec-03	42.6
Delhi	Indian National Congress	2008	33.0	Indian National Congress	2003	43.7
Goa	Indian National Congress	Jun-07	20.9	Indian National Congress	Mar-05	30.4
Gujarat	Bharatiya Janata Party	Dec-07	24.9	Bharatiya Janata Party	Dec-02	28.5
Madhya Pradesh	Bharatiya Janata Party	Nov-08	39.2	Bharatiya Janata Party	Nov-05	40.1
Manipur	Indian National Congress	Mar-07	53.5	Indian National Congress	Mar-02	62.4
Nagaland	Nagaland People's Front	Mar-08	54.8	Nagaland People's Front	Jan-03	56.7
West Bengal	CPI(M) in Left Front	Mar-07	23.6	CPI(M) in Left Front	Nov-00	30.0

Source: Edelweiss research

We understand through our interactions with state officials that the increased awareness on access to electricity being an important need of poor should help garnering political will. Along with capacity additions, higher spend on T&D infrastructure and benchmarking distribution losses will help sustaining growth in the power sector.

2. **Financial health of SEBs:** Historically, the power sector has been plagued by delay in payments by SEBs - the largest and sole entities having access to end consumers. The one-time settlement scheme of 2003 ensured that all historic debts are converted to deferred loans, which helped in financially restructuring SEBs. However, fiscal discipline continues to be an issue, as depicted by the aggregate losses of SEBs (without subsidy) of ~INR 275 bn and outstanding receivables of INR 474 bn (36% of revenues).

Table 13: Losses of SEBs with / without subsidies

(INR bn)

	FY04	FY05	FY06	FY07	FY08
Total profit /(loss) without depreciation, writeoffs subsidy and tax for all utilities	(80)	(91)	(89)	(148)	(191)
Subsidy booked	114	126	128	136	194
Total profit / (loss) without depreciation, writeoffs for all utilities	33	32	35	(15)	(1)
Subsidy unpaid	7	2	16	8	31
Cash profit / (loss) on revenue and subsidy realised basis for all utilities	(11)	(7)	(37)	(69)	(78)
Total book profit / (loss) of all utilities	(78)	(115)	(81)	(135)	(125)
Total profit / (loss) on subsidy received basis of all utilities	(85)	(117)	(97)	(142)	(155)
Total profit / (loss) without subsidy of all utilities	(192)	(240)	(209)	(271)	(319)

Source: PFC

Lack of fiscal discipline at distribution utilities' end, which essentially have access to end consumers, could derail the entire power reform process, rendering current growth and returns expectations for the sector unsustainable.

Financial health of SEBs
continues to be worrisome

3. **Access to fuel, land and water:** Most projects, going forward, are likely to be on competitive basis. Access to fuel, land and water are critical to complete projects on time, remaining competitive at the same time. These three elements are available at nominal costs today. Our interactions with industry sources, however, highlighted that their requirement is likely to significantly increase in the Twelfth Plan period. Sourcing them at reasonable prices could be a key hurdle. Any delay in execution may not only result in higher project costs, but could also risk penalty payments; since tariffs are pre-determined, returns could be significantly hit.

Table 14: Requirements for 1 MW thermal power plant

	Land	Water	Fuel
Coal	0.8 - 1.4 acres	29 mn ltrs p.a.	3 - 5,000 tonnes p.a.
Gas	~0.1 acres	10 mn ltrs p.a.	0.005 mmSCMD p.a.

Source: CEA, Edelweiss research

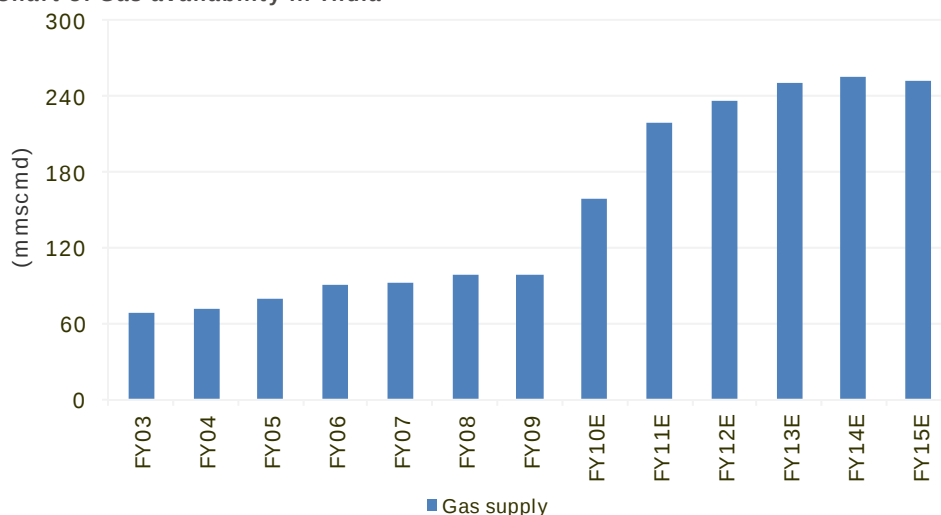
Coal, land and water to become critical issues in Twelfth plan period

We expect supplies from Coal India to increase from ~400 MT to 520 MT by FY12E, resulting in a shortfall of ~82 MT for coal-fired power plants; the deficit is expected to be met through imports.

Looking at the potential shortfall of coal in the coming years, many companies have started looking for coal in countries like Indonesia to meet their requirements. Even companies like NTPC have started importing coal (imports in FY09 – 2.5 mn tonnes; FY10E – 12.5 mn tonnes) to meet coal requirement at their existing plants. GoI, taking cognizance of the gravity of the situation, has started allotting coal mines to the private sector so that mining of the crucial mineral can happen at a faster pace.

We expect India's natural gas production to increase from ~107 mmSCMD to ~253 mmSCMD by 2015, with bulk of the incremental supplies coming from RIL's KG D6 block. Based on gas utilisation policy announced by the government, we expect the power sector to get ~70 mmSCMD of the incremental ~147 mmSCMD (253 less 107).

Chart 8: Gas availability in India



Source: Edelweiss research

Power tariff continue to be influenced by political leadership at the state level even after NTP 2006

Until last year, the entire gas-based capacity (14.77 GW) was operating at 57.6% plant load factor (PLF) due to inadequate gas supplies. Post commencement of gas production from KG basin, their PLF has improved to ~70%. While this PLF is expected to rise in

future, new capacities can be set up only to the extent of ~13 GW, which could take India's total gas-based capacity to ~31 GW.

Hence, we believe, the government needs to work on a comprehensive fuel plan to ensure that utilities are able to meet their capacity addition targets.

4. **Regulatory risks:** CERC is the regulatory body that sets benchmark norms, which various states could adopt with minor changes post approval. Since most of the existing power projects are regulated and we expect T&D utilities to continue to be regulated over the foreseeable future, any change in norms that would impact returns (15.5% RoE currently) could impact earnings if the same is not offset through scope for efficiency gains.
5. **Equipment supplies:** In recent times, quite a few projects have got delayed due to delayed equipment delivery across BTG and BoP segments. Select equipment suppliers like transformers manufacturers have increased capacity, but most of the other equipment suppliers (BTG and BoP) are yet to increase their manufacturing capacity. While in the interim, developers are resorting to imports, equipment supply is expected to be a cause for concern for developers across the vertical.
6. **Intellectual property rights:** India is adopting superior technology for its pipeline generation capacity addition program. The objective is two-fold – lower land / MW and lower carbon emissions. However, since most suppliers of this equipment are overseas players, we have seen in recent times some of these companies have raised the issue of intellectual property rights violation. Though the same is at an early stage, concerns over it could impact capacity addition program.
7. **Carbon emissions:** India is amongst the top polluters of CO₂ in the world on an absolute basis due to emissions from its ~90 GW coal-based power generation plants. Going forward, with majority of the incremental capacity addition of 170 GW also being coal based, the emissions are going to increase significantly. With increasing pressure on countries like India and China to control emissions and take precautionary measures, any form of stricture or charge could impact power generation companies.

India is in the process of adopting superior technology across various legs in the power value chain

Peak Value Creation

India's per capita consumption of power is expected to increase from 672 kWh to ~1000 kWh by March 2012

In view of the above challenges, we expect India to add ~55-60 GW of power generation capacity in the Eleventh Plan across the central, state and private sectors. This is ~2.5x the capacity addition in the Tenth Plan and almost equivalent to the aggregate capacity added in India during the past three plans between FY92 and FY07. Consequently, India's per capita consumption of power is expected to increase from 672 kWh in March 2007 to ~1000 kWh by March 2012.

The pace of capacity addition in the Eleventh Plan, albeit lower than the targeted capacity addition, has been higher historically, resulting in high growth and returns in the power and allied sectors.

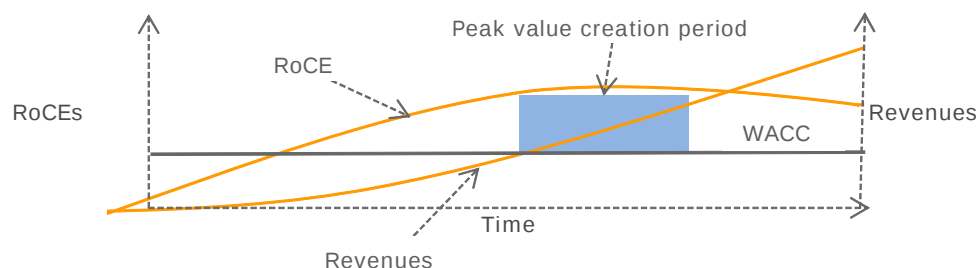
We believe opportunities across the power sector value chain are attractive. However, given the staggered expansion mode, the same need to be analysed with regards to their risk profile and long-term potential. Investors with different risk profiles must look at the various sub-segments in the power sector. Below, we present a framework, which, in our view, elucidates the dynamics and value creation across the power sector value chain.

A business creates value for stakeholders as long as the return on capital employed (RoCE) is greater than the cost of capital (WACC).

Peak value is created when the business can maximize on growth and RoCE over the business cycle

Peak value is the maximum value that a business creates over a given time period. Value creation is a function of returns and the business' ability to absorb capital productively (reflected in growth). We can, therefore, conclude that the value created by a business is the function of its returns and growth profile. Peak value is created when the business can maximize on growth and RoCE over the business cycle, and can be sustained over the cycle if returns profile and growth are sustainable. For example, BHEL has remained in the peak value creation (PVC) period since FY07, as it managed to sustain its returns and growth profile. However, during the PVC period, competition in the sector increases as various companies in the sector are attracted by the favourable industry dynamics. This works towards driving down the return profile of the industry. Assuming that the growth profile does not change, lower returns result in lower value creation for the business. Thus, after reaching the peak value, the incremental value creation for a business starts declining if returns and growth profile cannot be sustained.

Chart 9: Indicative diagram for explaining peak value creation



Source: Edelweiss research

Our analysis highlights that market capitalisation tends to be the highest during the PVC period of a business. This is normally the tipping point for the sector as de-rating begins on concerns of increasing competition (leading to reduction in RoCE) and slowdown in revenue growth. We, therefore, believe that equity investors must exit companies around the PVC period as incremental growth in market capitalisation is most likely to be lower than the hurdle rate (cost of equity) due to de-rating of valuations.

We propose the following framework to calculate PVC for various businesses:

Value created = (RoCE- WACC)* Invested Capital

We simplify RoCE as = Operating margin (EBITDA/sales) * Asset turnover (sales/average assets)

Hence, we conclude that the drivers for PVC are:

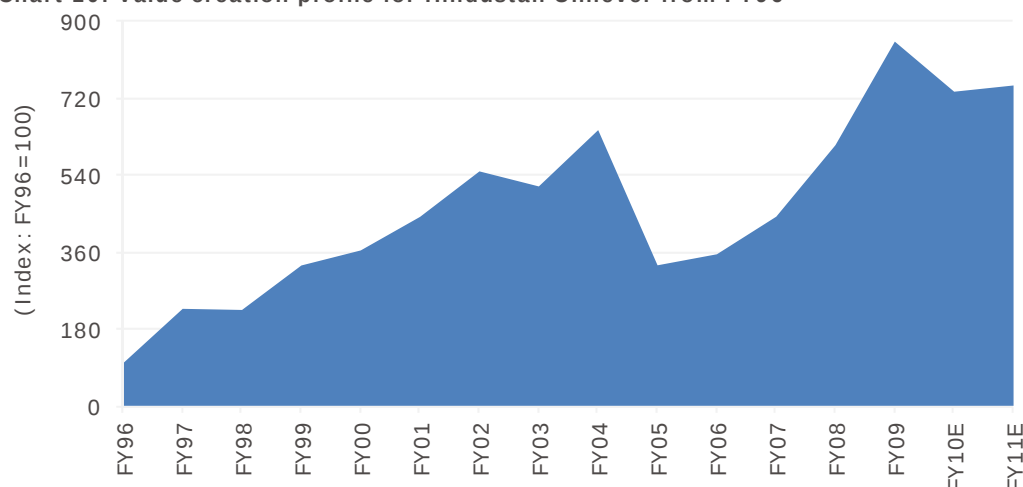
1. Operating margins (OPM)
2. Asset turnover (AT)
3. Cost of capital (WACC)
4. Invested capital (IC)

An important point to note in case of growing companies is - the value created by the business will continue to increase in absolute amount. However, in present value terms, it will continue to decline post the PVC period.

Given the opportunities galore in the power sector and sector dynamics, we believe the PVC period will differ for different set of verticals, mainly due to staggered capacity addition. Also, due to the varied approach adopted by different verticals, encashing of the benefits will be spread over a period.

We ran the proposed peak value framework for companies in the telecom and consumer sectors. We believe these sectors have already gone through a cycle and seen PVC. In power, we have only seen the uptrend in the cycle, which started in FY06. We believe de-rating of valuations in the above sectors validates our hypothesis that valuations de-rate close to the end of PVC period for a sector.

Chart 10: Value creation profile for Hindustan Unilever from FY96

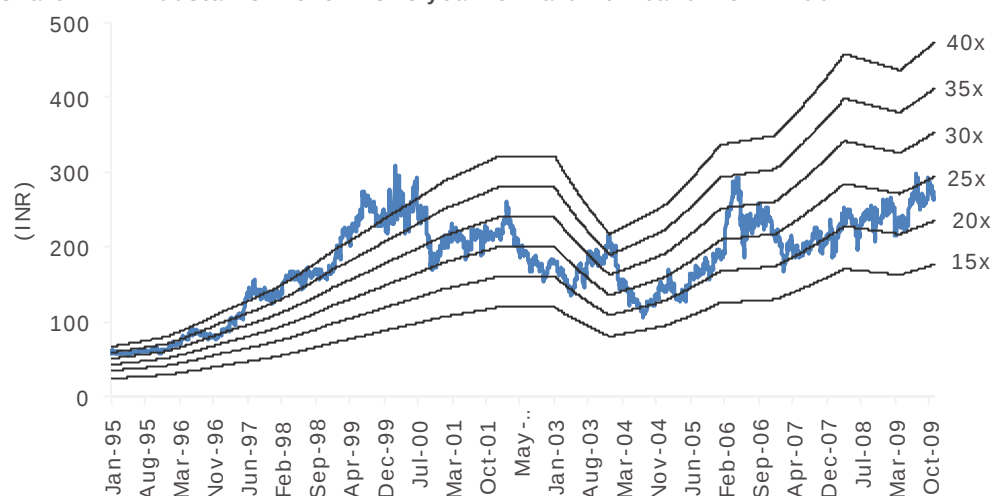


Source: Company, Edelweiss research

Equity investors must exit companies around the PVC period as incremental growth in market capitalization is likely to be lower than hurdle rate

Peak value creation period for HUL has been sustained beyond FY06 due to reduction in net capital employed

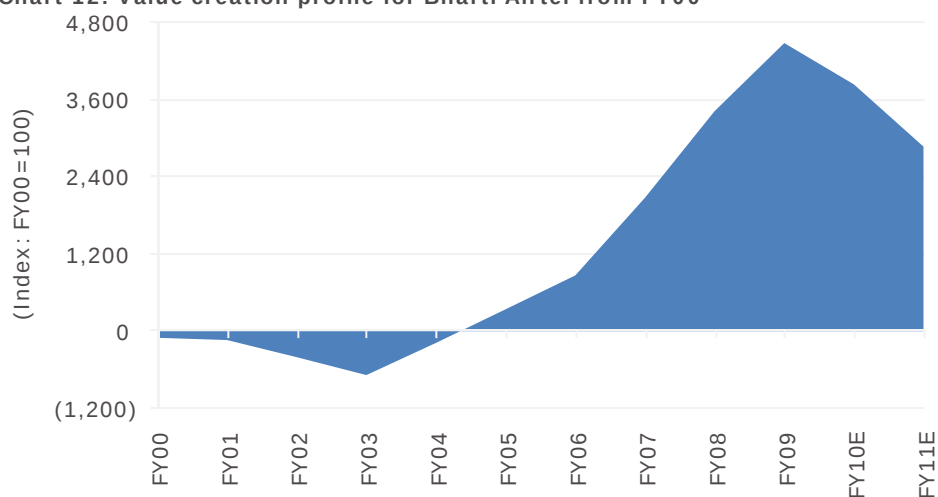
Chart 11: Hindustan Unilever - One year forward P/E band from FY96



Source: Edelweiss research

Above we run the peak value hypothesis for Hindustan Unilever (HUL). As can be seen in the above two charts, the value creation profile of HUL declines in FY03. However, valuations for HUL de-rated from FY02. In FY01 and early FY02 the stock was trading at a P/E of > 30x. However at the bottom in March 2003 (FY03) the stock traded at a one year forward P/E of 17.5x.

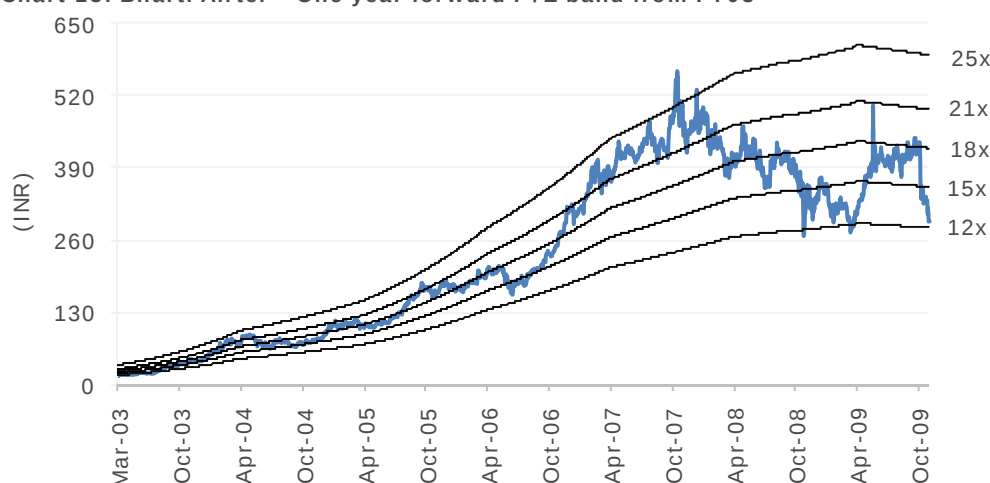
Chart 12: Value creation profile for Bharti Airtel from FY00



Source: Edelweiss research

Value creation expected to decline in Telecom sector as RoCE's are expected to be driven downwards due to increased competition

Chart 13: Bharti Airtel – One year forward P/E band from FY03



Source: Edelweiss research

Valuations in the telecom sector have started to de-rate as value creation is expected to decline in FY11E and FY12E

Above we have tried to run our peak value hypothesis for Bharti. As can be seen above valuations for Bharti have started de-rating as value creation is expected to decline in FY11E and FY12E.

Below we run the peak value framework for companies in the power sector. Based on our analysis, we believe equipment companies and merchant power utilities are likely to reach peak value during FY10-12; regulated utilities are currently at their peak value and competitively bid tariff companies are likely to reach peak value beyond FY12.

• Peak value creation for utilities

Regulated utilities are a special case of companies where there is no benefit of financial leverage to the company as debt cost and servicing is a part of the tariff that is given to these companies. Also, since RoEs are known and constant, it makes sense to analyse the value creation in terms of RoE and cost of equity (CoE).

Hence, the modified formula will be:

Value created for shareholders = $(\text{RoE} - \text{CoE}) \times \text{Invested equity}$

Since, RoE is fixed for the life of the project, the only way a utility can increase the value for the shareholders is by growth.

We hypothesise that PVC for a regulated utility is a function of capacity addition (growth in invested equity).

However, going forward, the landscape of utilities is expected to change as more projects come on non-regulated basis. Competitive bidding is expected to become a norm for the public sector undertakings after January 6, 2011 (it has already become the norm for all private projects bid after January 6, 2006). Also, a utility could maximize RoE for its shareholders by doing the necessary financial engineering (gearing to a particular level, typically 70:30). Same is the case with merchant power plants.

Thus, for non-regulated utilities, PVC will be a function of RoE and capacity addition (growth in invested equity).

Below, we discuss PVC in various sub-segments of the power sector. Accordingly, we infer the direction of valuations across various segments.

RoE and capex growth are key determinants for PVC in utilities

- **Peak value creation: Regulated utilities**

In India, most of the listed utility companies are regulated entities. The regulations are based on all costs being pass-through with fixed RoE (15.5% of project equity). Hence, there is no benefit of financial leverage to the company, as debt cost and servicing is a part of the tariff (hence a pass-through). The peak value for utilities will be based on the extent of capacity addition and RoE on this enlarged capex base.

Table 15: Indicative regulated return for NTPC as per CERC norms			(%)
	Old norm	New norm	
Fixed RoE	14.0	15.5	
Incentives	9.0	7.5	
Total RoE	23.0	23.0	

Source: Edelweiss research

New norms have increased fixed RoE but tightened incentives

The norms announced by CERC earlier this year have increased RoE to 15.5% from 14.0% earlier; these norms are likely to prevail up to FY14. Since, RoE is fixed for the life of the project (on a normalised basis), the only way a utility can increase the value for the shareholders is by growth.

Based on India's performance half way through the Eleventh Plan and our interactions with various industry officials, we believe India will slip on its capacity addition targets. Based on the current status of the projects under construction and the typical concerns surrounding hydro projects, we expect ~55,000–60,000 MW of capacity addition in the Eleventh Plan. While it is still early to comment on the Twelfth Plan, we assume India will be in a position to meet the targeted capacity addition of ~91,000 MW. We have also assumed an equal addition in each of the five years between 2012 and 2017.

Coal based power plants to continue to dominate power capacity addition

Table 16: Estimated capacity addition in XI and XII plans					(MW)
	Coal	Gas	Hydro	Nuclear	Total
XI Plan	48,110	7,313	4,237	660	60,320
XII Plan	58,555	-	24,759	8,500	91,814

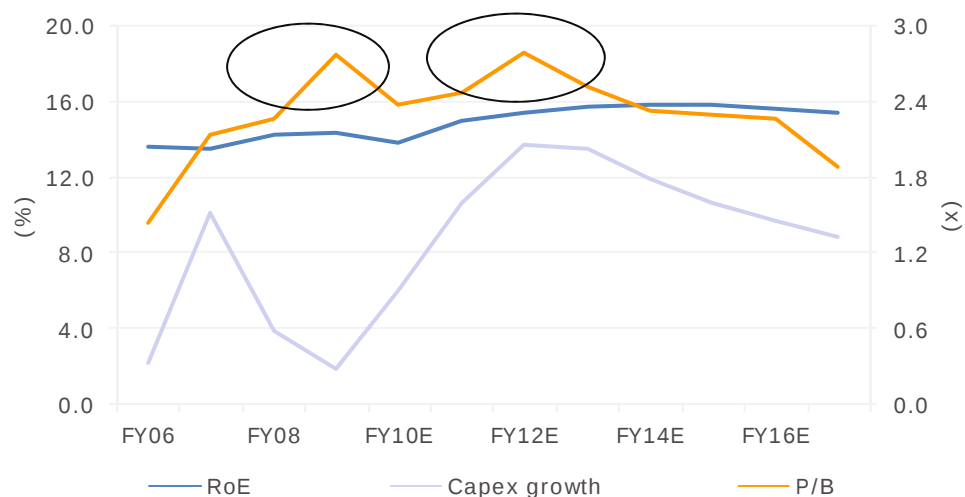
Source: Infraline, Edelweiss research

We find that the pace of capacity addition in the Twelfth Plan is marginally higher (47%) than that of Eleventh Plan (40%). Risks to our assumption could arise either from over-achievement of targets in the Eleventh Plan or under-achievement in the Twelfth Plan. With more delays, PVC is likely to be back-ended. To simplify the entire analysis, we recommend discounting PVC of future years to arrive at a conclusion.

PVC for a regulated utility is directly correlated to the rate of growth in capacity addition. Since all utilities are likely to be in a capex mode for the next 10 years, the pace of capacity addition / capex is the key to determining PVC for different entities.

The revenue model and earnings profile of utilities across generation, transmission and distribution is similar due to the structure of the regulatory framework. The only difference is in terms efficiency gains which currently seem to be tilted towards a generation utility. Also with bulk of focus is on generation (indicated by capex) as well as lots of investible opportunities for equity investors. With both operating and financial efficiency to be reflected in a regulated generation utility (compared to other type of utilities) we tried to capture the peak value period for NTPC, which is India's largest regulated generation utility.

Chart 14: NTPC - P/B, capacity addition and RoE



Source: Edelweiss research

NTPC is likely to reach its peak value in FY12E on account of delay in its capacity addition programme

From Chart 14, it is evident that NTPC is likely to reach its peak value in FY12E on account of delay in its capacity addition programme; bulk of NTPC's Eleventh Plan capacity (~12 GW of the total 19 GW) is expected to get commissioned in FY11 and FY12, leading to lumpiness in capex growth. Going forward, unless NTPC meets the entire target of 25,000 MW, the rate of capacity addition will be lower in 2012 and 2017. However, even if the company meets its capacity addition targets, the assured regulated return will not be applicable for the Twelfth Plan projects and will have to be competitively priced. We have seen that with the opening up of the sector to private players, competitively bid tariffs are based on equity IRR of ~16-18% (based on our interaction with industry players).

Table 17: UMPP and private sector bids, and their likely IRRs

Project	Capacity (MW)	Winning bidder	Levelised tariff (INR/kwh)	Likely equity IRR (%)
Sasan UMPP	3960	Reliance Power	1.19	13.0
Krishnapatnam UMPP	3960	Reliance Power	2.65	20.0
Mundra UMPP	4000	Tata Power	2.26	13.0
Mundra 1	1320	Adani Power	2.70*	129.5
Mundra 2&3	1320	Adani Power	2.20*	22.7
Bhaiyathan	1320	Indiabulls Power	0.81 (for 65% output)	8.8
Tilaiya UMPP	3960	Reliance Power	1.77	16.0

Source: Edelweiss research

*Note: Derived discounting the tariffs at 10.6% (normally used at the time of bidding)

Hence, with respect to regulated utilities, we feel PVC is round the corner. We recommend investors to book profits at current levels for NTPC because even after meeting its target of 25 GW in the Twelfth Plan (due to ~60% of its projects under competitive tariff; RoE of 20% versus ~24% currently), discounted value of PVC is lower than the current levels.

- Peak value creation: Non-regulated utilities**

Going forward, the landscape of the utilities is expected to change as more projects come on non-regulated basis. Competitive bidding is expected to become a norm for the PSUs after January 6, 2011 (it has already become the norm for all private projects bid after January 6, 2006). Compared with a regulated utility that maximises value only by

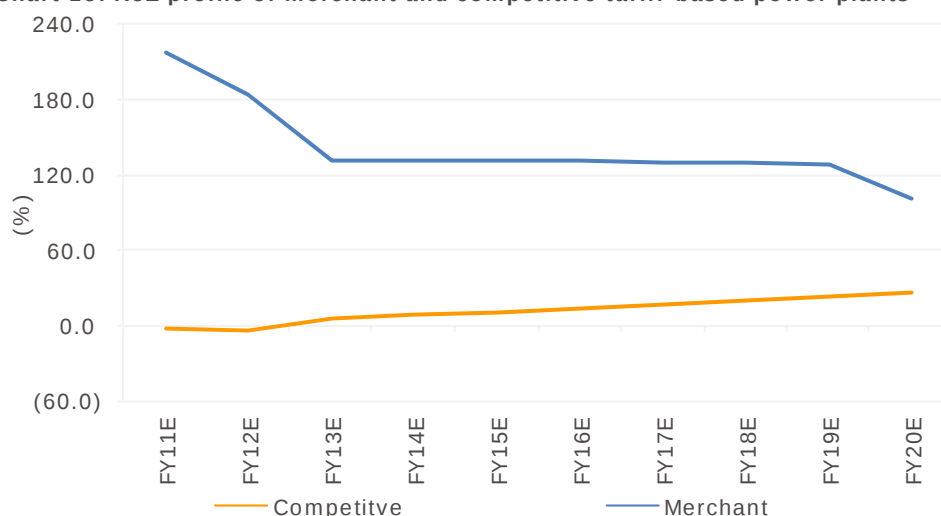
capacity addition, an unregulated utility can maximize RoE for its shareholders by doing the necessary financial engineering (gearing to a particular level, typically 70:30) and achieving operational efficiency. Hence, all unregulated utilities have different levers for growth.

Types of non-regulated utilities

1. **Merchant power plants:** These power projects sell their output on spot market basis. With spot prices of electricity based on demand/supply mismatch and current power base deficit of ~8-10% in India, any generation utility (through merchant sales) is likely to earn significant earnings and, hence, high RoE. Owing to delays in capacity addition programmes, we expect the deficit to continue at least until FY12. Also, there could be competition from other merchant utilities, which could impact RoE in future (refer annexure 4). However, resurgence of demand from high paying industrial and commercial customers could sustain high merchant tariffs.

Chart 15: RoE profile of merchant and competitive tariff-based power plants

RoE of merchant power plants to fall with fall in merchant tariffs



Source: Edelweiss research

We expect the deficit to narrow post FY11 with high level of capacity addition, due to which, the retained earnings of existing projects are unlikely to get redeployed to earn the current superior RoEs. Hence, we expect PVC to be achieved by FY12. Key risks for merchant players include regulatory intervention, lack of transmission capacity (open access) and defaults/high receivables from end customers. There have been recent instances wherein utilities have delayed payments for a quarter to private merchant utilities. Any further delay in capacity addition and improvement in state utilities' finances can sustain the high merchant tariffs.

PVC in competitively bid projects will depend on capex and external factors like interest rates

2. **Competitively bid projects:** These utilities bid for projects based on tariffs. Since the bidding norm is tariff-based, tariffs are expected to be tight, leading to lower RoE (equity IRR). A power project at the initial capex phase has only the option value, but post commercialisation both operating and financial leverage will kick in. Depending on the stage of the project and interest rate scenario in the economy, value accretion may vary. While the vagaries will not be significant, lower cash flows may delay PVC. While competitively bid projects are expected to be the norm going forward, only those who are able to sustain growth and earnings are likely to benefit. Hence, for competitively bid projects, benefits could be from both existing as well as future capex.

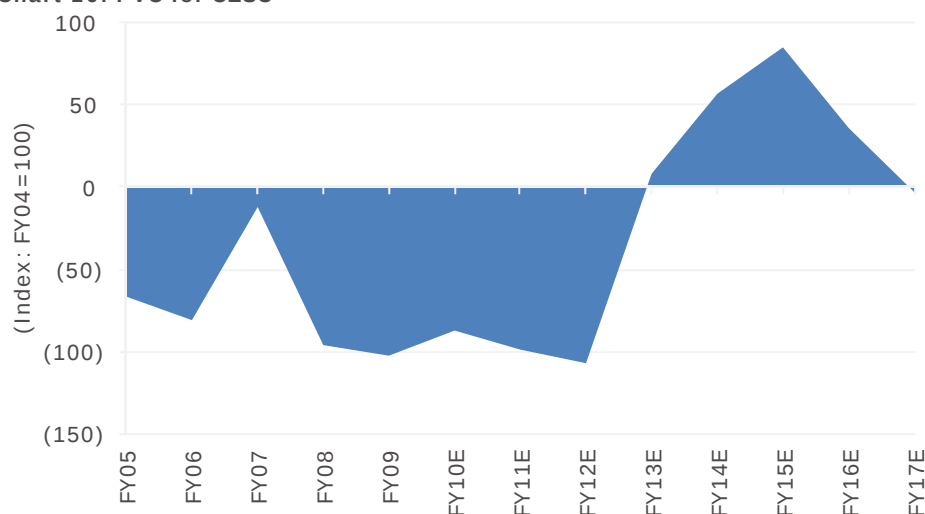
Table 18: Energy requirement in various plans

	X Plan	XI Plan	XII Plan	XIII Plan
Peak load (GW)	100	153	218	298
Energy requirement (bn units)	690	969	1,392	1,915

Source: CEA, Edelweiss research

PVC for such utilities will be determined by both pace of earnings and capacity addition. Ideally, with an aggressive overall capacity addition programme spelt out by GoI, the opportunity exists; but to what extent a corporate can benefit from the same will be the key determinant for PVC. Currently, almost all developers are in the conceptualisation stage with respect to their power projects. The differentiation between two companies with under construction projects will be on qualitative factors like extent of clearances/approvals received and execution capabilities. Starting from FY12, we believe there would be greater number of companies to choose from. Until then, we recommend investors only those private utilities that are cheap on valuations either on a standalone basis (CESC) or on consolidated basis (Tata Power).

CESC is well-positioned to extract value from both regulated and un-regulated businesses. To its existing regulated operations of 975 MW in Kolkata, the company is likely to add 250 MW in FY10E and 600 MW in FY12E. Further, with the recent acquisition of equity stake in 600 MW Maharashtra project, it plans to enter into a competitive bid and enjoy some upsides from merchant sales. It has the experience and financial muscle to execute these projects as well as ~2 GW of pipeline projects. The current P/BV of 1.2x is low (compared with its sustainable utility earnings as well as peer set) due to its 95% stake in retail venture, Spencer's, which incurred a loss of INR 3.5 bn in FY09 and is expected to report further loss of INR 1 bn. Closer to the commissioning of the two 600 MW projects (FY12–13), we expect CESC to touch its peak value and prolong it based on capacity addition program of its pipeline projects.

Chart 16: PVC for CESC

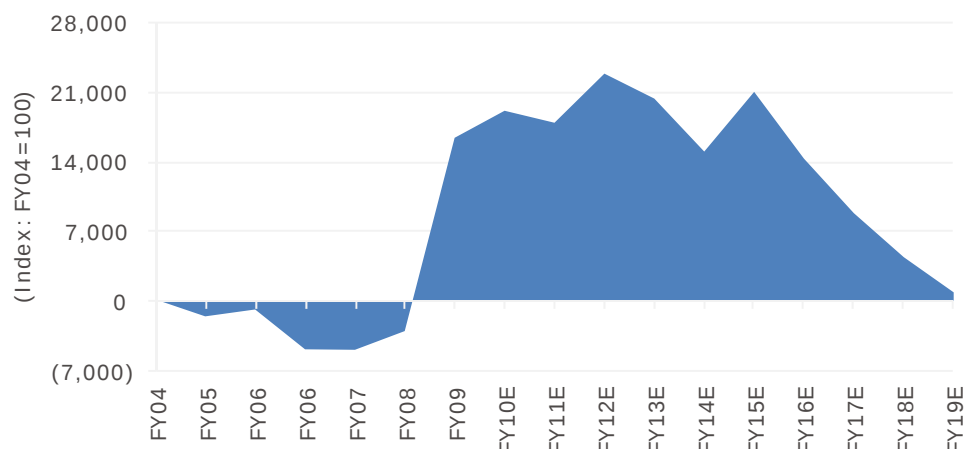
Source: Edelweiss research

Tata Power is an example of a regulated utility with bulk of its capacity additions under competitive structure. The company has secured fuel tie-ups and even commenced work on projects wherein decent progress has been witnessed (50% completed). Although the bid tariff of INR 2.26 (levelised) is aggressive, based on the fuel risk mitigation strategy adopted by Tata Power management (30% stake in coal mines in Indonesia), we expect the company to achieve equity IRR of ~16-18% on a sustainable basis. The immediate

capacity addition program of ~5 GW translates into 150% plus growth; the subsequent capacity addition of ~6 GW is likely to contribute more to the consolidated earnings due to higher absolute capex. In the interim (till FY12), valuations are likely to mirror the volatility of international coal prices as Indonesian coal mines account for ~70% of the consolidated earnings. We expect investors to start valuing the under construction projects and pipeline projects post FY12–13, which could call for re-rating of the stock.

Chart 17: PVC of Tata Power

PVC for Tata Power expected in FY12E when Mundra UMPP and Maithon projects are commissioned



Source: Edelweiss research

- Peak value creation: BTG equipment**

Performance of the BTG equipment sector is driven by growth in power generation capacity addition. During the Tenth Plan period (FY02-07), power sector capacity addition was at an annual average of ~4 GW, while BHEL had an annual installed capacity of 6 GW at the end of FY07.

For the Eleventh Plan period (FY07-12), we expect power generation capacity addition at ~60 GW, implying an annual capacity addition of ~12 GW. BHEL increased its capacity to 10,000 MW in December 2007. Currently, BHEL plans to increase capacity to 15 GW by FY10 end and to 20 GW by the end of Eleventh Plan.

BHEL's equipment formed 64.4% of installed capacity in FY07, while it was lower at 59.2% in FY09

BHEL had a market share of 64.4% in FY07, when the total installed capacity of India was 125.4 GW. However, the BTG equipment market in India had started changing from H1FY07, with the states beginning to focus on power generation capacity addition. Simultaneously, presence of international vendors also increased, primarily of the Chinese. Hence, we have seen the market share of BHEL declining progressively. It had a market share of 59.2% at the end of FY09, when the total installed capacity of India was at 147.9 GW.

We believe the new entrants in the BTG equipment market need to be analysed against the aforesaid backdrop. While growth prospects in BTG equipment are bright over the Eleventh and Twelfth plan periods, below, we have tried to understand whether increasing competition can lead to lower profitability in the Twelfth Plan.

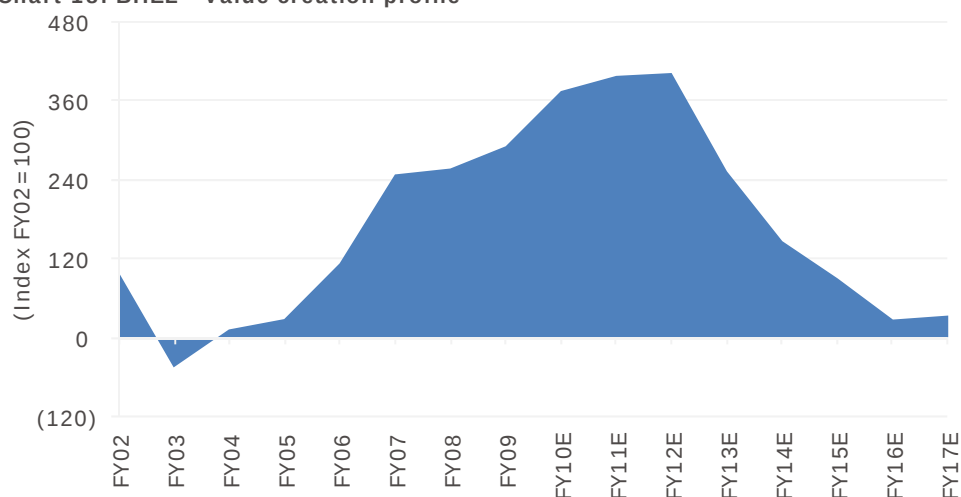
Table 19: Details of new entrants in BTG equipment industry

New entrant	Proposed capacity (GW)	Capacity commissioning time frame	Recent orders bagged
Larsen and Toubro- Mistibushi Heavy Industries (For boilers, turbine and generators)	4	Boilers- December 2010 Turbine- June 2011	1) 2X 660 MW- Jaypee Group at Singrauli- Madhya Pradesh- Order valued at INR 20 bn 2) 1600 MW- APGENCO, Andhra Pradesh- Order valued at INR 15.5 bn
Bharat Forge- Alstom (For turbines and generators)	5	By end of FY12	
JSW Group- Toshiba (For turbines and generators)	3	Project was financially closed in September 2009. First phase will be commissioned by December 2011. Second phase by H2FY12.	
BGR Energy- Foster Wheeler- Hitachi (For boilers, turbines and generators)			

Source: Edelweiss research

In accordance with the table above, we expect the annual capacity of the BTG equipment industry to be at ~35-40 GW by the end of Eleventh Plan or the beginning of the Twelfth plan. Capacity addition in the Twelfth plan is expected to be at 80-100 GW, implying an annual BTG equipment capacity requirement of ~16-20 GW. We believe capacities for the BTG equipment space are likely to be higher than what the current requirement suggests, which could impact profitability and, hence, returns.

Below, we take the example for BHEL and chart its value creation from FY04 to FY17.

Chart 18: BHEL - Value creation profile

Source: Edelweiss research

As shown above, BHEL's value creation has been on an uptrend since FY04, driven by increase in profitability and higher growth. In fact, international vendors started looking at the Indian BTG sector around FY04, while most of the Chinese and Korean vendors entered the Indian market over FY06-07. We believe the advantage that accrues to BHEL

We expect the annual capacity of the BTG equipment industry to be at ~35-40 GW by the end of Eleventh Plan

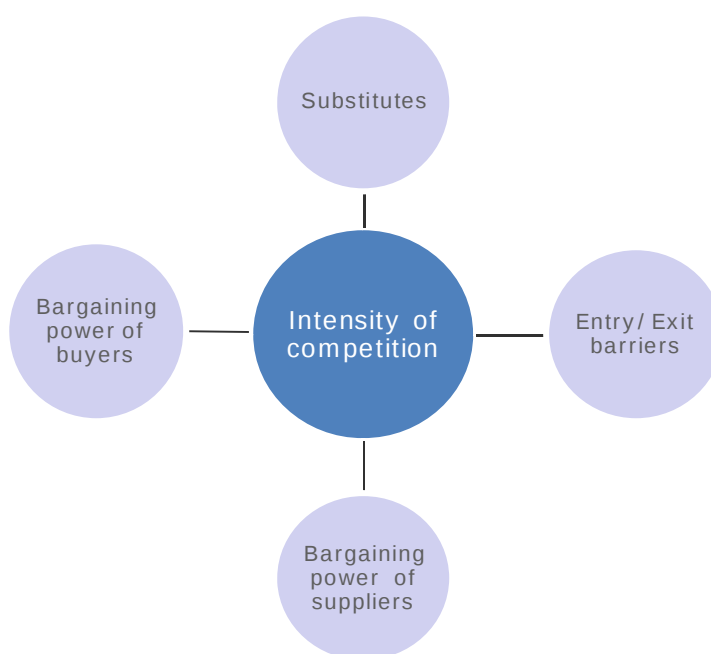
from its incumbent status in the BTG equipment market is likely to continue for the Eleventh Plan period. However, with the new entrants gaining a foothold in the market by the Twelfth Plan period, we believe BHEL's dominant position in the BTG equipment market could take a hit.

In the chart above, we have assumed the generation capacity addition in the Twelfth Plan at ~80-100 GW, ordering for which is likely to be completed by FY14. In the projection above, also include upsides that can accrue from generation capacity addition in the Thirteenth Plan.

We expect the annual capacity of the BTG equipment industry to be at ~35-40 GW by the end of Eleventh Plan

Upon analysing the above industry development through the 'Porter five forces model', we find the most dominant force in the BTG equipment industry to be the lowering of entry barriers over the medium term.

Fig. 2: Porter's model for BTG equipment industry



Source: Edelweiss research

Over the long term, we believe completion will intensify, leading to lower returns. Hence, we expect the PVC period for BTG players to last until the end of the Eleventh plan. Post that, the industry's value creation potential could decline on account of lower profitability in the industry. Hence, we believe valuations for the BTG equipment industry are likely to de-rate during the Twelfth Plan due to declining returns and moderate growth profile of the industry.

- **Peak value creation: Balance of plant contractors**

In India, one of key deterrents to rapid execution of power projects has been the dearth of quality BoP vendors. The industry, though low on entry barriers, is characterised by high ROCEs, given its limited capital needs (fixed costs are lower, but working capital requirement high). However, despite high ROCEs, only a few BoP players have expanded capacities in the recent past due to low margins (low-end technology) and weak bargaining power (with respect to leading EPC contractors). In case of India, large companies like BHEL and Reliance Infrastructure are main EPC contractors with whom BoP vendors are on a weak wicket in terms of bargaining power. Also, BoP vendors are exposed to risks of rising raw materials prices that can wipe away profits, given most of these companies work on thin margins.

In a typical power plant of the INR 50 mn capex per MW, BTG comprises (boiler, turbine, generators - main plant equipment) ~INR 25 mn, while ~ INR 17-18 mn is spent across various BoP packages. BoP includes ancillary packages like coal handling, ash handling, chimneys, which helps complete the power plant cycle. Some of the key BoP packages, as identified by CEA, are listed below along with their awarding status.

Table 20: Summary of major BoP packages in XIth Plan

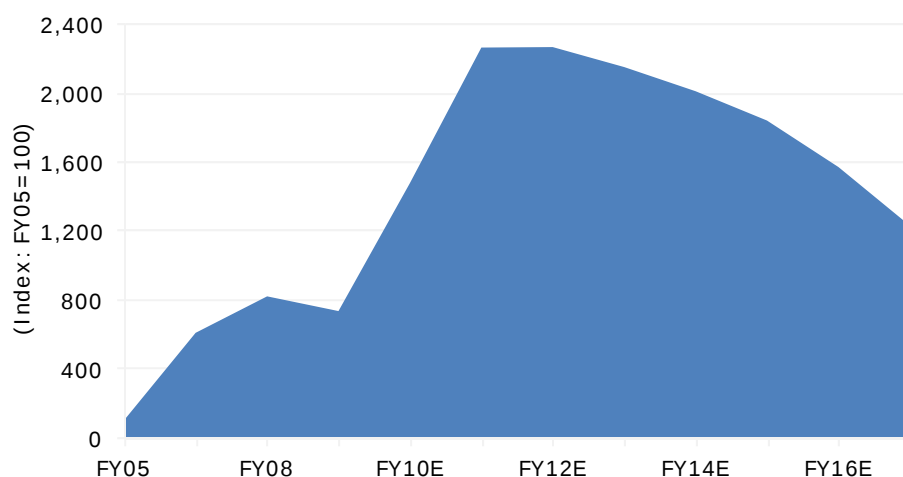
BoP package	BOPs required	Orders placed	Orders to be placed	Key vendors
Coal handling plant	67	52	15	Techpro Systems , BGR Energy, Elecon Engineering, L&T
Ash handling plant	68	56	12	Indure, Mecawber Beekay
Demineralized plant	71	55	16	Driplex, Thermax, BGR , Doshi Ion Exchange
Cooling towers	78	66	12	Paharpur Cooling Towers, Gammon India
Chimney	78	66	12	NBCC, Gammon India, Simplex
Fuel oil system	72	54	18	BHEL, Techno Electric
PT plant	75	58	17	Driplex, Thermax
Total	509	407	102	

Source: Edelweiss research

Our interaction with various industry participants and BoP players indicate that a typical BoP job involves ~20-25 packages, depending on various classifications. This means that the main contractor or the core BoP vendor will have to interact with 7-8 different vendors executing these packages. Also, given the lower technological expertise required, most of these packages are thin on operating margins. Typical BoP package margins at the operating level come to ~7-8% (EBITDA level), with limited bargaining power with most suppliers.

Also, the dynamics of various packages are unique, depending on the number of players, importance of these packages etc. In case of 'ash handling plant packages', of the total 56 orders placed so far for the Eleventh Plan, 12 have been placed on Indure, indicating either dearth of vendors or lack of interest amongst other vendors to take up these BoP jobs. In fact, for cooling towers, the top two vendors (Paharpur and Gammon) account for more than 50% of orders.

Chart 19: BGR Energy - Value creation profile



Source: Edelweiss research

Due to lower technological expertise most of the BoP packages have low operating margins

Analysing the BoP contracting space through the 'Porter five forces model', we find the most dominant force in the BTG equipment industry to be the lowering of entry barriers over the medium term.

Most dominant force in the BTG equipment industry to be lower entry barriers over medium term

However, for most BoP vendors, value will be created on the back of large power capacity addition on one hand and unwillingness of several players to ramp up capacities on the other. We expect margins to sustain at current levels or improve marginally on economies of scale over the next 5-7 years. Over the Eleventh and Twelfth plans, India is likely to add ~170 GW, entailing investment in BoP of INR 2.9 tn (INR 18 mn spending per MW). Value creation will track growth that is likely to be strong till FY12E. However, beyond FY12E, growth is likely to slow down and pressure on margins may intensify. Hence, over the next 10 years, we do not foresee any reasons for sector to be re-rated.

- **Peak value creation: Transmission equipment and contracting**

The requirement for inter-regional evacuation of power is likely to result in setting up of a high-voltage circuit-based transmission grid. We believe, the same is likely to be effective for lowering transmission losses and providing opportunity for the power transmission equipment suppliers. The total capital expenditure planned by PGCIL, state transmission utilities and the private sector is detailed in the table below:

Table 21: Capital expenditure planned in power transmission sector - XIth Plan (INR bn)

	FY03	FY04	FY05	FY06	FY07	Total 10th Plan	FY08	FY09	FY10E	FY11E	FY12E	Total 11th Plan
Northern region	8.0	8.6	12.2	14.9	15.4	59.1	22.3	26.2	30.6	30.1	26.2	135.3
Western region	3.6	4.0	3.7	3.6	16.0	30.8	15.6	33.3	53.2	38.6	22.9	163.6
Southern region	10.2	12.5	12.9	13.5	33.4	82.4	39.2	42.1	20.6	19.2	30.1	151.1
Eastern region	10.6	10.6	13.2	16.9	23.4	74.7	21.0	40.7	54.1	25.6	19.5	160.8
North Eastern region	0.5	0.6	1.2	1.3	2.4	5.9	5.8	8.3	8.6	9.2	7.4	39.2
Central Sector	28.0	24.9	32.8	42.0	66.9	194.5	66.0	116.1	135.7	129.6	114.4	561.8
Private Sector	-	-	-	-	-	-	25.0	30.0	40.0	45.0	50.0	190.0
Total	60.9	61.1	76.0	92.1	157.3	447.4	194.9	296.7	342.7	297.2	270.4	1,401.8

Source: CEA

Investment in the power transmission system is equally divided amongst transmission lines and sub-stations. Based on CEA's projections for the Eleventh Plan, our estimates for investments in each vertical of the power transmission space are shown below:

Table 22: Power transmission spend across various components (INR bn)

	FY08	FY09	FY10E	FY11E	FY12E
Transmission lines					
Transmission line towers	34.1	51.9	60.0	52.0	47.3
Conductors	43.8	66.7	77.1	66.9	60.8
Others	19.5	29.7	34.3	29.7	27.0
Substations					
Transformers	29.2	44.5	51.4	44.6	40.6
Others	68.2	103.8	119.9	104.0	94.6
Total	194.9	296.7	342.7	297.2	270.4

Source: CEA, Edelweiss research

We believe, apart from the high-end electrical equipment, most of the transmission equipment and projects businesses have low-entry barriers. To substantiate this, we look at the spate of new entrants in the transmission equipment space over FY07-10 in the table below:

Table 23: Key new entrants in the transmission equipment space over FY07-10

Name of new entrants	Year and mode of entry
Emco	FY08 - through acquisition of Urja Power
Hyosung Corporation	FY07 - NA
Shyama Projects and Power	FY07 - NA

Source: Edelweiss research

RoCEs of the transmission tower business models are already down from 30-35% in FY07 to 20-25% in FY09

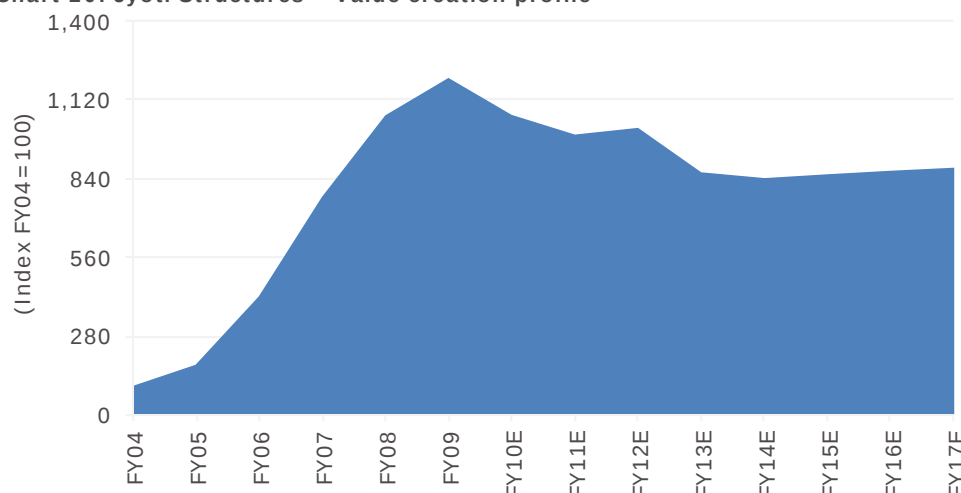
Owing to new entrants in the transmission business, we have seen profitability in the sector come down. A case in point is that RoCEs of the transmission tower business models are already down from 30-35% in FY07 to 20-25% in FY09. Similarly, the low-end transformers based business models had RoCEs in excess of 30-35% over FY06-08. However, with excess capacity, margins are likely to come under pressure from FY10E and, hence, RoCEs are projected to be ~20% in FY10E.

Table 24: Declining RoCEs of transmission tower companies from FY07 to FY09

RoCE (%)	FY07	FY08	FY09
Jyoti Structures	33.3	33	30.1
Kalpataru Power	35.9	22.4	15.1
KEC International	37.1	37.7	24.5

Source: Edelweiss research

We believe growth opportunities are likely to be high for the transmission equipment sector and projects business models over the next 5-10 years. However, margins could reduce due to increased competition. We believe we are still in the PVC period in this business model with growth expected due to revenue visibility. However, over the next three years, we believe, due to lower entry barriers, pressure on margins could negate the positive impact of growth on value creation.

Chart 20: Jyoti Structures – Value creation profile

Source: Edelweiss research

Growth opportunities are likely to be high for the transmission equipment sector and projects business models over the next 5-10 years

Upon analysing the power transmission business on the Porters model framework, we find entry barriers in this business to be low. However, new entrants have already gained a foothold in the industry. We believe competitive intensity is the key force that could drive down returns over the medium term.

Growth opportunities in the power transmission business are likely to remain higher at a company level compared with the BTG equipment industry. We believe this is primarily

because overcapacity in the transmission equipment industry over the Twelfth Plan is likely to be lower than the BTG equipment industry. We believe value creation for the transmission equipment industry is unlikely to decline as significantly as in the BTG equipment industry.

Summarizing the above, we believe PVC for different sub-segments in the sector is likely to pan out in the following manner.

Table 25: Time horizon for PVC for utilities and EPC & equipment companies

		0-3 years	3-5 years	5-10 years
Utilities				
Generation	Regulated			
	Competitive tariff			
	Merchant			
Transmission	Regulated			
	Private BoT			
Distribution	Regulated			
	Franchisee			
Equipment and contractors				
Gen- equip & proj				
Trans- equip & proj				
Dist- equip & proj				

Source: Edelweiss research

Peak value for the BTG, BoP and transmission equipment businesses is likely to be created by the end of the XIth Plan period

We believe valuations are generally at peak during PVC. However, substantial re-rating happens for a sector prior to PVC. Assuming this, we believe peak value for the BTG, BoP and transmission equipment businesses is likely to be created by the end of the Eleventh Plan period. Hence, upsides to valuation exist for these sectors till FY12E, post which valuations are likely to de-rate as changing industry dynamics will result in lower value creation in these verticals.

Key limitations of the PVC model

- Market capitalisation of a company is determined not only by the value of its operating business, but also based on its non-core assets (investments, subsidiaries engaged in other lines of businesses etc).
- Changes in growth and margin assumption could change the period determination for PVC in a big way.

Outlook and Valuations: Peak Value Ahead

From our coverage universe, we identify the following stocks as top picks. We believe these stocks' fundamentals and current valuations imply maximum upside over peers as their PVC is yet to be achieved.

Table 26: Top picks details

Company	Market	Market cap	Diluted EPS (INR)		P/E (x)		P/B (x)		ROE (%)	
	price (INR)	(USD mn)	FY10E	FY11E	FY10E	FY11E	FY10E	FY11E	FY10E	FY11E
CESC	387.8	985.3	32.3	34.0	10.7	10.1	1.2	1.1	12.1	11.6
Tata Power	1,282.0	6,728.6	32.3	33.4	42.8	41.5	3.8	3.6	8.4	8.3
Bharat Heavy Electricals	2,242.7	23,867.4	85.9	113.0	26.6	20.3	7.0	5.4	28.8	30.3
BGR Energy	446.2	766.5	25.2	36.5	21.8	15.1	5.0	3.8	25.2	28.4
KEC International	517.0	571.9	36.2	41.2	15.9	13.9	3.8	3.1	27.2	24.9

Source: Company, Edelweiss research

Given huge growth opportunity in the power sector and the sector dynamics, we believe, PVC period will vary for different set of verticals due to staggered capacity addition. Also, due to the varied approach adopted by different verticals, encashing of benefits would be over a period.

Owing to the prolonged growth trajectory of the power sector capex and the different profile of companies operating in this space, we need to identify the investment ideas based on ability / extent of companies, to encash on this huge opportunity. Based on our analysis, we expect equipment companies to reach peak value during FY10-12 and competitively bid tariff companies beyond FY14; we believe, regulated utilities would be at peak value creation over the next five years.

Utilities

Utilities (power generation companies) – stand to benefit immensely from the entire capex program. However, due to widespread participation from the private sector and change in the revenue model – from regulated to competitive bidding – value accretion needs to be analysed on a case-to-case basis. We believe (based on the limited peer set comparison in each of the business models - regulated, competitive and merchant), PVC is going to be at different time periods. Regulated entities are currently trading at their peak; merchant will reach peak value over the next couple of years; and competitive projects post FY12. While expansion in RoE of merchant plants is unlikely over the short term, volatility in spot electricity rates and slippages in capacity addition program are resulting in assigning of higher premium to these utilities.

Transmission and distribution utilities are emerging opportunities, but the roadmap for expansion/growth has not yet crystallized. While the valuation yardstick would be the same, the revenue model could be different due to exclusive access of right of way and / or end customer.

Our top picks in the sector are Tata Power and CESC.

Tata Power

With issues regarding under construction projects getting addressed and increasing visibility on earnings from the coal mining business, we believe key concerns for the company are over. We believe there is a greater visibility of power earnings and potential value unlocking from investments. The lumpiness in earnings post commercialization of ~5 GW in FY13 (from ~3 GW now) and repayment of debt taken for coal mines is expected to expand RoE to 24% in FY12. While a similar capex and RoE is expected for the subsequent ~6 GW of projects, the CAGR is lower than the previous expansion phase. Unless the growth target is increased or RoE expands, we expect PVC for Tata Power around FY12–15. We rate Tata Power as **'BUY'**, and rate it **'Sector Outperformer'** on relative return basis.

CESC

We expect the financial closure of Haldia and Maharastra power plants soon. With the likelihood of divestment of retail stake, concerns on power earnings being used to fund losses of the retail subsidiary have abated. We, therefore, assign a lower beta to the power business and value Spencer's at 50% discount to Shoppers Stop Mcap/sales valuation. Our revised SOTP is INR 397/share. Hence, we are upgrading the stock to **'BUY'**. On a relative return basis, the stock is rated **'Sector Outperformer'**.

EPC/equipment companies

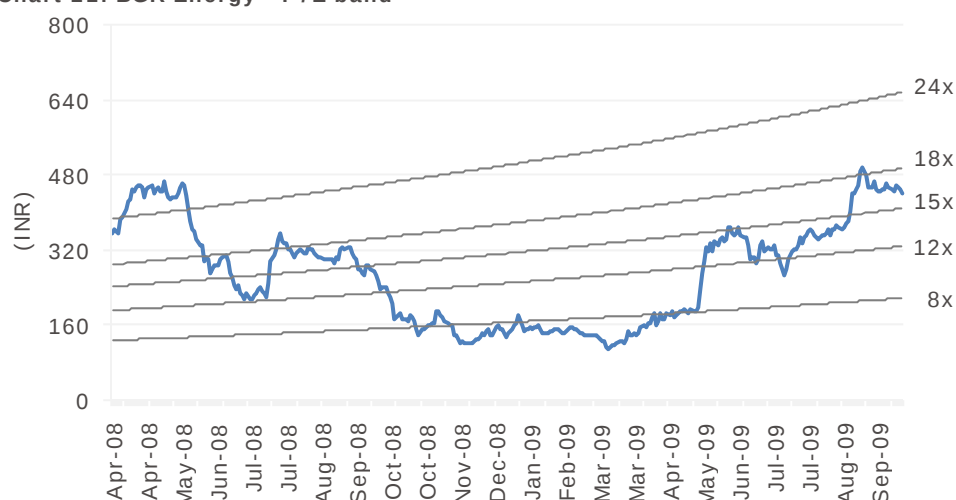
We believe most of the equipment and EPC companies are currently in the high value creation period of their business cycles. Hence, valuations for these businesses are likely to be at a premium compared with historical trends. Further, we believe, valuations are likely to expand for leading companies in these verticals over FY10-12E. In our view, PVC for BTG and transmission equipment companies in FY11-12 is likely to be driven by high growth (as execution picks up) as we near the close of the Eleventh Plan period.

Our top picks in the sector are BGR Energy, BHEL, and KEC International.

BGR Energy

Over the next 2-3 years, there is likely to be strong revenue/earnings visibility for BGR Energy (BGR), and it is likely to emerge as one of the leading full service BoP contractors. We have revised our FY11E fair value to 18x (against earlier 13x) and arrive at a fair price of INR 596 /share. Over the limited 1.5-year history, the stock has traded at an average one-year forward P/E of 11.8x, which included a year of economic downturn. In our view, with improving liquidity outlook, better business sentiments, strong order backlog and power-linked core operations (sector has been relatively unaffected by the slowdown), BGR could trade at a far higher multiple, going forward. We maintain **'BUY'** recommendation, and rate it **'Sector Outperformer'** on relative return basis.

Chart 21: BGR Energy - P/E band



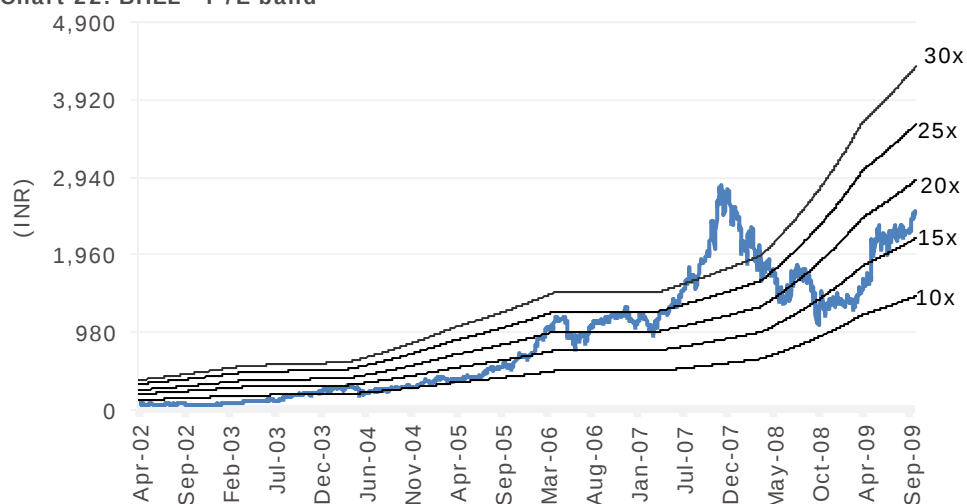
Source: Edelweiss research

BHEL

We believe, BHEL is likely to function at full capacity till the Eleventh Plan period due to increased pace of execution (in the second half of the Eleventh Plan period). Hence, we consider BHEL well-positioned to deliver impressive growth over FY09-12E. We project a PAT CAGR of 33.5% over FY09-12E for BHEL, driven by growth in revenues.

We believe BHEL's PVC period is likely to be over FY10-12E, with the maximum value likely to be created in FY12E. Consequently, we believe valuation multiple for BHEL should expand from the historical P/E band. Historically, BHEL has traded at an average one-year forward P/E band of ~20x; while it traded at P/E of ~40x in Oct-2007 and the trough the P/E multiple of the stock has been 10-12x. At our current estimates, BHEL is trading at P/E of 28.0x, 21.8x and 16.2x for FY10E, FY11E and FY12E, respectively. We believe the stock price is likely to be driven by earnings growth and expansion in multiple as revenue accretion gathers pace. This could result in higher value creation, leading to multiple expansion. We have a '**HOLD**' rating on the stock. On a sector relative basis the stock is rated as '**Sector Performer**'.

Chart 22: BHEL - P/E band

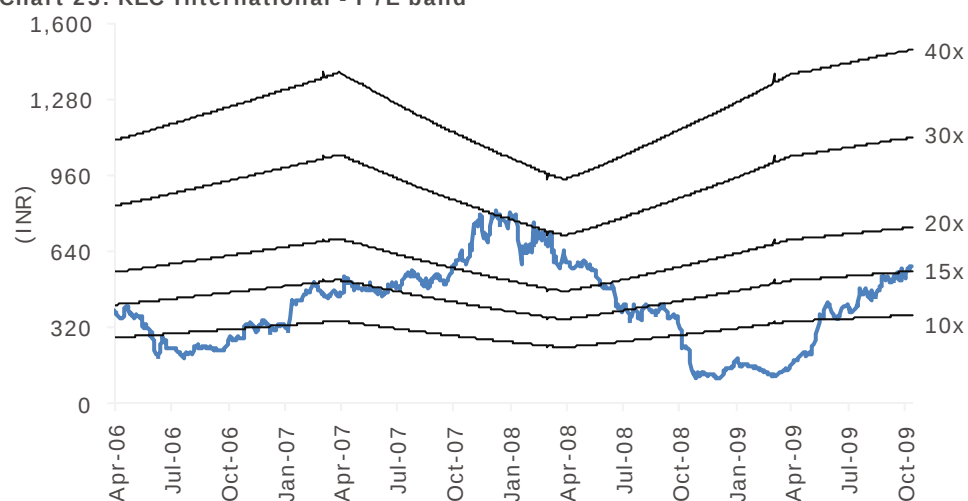


Source: Edelweiss research

KEC International

For transmission equipment, like BTG, we expect execution to peak over FY10-12E, driving value creation during the same period. However, beyond FY12E, we believe profitability could be lower as intensity of completion may increase. We expect P/E to expand for KEC International (KECI) over the PVC period. Historically, the stock has traded at an average one year forward P/E of 14.0x; while the peak P/E multiple has been ~30x in Dec- 2007 and the trough P/E multiple has been ~4x in November-2008. On our current estimates, the stock is trading at P/E of 13.2x and 11.6x for FY10E and FY11E, respectively. We believe that the stock price is likely to be driven by earnings growth and expansion in valuation multiples over FY11 and FY12. We have a **'BUY'** recommendation on the stock. On a sector relative basis the stock is rated as **'Sector Outperformer'**.

Chart 23: KEC International - P/E band



Source: Edelweiss research

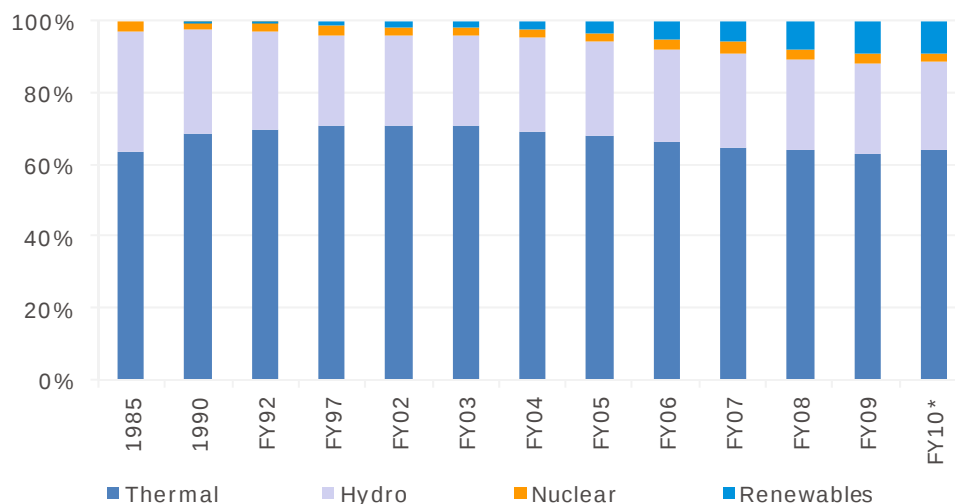
Annexure 1: Historical perspective of power sector in India

50x capacity addition since independence.....

The power generation capacity in India has grown manifold from 3,216 MW in December, 1947 to 1,52,148 MW as on September, 2009. A key highlight of India's power journey has been the heavy dependence on thermal power over the past six decades, mainly due to large coal mines in the East. Of late, GoI has undertaken several initiatives towards hydel, nuclear, and renewable energy.

Chart 24: Feed stock mix (installed capacity)

Thermal capacities form the bulk of generation capacity in India



Source: CEA, Edelweiss research

Note: * Upto October 2009

.....hasn't been enough

Some key factors hampering the sector growth are:

- **High losses:** T&D losses (losses due to technical factors) and AT&C losses (losses due to technical factors and collection inefficiency) hovering in the range of ~30% over the past six years. Technical losses are mainly due to old equipment (substations, capacitors etc), which lead to heat losses; commercial losses include losses due to theft, non-metering and collection inefficiencies.

Table 27: T&D losses in India

Year	(%)	
	T&D losses	AT&C losses
FY03	32.5	32.5
FY04	32.5	34.8
FY05	31.3	34.3
FY06	30.4	34.5
FY07	28.6	32.1
FY08	26.9	NA

Source: PFC, CEA

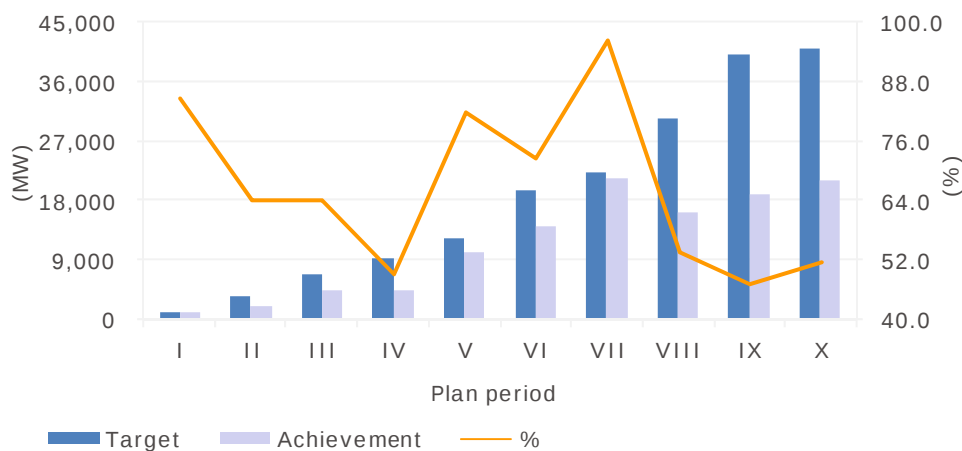
- **Continued gap between average cost of supply and average realisation for supplied power:** Power is being supplied to consumers on a differential tariff basis, with agricultural consumers (~25%) either getting free power or for miniscule tariff and domestic consumers enjoying slight subsidy. Most of the subsidy is recovered through higher tariffs charged to the richer industrial and commercial segments. Uncovered portion is funded by the state governments through their state budgets.

Table 28: Annual losses of power sector in India

Year	Cost of supply paise/kwh	Realisation paise/kwh	Only agri paise/kwh	Loss paise/kwh	Units sold (bn kwh)	Loss (INR bn)
FY02	246	181	59	65	483	314
FY03	238	195	77	43	498	214
FY04	239	203	72	36	519	187
FY05	254	209	76	45	548	247
FY06	258	221	79	37	579	214
FY07	276	227	71	49	625	306
FY08	290	232	71	58	665	387

Source: CEA

- **Slower-than-targeted capacity addition:** India has fallen short of the targeted capacity addition in various five year plans. Delays have occurred due to multiple reasons, including delay in securing necessary clearances, fuel linkages, and equipment delivery.

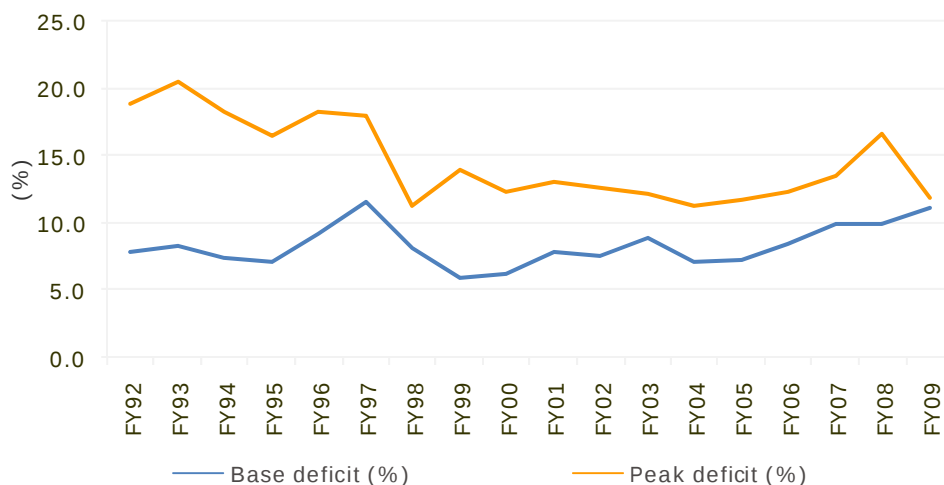
Chart 25: Capacity target and actual addition across 5-year plans

Source: CEA, Edelweiss research

- **Peak and base load deficits:** India has been facing both peak and base load deficits since a long time. Based on data available since FY92, base load deficit has been in the range of 5.9-11.5%, while the peak load deficit has been within 11.3-20.5%.

Chart 26: Peak and base load deficits

Base deficit continues to remain ~10%, though peak deficits have fallen



Source: CEA, Edelweiss research

Reforms, however, in the right direction

Historically, the Indian power sector was regulated by the Electricity Act, 1910 (EA 1910) and the Electricity (Supply) Act, 1948 (ESA 1948). However, given the nascent stage of the Indian power sector vis-à-vis other developed countries, there was an urgent need to have a uniform regulatory framework (involving commitment from various stakeholders), to give it the required impetus. After various amendments and interim acts in 2003, the GoI enacted Electricity Act, 2003 (EA 2003).

Fig. 3: Policy changes in various years



Source: CERC, Edelweiss research

Electricity Act (2003)

Prior to 2003, the power sector in India faced a slew of problems including late payments/default by SEBs. The Electricity Act 2003 brought the following reforms, to attract investments into the sector and to improve efficiency of the overall system:

- No license required for setting up a generation capacity.
- Unbundling SEBs and corporatization to improve efficiency.
- Introduction of availability-based tariffs to avoid grid failures.
- Continued regulation of tariffs.

This was a step in the right direction and was the first major reform in the power sector in India.

National Tariff Policy (2006)

Key features

- All future requirements of the distribution companies had to be sourced on international competitive bidding basis. State owned companies/expansion projects were exempt from this clause.
- Central and state government-controlled power companies were exempt from the competitive bidding criteria for next five years (until 2011).
- RoE was to be notified by CERC (Central Electricity Regulatory Commission) on time-to-time basis. SERCs could choose the same for distribution with modifications suited to their requirements.

Electricity Amendment Act (2007)

Key features

- Access to power to be provided to all by central/state governments' efforts.
- No license was required for sale of power from captive units.
- Cross-subsidies were to be removed in a phased manner.
- Theft of power was recognized as a non-bailable and cognisable offence.

This act provided a boost to the enforcement of law and helped reduce AT&C losses due to theft of power.

Annexure 2: Key takeaways from our meetings

To gauge the ground realities on progress of various power projects/programmes across the GTD space, we met state electricity boards, companies (utilities, equipments and EPC), IEEMA, regulators and industry experts. We posed a few pertinent questions across this esteemed participants list (Group) and have highlighted their views:

1) Why has the progress in power sector been much slower in India?

Group's view: Power is a concurrent subject, where policy formulation happens at the Centre, while implementation lies with state governments. Most people compare power to telecom, but the key difference is that telecom was always a Centre subject, while power is concurrent.

2) Why have some states performed much better than others?

Group's view: There are multiple factors which play an important role on how a state performs in a particular area. The most important factor is the political will of the ruling party to introduce reforms and setting-up a task force capable of implementing the same. Other than this, strong board at SEB level, employee motivation and sense of belonging towards the whole reform process are other key factors.

3) What is your take on subsidy being provided to agriculture?

Group's view: It is important to understand that agricultural power is subsidized because the end-product market is not free (crops, pulses etc). Subsidy per se is not bad as it brings down food grain prices (which affect everyone). However, misuse of free electricity is bad.

Also, since free power to agriculture has been there for a very long time and given the political compulsions, no one is willing to take a harsh step of charging farmers for electricity.

In Gujarat, the government has clearly stated that power will not be given free to the farmers. Moreover, the supply will be restricted to 8 hours a day to avoid unnecessary use of power (If uninterrupted supply is given to the farmers, they have a tendency of overdrawing power by keeping pump sets on even when power is not required. This, in turn, depletes the ground water resources available in the state).

4) What is your sense of the likely capacity addition during the Eleventh Plan?

Group's view: Capacity addition is most likely to be in the range of 40,000–60,000 MW. Although this will be short of the target 78,000 MW, it will still be double of what we achieved in the Tenth Plan. This time, people are optimistic of 65-70% achievement of target as almost 65,000 MW is already under construction.

5) Where is the biggest problem - generation, transmission or distribution?

Group's view: There are problems across the value chain. In generation, land acquisition, water, fuel, environmental clearances and collection from SEBs have been problem areas. However, with the Electricity Act 2003 (with introduction of open access and letter of credit with central guarantee), collection risk from SEBs has reduced substantially.

In transmission, the main problem is the acquisition of land for erection of towers. Getting continuous land parcels for transmission chain is a problem. At times, companies have to even pay INR 5 mn for land for each transmission tower.

In distribution, non-metering, theft, willful default and losses due to old equipment are key challenges. The local distribution grid was designed in most cases keeping in mind the demand pattern prevalent then. After 10-15 years, the demand pattern has, however, changed dramatically. More and more people have started using TVs, fridges, washing machines, computers etc. While designing new systems, authorities should, therefore, keep in mind futuristic demand patterns.

6) What are the initiatives taken by your state government to tackle these problems?

Group's view: Separation of feeders (agriculture and non-agriculture), metering of supplies, linking salaries of employees to their performance. Some states took utmost advantage of schemes like APDRP and RGGY.

7) Your take on revised APDRP and success of APDRP?

Group's view: Too many agencies are involved in RAPDRP. There is a higher focus on the technological aspects. It is likely to take more time than expected.

8) Has unbundling helped in reducing power sector woes at the state level? Key factors for a smooth transition?

Group's view: Unbundling has been successful in most states and has been pivotal in improving the financial health of SEBs by eliminating cross-subsidy.

Key factors:

- Political will
- Strong SEB board
- Willingness and involvement of employees

9) Recent changes that make you optimistic on the sector's future?

Group's view: The prime minister taking direct charge for the proposed opening up of the coal sector. Continued thrust on the availability of funds for all legs of power (GTD).

Annexure 3: Franchisee-based distribution model

Under this approach of privatization, an existing/part of the geographic location in a state is handed over by the existing operator to a third party. The scope of activities to be undertaken and service level agreements (SLAs) and tenure of contract would be part of the bid document. Based on the existing level of operations and the objective solicited by the incumbent, the prospective franchisees are bid for services.

Following are some types of franchisee operations prevalent in India:

- **Input-based franchisee:** An entity is responsible for providing negotiated level of power to the target area.
- **Service-based franchisee:** Providing operational level support (installing & maintaining equipment/ meters etc) or customer-related services (billing, collection, meter reading etc).
- **Complete service operator:** Here, the operator is entrusted with the complete and comprehensive responsibility of the operations of the geographic area.

Salient features of the franchisee operations are:

- It is for a specific duration. Once the tenure expires, the franchisee is paid back the depreciated value of assets and hands over the operations back.
- Measurable performance criteria and SLAs are detailed; non-achievement of these targets entails penalties as agreed in the contract.

Profile of areas that are let out on franchisee:

- There is too much of political/external issues which is difficult to overcome by the existing owner to improve the system; hence, the requirement of an external entity.
- The existing operator cannot manage the losses or afford the investment required to bring the change.
- The private sector has reasonable incentive to undertake this if the customer profile and quality of infrastructure has scope for improvement.

Benefits for the existing owner:

- Financial losses are lower as the prospective bidder pays the operator more than his existing earnings.
- He gets a transformed distribution asset (both technical and financial) at the end of the tenure.

Benefits for the franchisee:

- Since the entire reduction in AT&C losses translate into efficiency gains, this enhances earnings for the franchisee. Hence, the incentive for him is to achieve the reduction as early as possible.
- The capex, if funded through debt/working capital, would enhance RoE, and the depreciated value of assets enhances returns.

Examples of success

- Torrent Power, which bagged the Bhiwandi circle on a comprehensive franchisee basis, has reduced AT&C losses (aggregate technical and commercial) to ~25% from ~65% over a period of less than two years (starting from January 2007). This was achieved by 100% metering, changing equipment like overhead lines, transformers, substations, laying underground cables and setting up of collection centers apart from conducting consumer awareness programs.

Status of franchisee based reforms

- Based on the success of Torrent Power, states like Uttar Pradesh, Madhya Pradesh, Haryana and Maharashtra have targeted to bid out more cities, to reduce AT&C losses and increase earnings for the respective state government entities.

Annexure 4: Outlook on merchant power

Electricity sold in the spot market or on a short-term basis is categorized as merchant power. The rate for such power has been rising ever since the market was opened through setting up of the power exchanges in 2008 and peak deficit hovering at 14-16% range over the past 12-18 months. Over the past 6 months, prices has been volatile with tariffs (INR / kwh) touching a high of ~ INR 17 in April / May (run up to the elections) as well as in August (dip in hydro generation due to deficient rainfall), and during the intermittent period touched a low of ~ INR 1 due to low demand.

The low hydro generation was offset by the higher gas based power (due to commencement of KG gas supplies). However, lower thermal generation due to problem with coal supplies ensured that the electricity deficit continues. With the economy on the revival mode aided by rise in industrial production, merchant tariffs are expected to be firm at ~ INR 5 – 7 due to slower pace of capacity addition than envisaged.

Determining a sustainable rate for merchant power will be difficult amidst a skewed market wherein demand is significantly greater than supply due to the base deficit level of 8% (~10 GW). Hence, in the short term, we expect the current rates would prevail with default risks being the only deterrent. However, over the longer term we expect the robust capacity addition program (~30+ GW between FY11-13) to help bring down the merchant tariff to ~INR 4 levels.

Going forward, we believe merchant tariffs to trade at a premium of INR 0.50 – 0.75 to the long term PPA rates. The existing long-term tariff bids are in the range of INR 2.7 – 3.2 on a levelised basis for linkage / imported coal based power plant.

Since majority of power projects in XII Plan are likely to depend on imported coal; based on the current forward imported coal prices, levelised tariff would work out to INR 3.26.

Following are capacity addition program of key sector players over the next few years.

Table 29: Capacity addition by key players

Table 29: Capacity addition by key players														(MW)
Company name	Existing operations		FY10E		FY11E		FY12E		FY13E		Total		Grand total	
	Reg.	Merch.	Reg.	Merch.	Reg.	Merch.	Reg.	Merch.	Reg.	Merch.	Reg.	Merch.		
Adani Power			1,000	320	1,000	320	1,372	608	1,372	608	4,744	1,856	6,600	
CESC	975		250				600		300	300	2,125	300	2,425	
GIPCL	555		250						500		1,305	-	1,305	
GMR Infrastructure	600	80							850	200	1,450	280	1,730	
GVK Power	578	90							540		1,118	90	1,208	
JSPL	250	1,100	135	135	540	540	420	780	920	1,280	2,265	3,835	6,100	
Lanco Infrastructure	488		620	366	1,085		1,700	150			3,893	516	4,409	
NTPC	30,644		1,660		3,120		3,050		4,460	1,120	42,934	1,120	44,054	
NHPC	3,655		120		1,212		2,160		800		7,947	-	7,947	
Reliance Infrastructure	941										941	-	941	
Reliance Power*			300		300		1,920	600	2,640		5,160	600	5,760	
Tata Power	2,774	140			1,050		1,600		2,400		7,824	140	7,964	
Torrent Power	1,200	400									1,200	400	1,600	
Total	42,920	1,810	4,785	1,571	8,757	2,210	14,722	2,738	16,762	3,508	87,946	11,837	99,783	

Source: Edelweiss research

Note: Reg. = Regulated/Competitively-bid, Merch. = Merchant

* - does not include Chittarangi and Dadri projects

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BGR ENERGY SYSTEMS



Execution soft in H1FY10; FY11 likely to be stronger

■ Project execution slower in H1FY10

BGR Energy Systems' (BGR) project execution in H1FY10 has been slower than expected (up 6% Y-o-Y against the full year expected trajectory of 40% plus). In our view, H2 is likely to be much stronger and will compensate for the soft H1; the company has two large EPC orders (RRVUNL – Kalisindh) and (TNEB – Mettur) worth INR 80 bn, to be executed over next 12-18 months.

■ Coverage best in industry; sound execution engine

Continuing its strong order accretion trajectory (INR 80 bn booked in FY09), BGR booked ~INR 34 bn worth of orders in H1. Towards the end of H2FY09, the company's order backlog stood at INR 122 bn, 4.3x FY10E revenues. Superior project management skills, which the company has garnered over the past few years by executing complex EPC and BoP projects (130 contracts in India and abroad), provide comfort on the execution front.

■ Margins expand on back of lower commodity prices

Margins for the company have improved in H1FY10, as the management had guided at the start of the year. We expect 100bps improvement in margins over FY09-11E due to positive commodity price movement and economies of scale (two large projects to be executed).

■ Superior management expertise; moving from BoP to end-to-end EPC

Besides engineering and technology skill sets, EPC and BoP contracts tend to be project management intensive. In our view, BGR enjoys significant advantage over other contractors by virtue of its capability of executing ~18-20 packages across BoP and BTG segments in-house. Additionally, in FY09, the company bagged two large EPC jobs, which, in our view, is the beginning of transition for BGR from being a pure BoP vendor to end-to-end EPC contractor.

■ Outlook and valuations: Positive; maintain 'BUY'

Huge opportunity during Eleventh and Twelfth five year plans, dearth of quality contractors is likely to lead to re-rating amongst quality end-to-end EPC contractors. Over the next 2-3 years, there is likely to be strong revenue/earnings visibility for BGR, and the company is likely to emerge as a leading full-service BoP contractor. Based on our FY12E EPS estimate of INR 46.4 and target P/E multiple of 13x, we upgrade our target price to INR 598. We maintain 'BUY' on the stock and rate it 'Sector Outperformer' on relative return basis.

Financials

Year to March	FY08	FY09	FY10E	FY11E
Revenues (INR mn)	15,205	19,303	28,253	42,507
Rev. growth (%)	93.3	27.0	46.4	50.5
EBITDA (INR mn)	1,553	2,089	3,229	4,902
Net profit (INR mn)	885	1,156	1,639	2,384
Share outstanding (mn)	72	72	72	72
EPS (INR)	12.3	16.1	22.8	33.1
EPS growth (%)	116.9	30.6	41.8	45.5
P/E (x)	40.2	30.8	21.7	14.9
EV/EBITDA (x)	23.2	17.5	13.5	10.2
ROAE (%)	31.8	22.3	25.8	29.3

November 19, 2009

Reuters : BGRE.BO Bloomberg : BGRL IN

EDELWEISS 4D RATINGS

Absolute Rating	BUY
Rating Relative to Sector	Outperformer
Risk Rating Relative to Sector	Medium
Sector Relative to Market	Overweight

Note:
Please refer last page of the report for rating explanation

MARKET DATA

CMP	:	INR 494
52-week range (INR)	:	529 / 107
Share in issue (mn)	:	72.0
M cap (INR bn/USD mn)	:	35.6 / 766.5
Avg. Daily Vol. BSE ('000)	:	110.0

SHARE HOLDING PATTERN (%)

Promoters*	:	81.3
MFs, FIs & Banks	:	5.5
FIIIs	:	1.9
Others	:	11.3
* Promoters pledged shares (% of share in issue)	:	Nil

RELATIVE PERFORMANCE (%)

	Sensex	Stock	Stock over Sensex
1 month	(1.3)	(5.7)	(4.4)
3 months	13.1	30.1	17.0
12 months	93.7	209.6	115.9

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Investment Rationale

■ Superior management expertise: Moving from BoP to end-to-end EPC

BGR has developed superior project management skills over the past 20 years by managing various complex projects (historically in the BoP space). Our interaction with industry participants, BoP operators and customers (NTPC, BHEL, Lanco, and Doosan) indicates that BoP project/packages are largely project management intensive. A typical BoP job involves ~20-25 packages, depending on various classifications, which essentially means the main contractor or the core BoP vendor will have to interact with 7-8 different vendors executing these packages.

In our view, BGR enjoys a significant advantage over other contractors by virtue of its capability to execute ~18-20 packages in-house. It has twin advantages: (1) it involves less of vendor management and project management, making both the bidding and execution processes faster; and (2) design and engineering resources can be used for multiple purposes with greater efficiency.

Table 1: BGR's BoP offerings

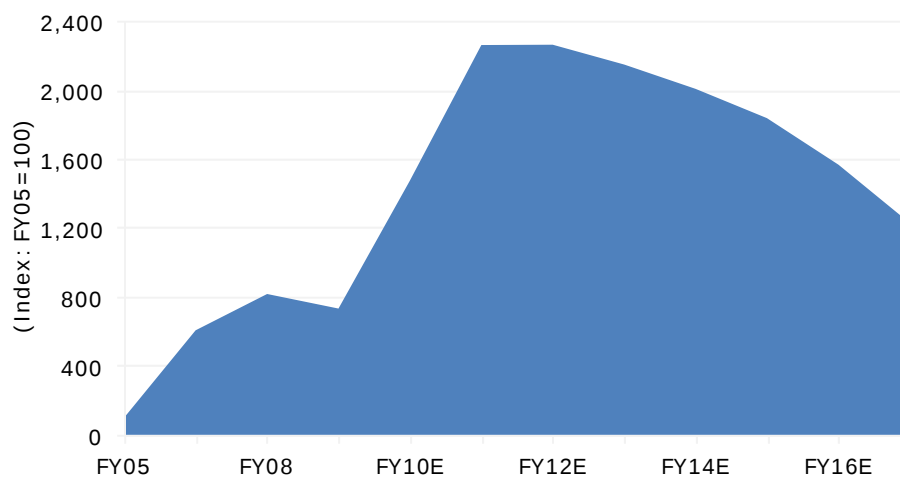
BOP packages	
Design & engineering of civil, electrical and mechanical systems	Condensate polishing plant
Civil works including	Effluent treatment plant
- Chimney	Demineralization plant
- Natural and induced draft cooling tower	Gas conditioning & metering skid
Substation and switchyard	Fabrication of columns & structures
Plant piping system	Welded finned tubes
Air fin cooler	Heat recovery steam generator
Air cooled condenser	On-line condenser tube cleaning system
Deaerator	Debris filter
Desalination plant including RO system	Rubber cleaning balls for condenser

Source: Company, Edelweiss research

■ Transition into end-to-end EPC contractor to create peak value in FY12-13

We expect BGR's revenues to post CAGR of 40% over FY09-12E, driven by strong pick-up in execution and continued traction in order accretion. With improvement in margins playing out on economies of scale and lower commodity prices, we expect similar-to-marginally-higher growth in earnings (please note we have only assumed 70bps improvement in margins over FY09-12E). Also, it is important to note that beyond the explicit forecast period (beyond FY12), we assume BGR to graduate from being a BoP contractor to full-service EPC contractor, which will lead to higher-to-stable growth till FY18E. We project improvement in ROCEs till FY11-12E; post that, although we are likely to see growth, lower margins will pull down ROCEs.

Chart 1: BGR Energy - Value creation profile



Source: Edelweiss research

■ **Outlook and valuations: Emerging quality contractor; maintain 'BUY'**

BGR's core earnings are likely to post 43% CAGR over FY09-11E on execution of existing order backlog (up 4x in FY09 over FY08), lower commodity prices and economies of scale. In our view, the next two years are critical for the company to graduate from a pure BoP contractor to a large-scale end-to-end EPC contractor. With INR 86 bn order intake in FY09 and focus on executing two large EPC projects (noted earlier), the company's revenues are likely to grow 48% over the next two years.

Huge opportunity during Eleventh and Twelfth plans, dearth of quality contractors and industry dynamics will lead to re-rating amongst quality end-to-end EPC contractors. Over the next 2-3 years, there is likely to be strong revenue/earnings visibility for BGR; the company is likely to emerge as one of the leading full service BoP contractors. We have revised our FY11E fair value to 18x (against earlier 13x), arriving at a price of INR 596/share. We maintain '**BUY**' on the stock, and rate it '**Sector Outperformer**' on relative return basis.

■ Company description

BGR was incorporated in 1985 as a joint venture between GEA Energietechnik (Germany) and the promoter of the company, Mr. B.G. Raghupathy. The company's head office is located in Chennai and it has three marketing and sales offices in India. Initially, the company manufactured products essentially used in thermal and nuclear power plants such as on line condenser tube cleaning systems, debris filters, and rubber cleaning balls. In 1993, the promoter and promoter family bought GEA Energietechnik's stake and became the sole shareholders of the company. In 1993, the company expanded its range of products and services in the power and oil and gas industries. Currently, it manufactures and supplies equipment and also does turnkey engineering project contracting. In the equipment segment, the company manufactures equipment for power, oil & gas, refinery, petrochemical, and process industries. In the turnkey engineering project contracting business, the company executes projects in the power and oil & gas sectors, wherein it takes turnkey responsibility to supply a range of equipment and services, including civil and other works for a project.

■ Key risks

High working capital requirements

BGR's business model has high working capital requirements. Significant amounts of working capital is required to finance the purchase of materials, contract initiation costs, and the performance of engineering, construction and other work on projects before progress payments, are received from clients. The accounts receivable days at FY08 end were at 235 for the company. High working capital negatively impacts return ratios and cash flows of the company. Consequently, we believe, to meet working capital requirements there could be risk of dilution or higher indebtedness in the long term.

Highly concentrated order backlog

The company's order backlog currently is at INR 121 bn. Of this, 2x600 MW, the Kalisindh thermal power plant at Jalawar (Rajasthan) has an order value of INR 49 bn, while the TNEB 1x600 MW thermal power plant has an order value of INR 31 bn. Any delay in execution of these orders can potentially swing earnings on either side.

Financial Statements

Income statement					(INR mn)
Year to March	FY08	FY09	FY10E	FY11E	FY12E
Income from operations	15,205	19,303	28,253	42,507	58,859
Direct costs	12,502	15,238	19,730	29,683	41,101
Employee costs	450	744	1,106	1,618	2,239
Other expenses	700	1,232	4,188	6,304	8,731
Total operating expenses	13,652	17,214	25,024	37,605	52,072
EBITDA	1,553	2,089	3,229	4,902	6,787
Depreciation and amortisation	55	75	127	177	202
EBIT	1,498	2,014	3,102	4,724	6,585
Interest expenses	254	579	825	1,208	1,591
Other income	52	317	184	66	33
Profit before tax	1,296	1,752	2,461	3,582	5,027
Provision for tax	411	596	822	1,198	1,682
Core profit	885	1,156	1,639	2,384	3,344
PAT before min. int.	885	1,156	1,639	2,384	3,344
PAT after minority interest	885	1,156	1,639	2,384	3,344
Adjusted net profit	885	1,156	1,639	2,384	3,344
Basic shares outstanding (mn)	72	72	72	72	72
EPS (INR) basic	12.3	16.1	22.8	33.1	46.4
Diluted equity shares (mn)	72	72	72	72	72
EPS (INR) fully diluted	12.3	16.1	22.8	33.1	46.4
CEPS (INR)	13	21	30	43	60
Dividend per share	3.0	2.0	3.0	3.0	3.0
Dividend payout (%)	19.0	21.9	15.4	10.6	7.6

Common size metrics- as % of net revenues

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Direct cost	82.2	78.9	69.8	69.8	69.8
Employee expenses	3.0	3.9	3.9	3.8	3.8
S G & A expenses	4.6	6.4	14.8	14.8	14.8
Operating expenses	89.8	89.2	88.6	88.5	88.5
Depreciation and Amortization	0.4	0.4	0.4	0.4	0.3
Interest expenditure	1.7	3.0	2.9	2.8	2.7
EBITDA margins	10.2	10.8	11.4	11.5	11.5
EBIT margins	9.9	10.4	11.0	11.1	11.2
Net profit margins (adjusted)	5.8	6.0	5.8	5.6	5.7

Growth metrics (%)

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Revenues	189.9	27.0	46.4	50.5	38.5
EBITDA	163.6	34.5	54.6	51.8	38.5
PBT	214.1	35.2	40.5	45.6	40.3
Net profit	225.1	30.6	41.8	45.5	40.3
EPS	225.3	30.6	41.8	45.5	40.3

Balance sheet**(INR mn)**

As on 31st March	FY08	FY09	FY10E	FY11E	FY12E
Equity capital	720	720	720	720	720
Reserves & surplus	4,017	4,919	6,343	8,484	11,586
Shareholders funds	4,737	5,639	7,063	9,204	12,306
Minority interest	27	28	44	65	90
Secured loans	4,992	6,360	9,410	14,410	17,410
Unsecured loans	35	730	789	789	789
Borrowings	5,027	7,090	10,199	15,199	18,199
Sources of funds	9,791	12,757	17,306	24,468	30,596
Gross block	734	1,245	2,025	2,535	2,645
Depreciation	206	268	399	577	779
Net block	527	977	1,626	1,958	1,866
Capital work in progress	11	54	0	0	0
Total fixed assets	538	1,031	1,626	1,958	1,866
Goodwill	6	6	6	6	6
Investments	1,514	5	5	5	5
Inventories	150	140	205	299	407
Sundry debtors	7,360	12,789	17,903	26,405	34,190
Cash and equivalents	3,070	6,152	2,189	920	752
Loans and advances	2,749	6,610	9,713	14,629	20,275
Total current assets	13,329	25,690	30,010	42,252	55,625
Sundry creditors and others	4,838	12,551	12,511	17,378	23,902
Provisions	402	677	1,083	1,630	2,257
Total CL & provisions	5,240	13,229	13,594	19,007	26,160
Net current assets	8,089	12,462	16,415	23,245	29,465
Net deferred tax	(356)	(747)	(747)	(747)	(747)
Uses of funds	9,791	12,757	17,306	24,468	30,596
Adjusted BV per share (INR)	66	78	98	128	171

Free cash flow**(INR mn)**

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Net profit	885	1,156	1,639	2,384	3,344
Depreciation	55	75	127	177	202
Deferred tax	(11)	263	391	548	800
Gross cash flow	929	1,493	2,157	3,110	4,346
Less: Changes in WC	3,060	1,292	7,916	8,098	6,388
Operating cash flow	(2,132)	202	(5,760)	(4,989)	(2,042)
Less: Capex	81	555	726	510	110
Free cash flow	(2,213)	(353)	(6,485)	(5,499)	(2,152)

Cash flow metrics

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Operating cash flow	(1,858)	330	(5,602)	(4,737)	(1,718)
Financing cash flow	6,268	1,919	2,893	4,784	2,784
Investing cash flow	(1,592)	954	(726)	(510)	(110)
Net cash flow	2,818	3,203	(3,435)	(463)	956
Capex	(81)	(555)	(726)	(510)	(110)
Dividends paid	(32)	(144)	(216)	(216)	(216)

Profitability & liquidity ratios

Year to March	FY08	FY09	FY10E	FY11E	FY12E
ROAE (%) (on adjusted profits)	31.8	22.3	25.8	29.3	31.1
ROACE (%)	22.9	17.9	20.6	22.6	23.9
Debtors days	133	190	198	190	188
Inventory days	6	3	3	3	3
Fixed assets t/o (x)	33.4	25.7	21.7	23.7	30.8
Debt/equity	1.1	1.3	1.4	1.7	1.5
Interest coverage	5.9	3.5	3.8	3.9	4.1
Payable days	110	208	232	184	183
Cash conversion cycle	30	(14)	(30)	10	8
Current ratio	2.5	1.9	2.2	2.2	2.1
Debt/EBITDA	3.2	3.4	3.2	3.1	2.7
Adjusted debt/Equity	1.1	1.3	1.4	1.7	1.5

Operating ratios

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Total asset turnover	2.3	1.7	1.9	2.0	2.1
Fixed asset turnover	33.4	25.7	21.7	23.7	30.8
Equity turnover	5.5	3.7	4.4	5.2	5.5

Du Pont Analysis

Year to March	FY08	FY09	FY10E	FY11E	FY12E
NP margin	5.8	6.0	5.8	5.6	5.7
Total assets turnover	2.3	1.7	1.9	2.0	2.1
Leverage multiplier	2.4	2.2	2.4	2.6	2.6
ROAE	31.8	22.3	25.8	29.3	31.1

Valuation parameters

Year to March	FY08	FY09	FY10E	FY11E	FY12E
EPS (INR) fully diluted	12.3	16.1	22.8	33.1	46.4
Y-o-Y growth (%)	116.9	30.6	41.8	45.5	40.3
CEPS (INR)	12.9	20.7	30.0	43.2	60.4
Diluted P/E (x)	40.2	30.8	21.7	14.9	10.6
Price/BV (x)	7.5	6.3	5.0	3.9	2.9
EV/Sales (x)	2.4	1.9	1.5	1.2	0.9
EV/EBITDA (X)	23.2	17.5	13.5	10.2	7.8
Dividend yield (%)	0.6	0.4	0.6	0.6	0.6
FCFPS (INR)	(30.7)	(4.9)	(90.1)	(76.4)	(29.9)
Y-o-Y growth (%)	59.6	84.1	(1,738.1)	15.2	60.9
FCFPE (x)	(16.1)	(100.8)	(5.5)	(6.5)	(16.5)
EPS (INR) basic	12.3	16.1	22.8	33.1	46.4
Basic P/E (x)	40.2	30.8	21.7	14.9	10.6

BHEL*Bright prospects*

■ Order accretion soft for H1FY10; however, not a cause for concern

Order accretion of BHEL was soft for H1FY10, at INR 215 bn, implying a decline of 25.4 % Y-o-Y. However, we believe this is not a cause for concern at least till FY12, as the current order backlog (at INR 1.125 tn) provides visibility for 4.2 years (based on FY09 sales). Further, bulk orders from NTPC (likely to be ordered in Q1FY11) add to the order visibility.

■ Capacity expansion on track

The company's capacity expansion, to 15 GW, is expected to fully complete by December 2009-March 2010, while the second phase of capacity expansion (from 15 GW to 20 GW) has already commenced. The company expects to complete ordering for the second phase of capacity expansion by end of FY10, while the capacity expansion itself will be complete by December 2011. Going by the quantum of BHEL's capacity expansion, we believe the BTG industry could have overcapacity by FY12.

■ Margins expand on back of lower commodity prices

In H1FY10, margins have continued to remain strong, driven by lower commodity prices. We believe margin strength is likely to be maintained throughout FY10, though margins have peaked in the current cycle, in our view. We believe even in FY10, the company has benefited from positive commodity price movement, which is unlikely to continue over the long term.

■ Outlook and valuations: Fundamentals to improve; maintain 'HOLD'

We believe till the Eleventh Plan period, BHEL is likely to function at full capacity due to the increased pace of execution (likely in the second half of the Eleventh Plan). Hence, we consider BHEL well-positioned to deliver impressive growth over FY09-12. We project a PAT CAGR of 33.5% over FY09-12E for BHEL, driven by growth in revenues. At our current estimates, BHEL is trading at a P/E of 28.0x, 21.8x and 16.2x for FY10, FY11 and FY12, respectively. We believe the stock price is likely to be driven by earnings growth and expansion in multiple as revenue accretion gathers pace. This could result in higher value creation, leading to multiple expansion. We maintain 'HOLD' on the stock, and rate it 'Sector Outperformer' on relative return basis.

Financials

Year to March	FY08	FY09	FY10E	FY11E
Revenues (INR mn)	197,269	267,268	330,594	454,424
Rev. growth (%)	12.0	35.5	23.7	37.5
EBITDA (INR mn)	37,414	42,190	61,694	81,751
Net profit (INR mn)	28,603	31,263	43,114	55,342
Share outstanding (mn)	490	490	490	490
Diluted EPS (INR)	58.4	63.9	88.1	113.1
EPS growth (%)	18.5	9.3	37.9	28.4
P/E (x)	38.7	35.4	25.7	20.0
EV/EBITDA (x)	27.4	23.8	16.2	12.0
ROAE (%)	29.2	26.4	29.6	30.2

November 19, 2009

Reuters : BHEL.BO

Bloomberg : BHEL IN

EDELWEISS 4D RATINGS

Absolute Rating	HOLD
Rating Relative to Sector	Outperformer
Risk Rating Relative to Sector	Low
Sector Relative to Market	Overweight

Note:

Please refer last page of the report for rating explanation

MARKET DATA

CMP	:	INR 2,263
52-week range (INR)	:	2,550 / 1,160
Share in issue (mn)	:	489.5
M cap (INR bn/USD mn)	:	1,108/ 23,864
Avg. Daily Vol. BSE ('000)	:	1,441.0

SHARE HOLDING PATTERN (%)

Promoters*	:	67.7
MFs, FIs & Banks	:	9.8
FIIIs	:	16.1
Others	:	6.4
* Promoters pledged shares (% of share in issue)	:	Nil

RELATIVE PERFORMANCE (%)

	Sensex	Stock	Stock over Sensex
1 month	(1.3)	(7.8)	(6.5)
3 months	13.1	2.8	(10.3)
12 months	93.7	84.8	(8.9)

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Investment Rationale

Value creation to further increase

We expect BHEL's revenues to post CAGR of 32.4% over FY09-12E, driven by increased pace of execution as we enter the second half of the Eleventh Plan period. In line with the revenue growth, we expect PAT to post CAGR of 33.5% over the same period. We expect RoCEs to improve from the current levels, driven by improvement in asset turnover. The same is likely to be driven by higher revenues over FY10-12E, which implies increase in capacity utilisation. We project an average RoCE of 41.8% over FY10-12E, compared with an average RoCE of 36.0% over FY07-09. Below, we give the value creation profile of BHEL by tracking the four key variables as given in our peak value creation framework:

Table 1: BHEL – Value creation profile

	FY09	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E
Revenues (INR mn)	267,268	330,594	454,424	585,342	560,965	502,403	427,319	392,966	420,815
Growth (%)	35.5	23.7	37.5	28.8	(4.2)	(10.4)	(14.9)	(8.0)	7.1
Operating margins (%)	14.5	17.5	16.8	16.1	15.2	14.5	14.8	12.6	12.6
Invested capital (INR mn)	58,565	109,980	160,461	216,999	225,827	223,295	210,653	202,266	219,780
Capital t/o (x)	5.1	3.9	3.4	3.1	2.5	2.2	2.0	1.9	2.0
RoCE (%)	47.7	44.4	36.6	32.4	25.0	20.9	18.9	15.5	16.1

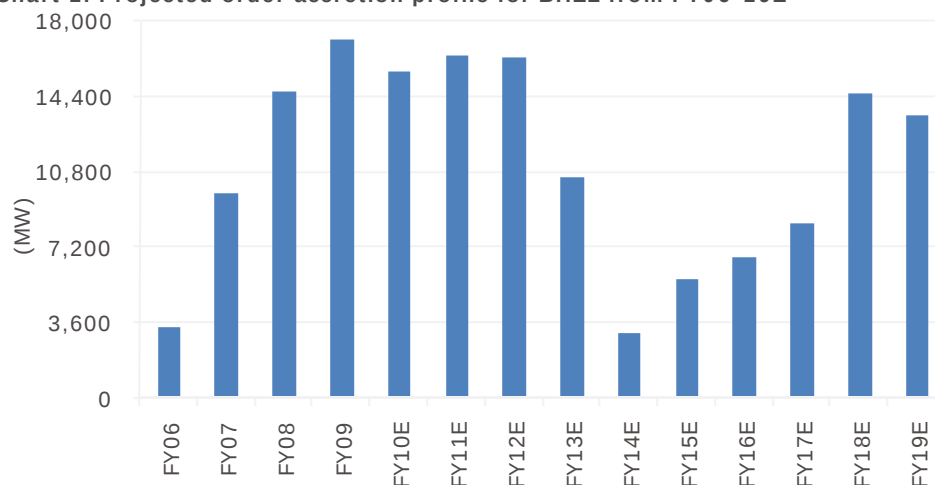
Source: Edelweiss research

As can be seen above, the peak value creation for BHEL is likely to be in FY12E, and the value created is likely to be ~3.5x of that in FY09. Hence, in our view, even as the industry dynamics in the BTG sector are likely to undergo a significant shift in the Twelfth Plan period, leading to a likely de-rating for BHEL, we believe the same is still some time away.

Order accretion to decline for power business from FY13E

We expect order accretion to decline for BHEL's power segment, leading to decline in revenue growth from FY13E, in our view, which is likely to impact the company's value creation potential FY13E onwards.

Chart 1: Projected order accretion profile for BHEL from FY06-19E



Source: Edelweiss research

In the chart above, we have included orders from the Twelfth and Thirteenth plans. Order accretion in these years is also likely to be impacted by increase in BTG capacities in India.

Table 2: Details of new entrants in the BTG equipment industry

New entrant	Proposed capacity (GW)	Capacity commissioning time frame	Recent orders bagged
Larsen and Toubro- Mistibushi Heavy Industries (For boilers, turbine and generators)	4	Boilers- December 2010 Turbine- June 2011	1) 2X 660 MW- Jaypee Group at Singrauli- Madhya Pradesh- Order valued at INR 20 bn 2) 1600 MW- APGENCO, Andhra Pradesh- Order valued at INR 15.5 bn
Bharat Forge- Alstom (For turbines and generators)	5	By end of FY12	
JSW Group- Toshiba (For turbines and generators)	3	Project was financially closed in September 2009. First phase will be commissioned by December 2011. Second phase by H2FY12.	
BGR Energy- Foster Wheeler- Hitachi (For boilers, turbines and generators)			

Source: Edelweiss research

We expect the annual capacity of the BTG equipment industry to be at ~35-40 GW by the end of the Eleventh Plan or the beginning of the Twelfth Plan. Capacity addition in the Twelfth Plan is expected to be at 80-100 GW, implying an annual BTG equipment capacity requirement of ~16-20 GW. We believe capacities for the BTG equipment space are likely to be higher than what the current requirement suggests, which could impact the profitability and, hence, returns.

■ Outlook and valuations: Fundamentals to improve; maintain 'HOLD'

We believe till the Eleventh Plan period, BHEL is likely to function at full capacity due to the increased pace of execution that is likely in the second half of the Eleventh Plan period. Hence, we believe BHEL is well-positioned to deliver impressive growth over FY09-12. We project PAT CAGR of 33.5% over FY09-12 for BHEL, driven by growth in revenues.

We believe BHEL's peak value creation period is likely to be over FY10-12E, with maximum value creation in FY12. Consequently, we believe valuation multiple for the stock should expand from the historical P/E band. Historically, the stock has traded at an average one-year forward P/E band of ~20x. While at the peak, the stock traded at P/E of ~40x, at the trough P/E of the stock has been 10-12x. At our current estimates, BHEL is trading at P/E of 28.0x, 21.8x and 16.2x for FY10, FY11 and FY12, respectively. We believe the stock price is likely to be driven by earnings growth and expansion in multiple as revenue accretion gathers pace. This could result in higher value creation, leading to lead to multiple expansion. We maintain 'HOLD' on the stock, and rate it 'Sector Outperformer' on relative return basis.

■ Company description

BHEL is the largest engineering and manufacturing enterprise in India in the energy related/ infrastructure sector. It manufactures over 180 products under 30 major product groups and caters to core sectors of the Indian economy viz., power generation and transmission, industry, transportation, telecommunication, and renewable energy. BHEL has a wide network with 14 manufacturing divisions, four power sector regional centers, over 100 project sites, eight service centers, and 18 regional offices across the country. An extensive network enables the company to promptly serve its customers and provide

them with suitable products, systems, and services. It has acquired and adopted some of the best technologies from leading companies globally, besides developing technologies at its own R&D center.

■ Key risks

In the past, the domestic power sector has not kept pace with the growth in demand, which resulted in energy shortage. Any slowdown in power reforms can impact BHEL, as it has 65% market share in country's total installed capacity. In the domestic market, BHEL is facing stiff international competition, particularly from Chinese power plant equipment (PPE) manufacturers, who have twin advantages of economies of scale and global reach. With order book growth surging at record levels, any delay in execution of projects could hamper margins.

Financial Statements

Income statement					(INR mn)
Year to March	FY08	FY09	FY10E	FY11E	FY12E
Income from operations	197,269	267,268	330,594	454,424	585,342
Direct costs	109,936	164,685	199,542	281,969	367,534
Employee costs	26,077	29,837	31,448	38,385	50,276
Other expenses	23,842	30,556	37,910	52,318	66,995
Total operating expenses	159,855	225,078	268,900	372,672	484,804
EBITDA	37,414	42,190	61,694	81,751	100,538
Depreciation and amortisation	2,972	3,343	3,904	5,337	6,071
EBIT	34,442	38,848	57,790	76,414	94,467
Interest expenses	354	307	580	580	580
Other income	10,225	9,829	9,118	9,308	10,393
Profit before tax	44,313	48,370	66,329	85,142	104,280
Provision for tax	15,711	17,106	23,215	29,800	36,498
Core profit	28,603	31,263	43,114	55,342	67,782
Extraordinary items	(9)	119	0	0	0
Profit after tax	28,593	31,382	43,114	55,342	67,782
Adjusted net profit	28,603	31,263	43,114	55,342	67,782
Basic shares outstanding (mn)	490	490	490	490	490
EPS (INR) basic	58.4	63.9	88.1	113.1	138.5
Diluted equity shares (mn)	490	490	490	490	490
EPS (INR) fully diluted	58.4	63.9	88.1	113.1	138.5
CEPS (INR)	64.5	70.7	96.0	124.0	150.9
Dividend per share	15.3	17.3	19.3	21.3	25.3
Dividend payout (%)	30.5	31.5	25.6	22.0	21.3

Common size metrics- as % of net revenues

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Direct cost	55.7	61.6	60.4	62.0	62.8
Employee expenses	13.2	11.2	9.5	8.4	8.6
S G &A expenses	12.1	11.4	11.5	11.5	11.4
Operating expenses	81.0	84.2	81.3	82.0	82.8
Depreciation and amortization	1.5	1.3	1.2	1.2	1.0
Interest expenditure	0.2	0.1	0.2	0.1	0.1
EBITDA margins	19.0	15.8	18.7	18.0	17.2
EBIT margins	17.5	14.5	17.5	16.8	16.1
Net profit margins	14.5	11.7	13.0	12.2	11.6

Growth metrics (%)

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Revenues	12.0	35.5	23.7	37.5	28.8
EBITDA	3.8	12.8	46.2	32.5	23.0
PBT	18.6	9.2	37.1	28.4	22.5
Net profit (adjusted)	18.5	9.3	37.9	28.4	22.5
EPS	18.5	9.3	37.9	28.4	22.5

Balance sheet					(INR mn)
As on 31st March	FY08	FY09	FY10E	FY11E	FY12E
Equity capital	4,895	4,895	4,895	4,895	4,895
Reserves & surplus	102,847	124,493	156,582	199,754	253,075
Shareholders funds	107,742	129,388	161,477	204,649	257,970
Unsecured loans	952	1,494	1,494	1,494	1,494
Borrowings	952	1,494	1,494	1,494	1,494
Sources of funds	108,694	130,882	162,971	206,143	259,464
Gross block	44,435	52,249	83,406	98,406	108,406
Depreciation	34,031	37,133	41,036	46,373	52,444
Net block	10,404	15,116	42,370	52,033	55,962
Capital work in progress	5,989	11,158	0	0	0
Total fixed assets	16,393	26,274	42,370	52,033	55,962
Investments	83	523	523	523	523
Inventories	57,364	78,370	97,965	132,735	169,348
Sundry debtors	119,749	159,755	205,210	282,075	363,340
Cash and equivalents	83,860	103,147	108,423	131,536	166,163
Loans and advances	18,089	27,739	32,529	44,714	57,596
Total current assets	279,062	369,011	444,127	591,060	756,447
Sundry creditors and others	165,765	233,573	268,094	351,096	429,247
Provisions	34,459	49,756	74,358	104,781	142,624
Total CL & provisions	200,223	283,329	342,452	455,877	571,871
Net current assets	78,839	85,682	101,674	135,184	184,575
Net deferred tax	13,379	18,403	18,403	18,403	18,403
Uses of funds	108,694	130,882	162,971	206,143	259,464
Adjusted BV per share (INR)	220	264	330	418	527

Free cash flow

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Net profit	28,593	31,382	43,114	55,342	67,782
Depreciation	2,972	3,343	3,904	5,337	6,071
Gross cash flow	31,566	34,725	47,018	60,679	73,853
Less: Changes in WC	(13,361)	(12,444)	10,716	10,396	14,765
Operating cash flow	44,926	47,168	36,301	50,283	59,087
Less: Capex	6,340	12,983	20,000	15,000	10,000
Free cash flow	38,586	34,186	16,301	35,283	49,087

Cash flow metrices

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Operating cash flow	44,926	47,168	36,301	50,283	59,087
Financing cash flow	11,314	(9,337)	(11,025)	(12,170)	(14,461)
Investing cash flow	(6,452)	(13,664)	(20,000)	(15,000)	(10,000)
Net cash flow	49,789	24,167	5,276	23,113	34,626
Capex	(6,452)	(13,224)	(20,000)	(15,000)	(10,000)
Dividends paid	(8,734)	(9,879)	(11,025)	(12,170)	(14,461)

Profitability & liquidity ratios

Year to March	FY08	FY09	FY10E	FY11E	FY12E
ROAE (%) (on adjusted profits)	29.2	26.4	29.6	30.2	29.3
ROACE (%)	34.9	32.5	39.5	41.5	40.7
Inventory days	165	150	161	149	150
Debtors days	200	191	201	196	201
Payable days	473	443	459	401	387
Cash conversion cycle	(107)	(101)	(96)	(56)	(36)
Current ratio	1.4	1.3	1.3	1.3	1.3
Interest coverage	97.2	126.5	99.6	131.7	162.9
Fixed assets t/o (x)	19.2	20.9	11.5	9.6	10.8

Operating ratios

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Total asset turnover	2.0	2.2	2.3	2.5	2.5
Fixed asset turnover	19.2	20.9	11.5	9.6	10.8
Equity turnover	2.0	2.3	2.3	2.5	2.5

Du pont analysis

Year to March	FY08	FY09	FY10E	FY11E	FY12E
NP margin (%)	14.5	11.7	13.0	12.2	11.6
Total assets turnover	2.0	2.2	2.3	2.5	2.5
Leverage multiplier	1.0	1.0	1.0	1.0	1.0
ROAE (%)	29.2	26.4	29.6	30.2	29.3

Valuation parameters

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Diluted EPS (INR)	58.4	63.9	88.1	113.1	138.5
Y-o-Y growth (%)	18.5	9.3	37.9	28.4	22.5
CEPS	64.5	70.7	96.0	124.0	150.9
Diluted P/E (x)	38.7	35.4	25.7	20.0	16.3
Price/BV (x)	10.3	8.6	6.9	5.4	4.3
EV/Sales (x)	5.2	3.8	3.0	2.2	1.6
EV/EBITDA (x)	27.4	23.8	16.2	12.0	9.4
Dividend yield (%)	0.7	0.8	0.9	0.9	1.1
FCFPS (INR)	78.8	69.8	33.3	72.1	100.3
Y-o-Y growth (%)	15.5	(11.4)	(52.3)	116.4	39.1
FCFPE (x)	28.7	32.4	68.0	31.4	22.6

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CESC

Consistent performance


Edelweiss
 Ideas create, values protect

■ Regulated utility with 975 MW generating capacity

CESC has a total generation capacity of 975 MW as on date, which will increase to 1,225 MW post commissioning of the 250 MW expansion at Budge-Budge in Q3FY10. All the output is sold on regulated basis in the Kolkata license area.

■ Financial closure of 1,200 MW in FY10; pipeline projects to be pursued

The management indicated that it is in advanced stages of financial closure of two thermal power plants - Haldia 600 MW and recently purchased 600 MW power plant in Maharashtra and intends to conclude the same by Q3FY10. Going forward, we expect CESC to start focusing more on projects in the pipeline, aggregating 3,320 MW (Jharkhand 1,000 MW, Orissa 1,320 MW, and Bihar 1,000 MW). The company has already been allotted 110 mt of coal block for its Jharkhand project, and is currently acquiring land for all the three projects.

■ Cost cutting in Spencers; in talks for stake sale to PEs

Management stated that annual operating costs in Spencers have been cut by INR 1.5 bn and average sales in October 2009 at INR 800/sq ft (INR 620/sq ft in October 2008). CESC is in talks with private equity investors for ~20% dilution.

■ Peak value creation likely in FY13-15

We expect peak value to be created for CESC in FY13-15 when its future projects start commercial operations. Pipeline projects (~3,000 MW) will extend this run with earnings expected to peak in FY15. Higher earnings through merchant power and delay in execution could extend the value creation period.

■ Outlook and valuations: Improved visibility; maintain 'BUY'

With the likelihood of divestment of retail stake, concerns on power earnings being used to fund losses of the retail subsidiary have abated. We believe that the financial closures of the projects would increase visibility on power business. Our SOTP is INR 397/share excluding pipeline projects. We rate the stock 'BUY'. On a relative return basis, the stock is rated 'Sector Outperformer'.

November 19, 2009

Reuters : CESC.BO Bloomberg : CESC IN

EDELWEISS 4D RATINGS

Absolute Rating	BUY
Rating Relative to Sector	Outperformer
Risk Rating Relative to Sector	High
Sector Relative to Market	Underweight

Note:
Please refer last page of the report for rating explanation

MARKET DATA

CMP	:	INR 366
52-week range (INR)	:	410 / 171
Share in issue (mn)	:	125.9
M cap (INR bn/USD mn)	:	45.7 / 985.3
Avg. Daily Vol. BSE ('000)	:	314.7

SHARE HOLDING PATTERN (%)

Promoters*	:	52.5
MFs, FIs & Banks	:	19.1
FIIIs	:	16.6
Others	:	11.8
* Promoters pledged shares (% of share in issue)	:	5.7

RELATIVE PERFORMANCE (%)

	Sensex	Stock	Stock over Sensex
1 month	(1.3)	(4.4)	(3.1)
3 months	13.1	12.6	(0.5)
12 months	93.7	80.2	(13.5)

Financials

Year to March	FY08	FY09	FY10E	FY11E
Revenue (INR mn)	27,750	30,313	32,867	32,771
Rev. growth (%)	11.7	9.2	8.4	(0.3)
EBITDA (INR mn)	5,523	6,125	8,003	9,275
Net profit (INR mn)	3,554	4,097	4,201	4,422
Shares outstanding (mn)	126	126	126	126
EPS (INR)	28.3	32.6	33.5	35.2
EPS growth (%)	18.2	15.3	2.5	5.3
P/E (x)	12.9	11.2	10.9	10.4
P/B(x)	1.6	1.4	1.2	1.1
ROAE (%)	14.4	12.9	11.9	11.4
ROACE (%)	8.3	7.5	8.3	8.9

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Sum of the parts (SOTP)

Segment	Value (INR mn)	Multiple (times)	Method	Stake (%)	Target value (INR mn)	Value/share (INR)	Comments
Regulated equity	22,492	1.6	(RoE-g)/(CoE-g)	100.0	36,825	293	As per the tariff orders, FY11E book
Cash	12,510	1.0	At book value	100.0	10,510	84	INR 2000 mn is likely to be invested in Spencers in FY10
Investments	2,396	1.0	At book value	100.0	2,396	19	At value (net of investment in retail venture)
ICD	185	1.0	At book value	100.0	185	1	At value
Total						397	

Source: Edelweiss research

We have increased the multiple assigned to regulated power business to 1.63 (RoE - 18%, terminal growth – 5%, beta - 1).

Our SOTP does not include the following:

Segment	Value (INR mn)	Multiple (times)	Method	Stake	Target value (INR mn)	Value/share (INR)	Comments
Dhariwal project (600 MW)	8,840	1.0	NPV	100	5,340	43	Net off INR 3.5 bn to be paid for acquiring 100% stake
Haldia project (600 MW)	4,136	1.0	NPV	100	4,136	33	Merchant sales assumed for power excess of requirement in license area
Spencers	10,710	0.3	0.3x FY09 sales	95	3,052	24	Target Mcap = 0.3x trailing sales; as per our retail analyst
Total						100	

Source: Edelweiss research

50% capacity has been assumed to be sold on regulated and merchant basis each in Dhariwal project.

- **Company description**

CESC is an RPG Group company. Its first power plant was commissioned in 1899 and since then the company has been offering power to consumers in its Kolkata license area which has expanded from 5.64 sq miles to 567 sq km over the years. The number of consumers has grown from 6,000 to 2.1 mn over time. CESC has total installed capacity of 975 MW from four generating units at Budge Budge (500 MW), Southern (135 MW), Titagarh (240 MW), and New Cossipore (100 MW).

- **Key risks**

Regulated returns: The Company has in the past not been given incentives on account of plant load factor above 80%.

Delay: Escalation in project costs, delay in commissioning of generation projects, and long gestation periods could impact profitability, if delays are not compensated through tariffs.

Retail arm *Spencers*: The losses in FY09 have significantly increased and the retail business has also been impacted due to the overall economic environment. While there have been early signs of improvement any trend reversal could result in higher cash outgo in retail translating into lower power business investment and thereby impacting valuations.

Financial Statements

Income statement					(INR mn)
Year to March	FY07	FY08	FY09	FY10E	FY11E
Income from operations	24,843	27,750	30,313	32,867	32,771
Direct costs	11,106	12,440	13,572	13,689	14,064
Employee costs	3,078	3,378	3,702	3,562	3,633
Other expenses	4,921	6,409	6,914	7,613	5,799
Total operating expenses	19,105	22,227	24,189	24,863	23,496
EBITDA	5,738	5,523	6,125	8,003	9,275
Depreciation and amortisation	1,579	1,685	1,749	2,114	2,094
EBIT	4,159	3,839	4,376	5,890	7,181
Interest expenses	1,679	1,363	1,410	2,281	3,321
Other income	927	1,554	1,683	1,165	1,165
Profit before tax	3,407	4,029	4,649	4,774	5,025
Provision for tax	400	476	552	573	603
Core profit	3,007	3,554	4,097	4,201	4,422
Profit before minority interest	3,007	3,554	4,097	4,201	4,422
Profit after minority interest	3,007	3,554	4,097	4,201	4,422
Shares outstanding	85	126	126	126	126
EPS (INR) basic	35.4	28.3	32.6	33.5	35.2
Diluted shares (mn)	126	126	126	126	126
EPS (INR) fully diluted	23.9	28.3	32.6	33.5	35.2
Dividend per share	3.5	4.0	4.0	4.1	4.3
Dividend payout (%)	11.5	16.5	14.3	14.3	14.3

Common size metrics- as % of net revenues

Year to March	FY07	FY08	FY09	FY10E	FY11E
Operating expenses	76.9	80.1	79.8	75.6	71.7
Depreciation and amortization	6.4	6.1	5.8	6.4	6.4
Interest expenditure	6.8	4.9	4.7	6.9	10.1
EBITDA margins	23.1	19.9	20.2	24.4	28.3
Net profit margins	12.1	12.8	13.5	12.8	13.5

Growth metrics (%)

Year to March	FY07	FY08	FY09	FY10E	FY11E
Revenues	(1.3)	11.7	9.2	8.4	(0.3)
EBITDA	(3.9)	(3.8)	10.9	30.7	15.9
PBT	61.2	18.3	15.4	2.7	5.3
Net profit	63.1	18.2	15.3	2.5	5.3
EPS	6.3	18.2	15.3	2.5	5.3

Balance sheet**(INR mn)**

As on 31st March	FY07	FY08	FY09	FY10E	FY11E
Equity capital	850	1,256	1,256	1,256	1,256
Reserves & surplus	18,941	28,466	32,667	36,269	40,060
Shareholders funds	19,791	29,722	33,923	37,525	41,316
Secured loans	15,467	15,106	21,898	27,285	33,825
Unsecured loans	10,042	10,583	13,671	13,671	13,686
Borrowings	25,508	25,689	35,569	40,956	47,511
Sources of funds	45,300	55,411	69,493	78,482	88,828
Gross block	66,327	71,292	79,383	90,780	89,780
Depreciation	31,786	35,339	38,261	39,272	41,365
Net block	34,541	35,953	41,122	51,508	48,414
Capital work in progress	2,657	6,196	12,796	9,838	20,038
Total fixed assets	37,198	42,148	53,919	61,346	68,452
Investments	2,414	5,697	3,104	3,104	3,104
Inventories	1,673	1,762	2,120	2,214	2,207
Sundry debtors	4,151	3,152	3,889	5,493	5,476
Cash and equivalents	7,314	9,864	12,510	9,682	12,937
Loans and advances	1,770	4,551	10,327	12,827	12,827
Total current assets	14,909	19,329	28,845	30,216	33,447
Sundry creditors and others	8,967	10,931	15,645	16,019	16,011
Provisions	862	1,206	1,231	1,231	1,231
Total CL & provisions	9,829	12,137	16,876	17,250	17,242
Net current assets	5,081	7,193	11,969	12,966	16,205
Net deferred tax	515	287	422	422	422
Uses of funds	45,300	55,411	69,493	78,482	88,828
Book value per share (BV)(INR)	232	236	269	294	324

Free cash flow**(INR mn)**

Year to March	FY07	FY08	FY09	FY10E	FY11E
Net profit	3,007	3,554	4,097	4,201	4,422
Depreciation	1,579	1,685	1,749	2,114	2,094
Deferred tax	(235)	(228)	135	0	0
Others	1,750	2,880	6,376	0	0
Gross cash flow	6,102	7,890	12,358	6,315	6,516
Less: Changes in W. C.	(3,080)	(438)	2,130	3,825	(15)
Operating cash flow	9,182	8,328	10,227	2,490	6,531
Less: Capex	2,890	8,504	14,692	8,438	9,200
Free cash flow	6,291	(176)	(4,465)	(5,948)	(2,669)

Cash flow metrices

Year to March	FY07	FY08	FY09	FY10E	FY11E
Operating cash flow	9,182	8,328	10,227	2,490	6,531
Financing cash flow	(255)	4,960	7,432	5,081	5,382
Investing cash flow	(5,549)	(10,741)	(15,013)	(10,396)	(8,658)
Net cash flow	3,378	2,547	2,646	(2,825)	3,255
Capex	(2,890)	(8,504)	(14,692)	(8,438)	(9,200)
Dividends paid	(233)	(343)	(582)	(600)	(631)

Profitability & liquidity ratios

Year to March	FY07	FY08	FY09	FY10E	FY11E
ROAE (%)	15.5	14.4	12.9	11.9	11.4
ROACE (%)	9.6	8.3	7.5	8.3	8.9
Current ratio	1.5	1.6	1.7	1.8	1.9
Debtors (days)	69	48	42	52	61
Average fixed assets t/o (x)	0.7	0.8	0.8	0.7	0.7
Average working capital t/o (x)	5.0	4.5	3.2	2.6	2.2
Average capital employed t/o (x)	0.6	0.6	0.5	0.4	0.4
Debt / Equity	1.3	0.9	1.0	1.1	1.1
Debt/EBITDA	4.4	4.7	5.8	5.1	5.1
Adjusted debt/Equity	1.3	0.9	1.0	1.1	1.1

Operating ratios

Year to March	FY07	FY08	FY09	FY10E	FY11E
Total asset turnover	0.6	0.6	0.5	0.4	0.4
Average fixed assets t/o (x)	0.7	0.8	0.8	0.7	0.7
Equity turnover	1.3	1.1	1.0	0.9	0.8

Du pont analysis

Year to March	FY07	FY08	FY09	FY10E	FY11E
NP margin (%)	12.1	12.8	13.5	12.8	13.5
Total assets turnover	0.6	0.6	0.5	0.4	0.4
Leverage multiplier	2.3	2.0	2.0	2.1	2.2
ROE (%)	15.5	14.4	12.9	11.9	11.4

Valuation parameters

Year to March	FY07	FY08	FY09	FY10E	FY11E
Diluted EPS (INR)	23.9	28.3	32.6	33.5	35.2
Y-o-Y growth (%)	6.3	18.2	15.3	2.5	5.3
CEPS (INR)	51.2	39.9	47.6	50.3	51.9
Diluted P/E (x)	15.3	12.9	11.2	10.9	10.4
Price/BV(x)	1.6	1.6	1.4	1.2	1.1
EV/Sales (x)	1.9	2.0	2.2	2.3	2.4
EV/EBITDA (x)	8.2	10.2	10.8	9.3	8.3
Dividend yield (%)	0.9	1.1	1.1	1.1	1.2
Basic EPS (INR)	35.4	28.3	32.6	33.5	35.2
Basic P/E (x)	8.2	9.7	11.2	11.5	12.1

KEC INTERNATIONAL

Growth to drive value creation

■ Order accretion momentum sustained

KEC International's (KECI) order backlog at Q2FY10 end was at INR 55.4 bn; in H1FY10, it was strong at ~INR 20 bn. Some of the key orders that the company obtained in H1FY10 were the Maharashtra State Electricity Transmission Company's INR 5.9 bn order, INR 3.7 bn order from a JV between Government of Tripura and ILFS, and INR 1.3 bn worth orders from West Bengal State Electricity Board.

■ Merger with RPG Cables to lead to 4.2% dilution

The company has announced its merger with RPG Cables (RPGC), a manufacturer of power, telecommunication and instrumentation cables. According to the management, the merger is likely to create operational and financial synergies for the merged entity. The merger will be funded by issue of 2.07 mn shares of KEC (1 share of KECI for every 20 shares of RPGC), implying a dilution of 4.2% in KECI.

■ Competitive intensity on the rise

Competitive intensity in the power transmission business has increased significantly from FY07 due to high returns and growth profile of the industry. This has resulted in RoCEs declining from the peak levels of FY07. While we believe the competitive intensity is likely to be on the rise in the industry in the Eleventh and Twelfth Plan periods, we believe KECI is likely to fare better than competition due to well-established presence in various geographies.

■ Outlook and valuations: Attractive; maintain 'BUY'

For transmission equipment, like BTG, we believe execution is likely to peak over FY10-12E, which, we believe, is likely to drive value creation during the same period. However, beyond FY12 we expect KECI's profitability to decrease as competitive intensity is likely to increase. We believe the P/E multiple is likely to expand for the company over the peak value creation period. Historically, the stock has traded at a P/E of 14x, while the trough P/E has been ~4x. On our current estimates, the stock is trading at P/E of 13.2x and 11.6x for FY10E and FY11E, respectively. We believe over the long term, the stock price is likely to be driven by earnings growth and expansion in valuation multiples over FY11 and FY12. We maintain 'BUY' and 'Sector Outperformer' on the stock.

Financials

Year to March	FY08	FY09	FY10E	FY11E
Revenues (INR mn)	28,145	34,274	39,091	45,987
Growth (%)	37.9	21.8	14.1	17.6
EBITDA (INR mn)	3,543	3,003	4,192	4,836
Net profit (INR mn)	1,722	1,163	1,971	2,293
Shares outstanding (mn)	49	49	49	49
EPS (fully diluted) (INR)	34.9	23.6	39.9	46.5
EPS growth (%)	25.7	(32.5)	69.5	16.4
P/E (x)	15.4	22.8	13.5	11.6
EV/EBITDA (x)	9.0	10.4	7.6	6.5
ROE (%)	46.3	22.3	30.7	27.7

November 19, 2009

Reuters : KECL.BO

Bloomberg : KECI IN

EDELWEISS 4D RATINGS

Absolute Rating	BUY
Rating Relative to Sector	Outperformer
Risk Rating Relative to Sector	Medium
Sector Relative to Market	Overweight

Note:

Please refer last page of the report for rating explanation

MARKET DATA

CMP	:	INR 538
52-week range (INR)	:	624 / 108
Share in issue (mn)	:	49.3
M cap (INR bn/USD mn)	:	26.5 / 571.9
Avg. Daily Vol. BSE ('000)	:	68.2

SHARE HOLDING PATTERN (%)

Promoters*	:	41.9
MFs, FIs & Banks	:	39.2
FIIIs	:	5.7
Others	:	13.2
* Promoters pledged shares (% of share in issue)	:	Nil

RELATIVE PERFORMANCE (%)

	Sensex	Stock	Stock over Sensex
1 month	(1.3)	(9.7)	(8.4)
3 months	13.1	17.8	4.7
12 months	93.7	332.2	238.5

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Investment Rationale

Value creation to increase further

We expect KECI's revenues to post a CAGR of 15.7% over FY09-12E; however, PAT is likely to post a CAGR of 33.9%, driven by increased capital efficiency during the period. We expect RoCEs to improve from the current level, driven by improvement in asset turnover. We project an average RoCE of 32.9% over FY10-12E against 25.1% in FY09. In our view, the peak in terms of value creation lies in the future for KECI. In table 1 we give the value creation profile of KECI by tracking the four key variables as given in our peak value creation framework:

Table 1: KEC International - Value creation profile

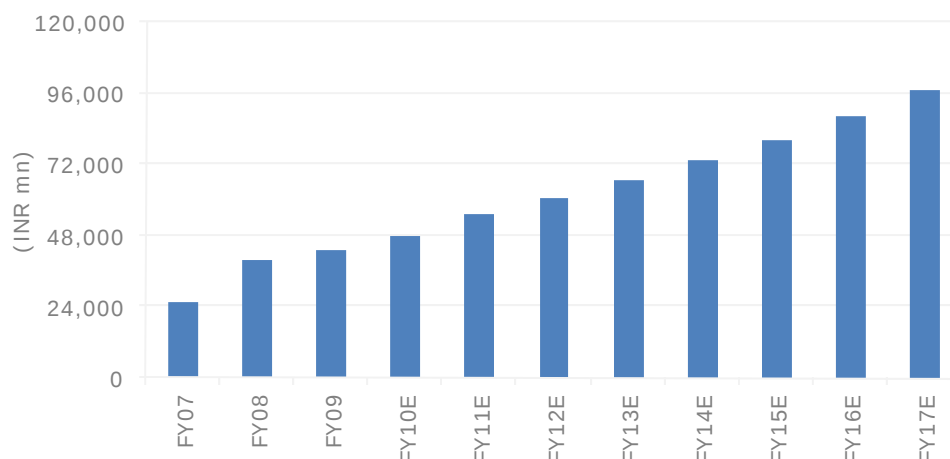
	FY07	FY08	FY09	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E	FY16E	FY17E
Revenues (INR mn)	20,406	28,145	34,274	39,091	45,987	53,143	59,097	65,167	71,723	78,906	86,799
Growth (%)	18.1	37.9	21.8	14.1	17.6	15.6	11.2	10.3	10.1	10.0	10.0
Operating margins (%)	10.7	11.7	8.1	10.0	9.9	10.2	10.0	9.9	10.0	10.0	9.7
Capital turns (x)	3.5	3.2	3.1	3.2	3.3	3.4	3.5	3.5	3.6	3.7	3.8
Capital employed	6,824	10,925	11,163	13,331	14,832	16,451	17,765	19,096	20,604	22,193	23,867
RoCE (%)	37.9	37.1	25.1	32.0	32.2	34.6	34.6	34.9	36.3	36.8	36.6

Source: Edelweiss research

Healthy order accretion to provide revenue visibility over long term

We expect KECI's order accretion profile to sustain over Eleventh and Twelfth Plan periods. However, going ahead, in the Twelfth Plan, we believe order accretion growth could be lower than in the second half of the Tenth and Eleventh Plan periods.

Chart 1: Projected order accretion profile from FY07-17E



Source: Edelweiss research

- **Outlook and valuations: Attractive; maintain 'BUY'**

For transmission equipment, like BTG, we expect execution to peak over FY10-12E, driving value creation during the same period. However, beyond FY12E, we believe profitability could be lower as intensity of completion may increase. We expect P/E to expand for KEC International (KECI) over the PVC period. Historically, the stock has traded at an average one year forward P/E of 14x; while the peak P/E multiple has been ~30x in Dec- 2007 and the trough P/E multiple has been ~4x in November-2008. On our current estimates, the stock is trading at P/E of 13.2x and 11.6x for FY10E and FY11E, respectively. We believe that the stock price is likely to be driven by earnings growth and expansion in valuation multiples over FY11 and FY12. We have a '**BUY**' recommendation on the stock. On a sector relative basis the stock is rated as '**Sector Outperformer**'.

- **Company description**

KECI was incorporated in 1945 as Kamani Engineering Corporation by the RPG Group. It is in the business of designing and manufacturing power transmission towers and telecom infrastructure. Nearly 70% of KECI's revenues came from the international market in FY09. The company's order backlog at the end of FY09 was ~INR 51 bn, with ~76% contributed by transmission projects, and the balance by distribution, railway and telecom projects.

- **Key risks**

Forex fluctuation could potentially impact margins for the company. Further the PAT margins are sensitive to interest rates and any increase the same is likely to negatively impact the company.

Financial Statements

Income statement					(INR mn)
Year to March	FY07	FY08	FY09	FY10E	FY11E
Income from operations	20,406	28,145	34,274	39,091	45,987
Materials costs	14,564	20,335	25,505	28,840	34,023
Employee cost	955	1,209	1,416	1,603	1,885
Other manufacturing expenses	2,370	3,058	4,350	4,456	5,243
Total operating expenses	17,888	24,602	31,271	34,899	41,151
EBITDA	2,518	3,543	3,003	4,192	4,836
Depreciation and amortisation	334	251	227	268	298
EBIT	2,184	3,293	2,775	3,924	4,538
Interest expense	593	677	1,000	913	1,035
Other income	7	3	3	3	4
Profit before tax	1,599	2,619	1,778	3,013	3,507
Provision for tax	552	897	615	1,043	1,213
Core Profit	1,046	1,722	1,163	1,971	2,293
Profit after tax	1,046	1,722	1,163	1,971	2,293
Profit after minority interest	1,046	1,722	1,163	1,971	2,293
Equity shares outstanding (mn)	38	49	49	49	49
EPS (INR) basic	27.8	34.9	23.6	39.9	46.5
Diluted shares (mn)	38	49	49	49	49
EPS (INR) fully diluted	27.8	34.9	23.6	39.9	46.5
CEPS (INR)	39.0	38.1	30.2	45.4	52.5
DPS	4.5	5.0	5.0	5.0	5.0
Dividend payout (%)	16.2	14.3	21.2	12.5	10.8

Common size metrics- as % of net revenues

Year to March	FY07	FY08	FY09	FY10E	FY11E
Operating expenses	87.7	87.4	91.2	89.3	89.5
Material cost	71.4	72.3	74.4	73.8	74.0
Employee cost	4.7	4.3	4.1	4.1	4.1
Other manufacturing expenses	11.6	10.9	12.7	11.4	11.4
Depreciation and amortisation	1.6	0.9	0.7	0.7	0.6
Interest expenditure	2.9	2.4	2.9	2.3	2.3
EBITDA margins	12.3	12.6	8.8	10.7	10.5
Net profit margins	5.1	6.1	3.4	5.0	5.0

Growth metrics (%)

Year to March	FY07	FY08	FY09	FY10E	FY11E
Revenues	18.1	37.9	21.8	14.1	17.6
EBITDA	55.2	40.7	(15.2)	39.6	15.4
Net profit	112.3	64.5	(32.5)	69.5	16.4
EPS	112.3	25.7	(32.5)	69.5	16.4

Balance sheet					(INR mn)
As on 31st March	FY07	FY08	FY09	FY10E	FY11E
Equity capital	377	493	493	493	493
Pref. capital	130	104	0	0	0
Reserves & surplus	2,213	4,354	5,092	6,774	8,779
Shareholders funds	2,720	4,952	5,586	7,268	9,272
Secured loans	3,863	5,906	6,106	6,806	7,506
Unsecured loans	1	11	112	112	112
Borrowings	3,864	5,918	6,218	6,918	7,618
Deferred tax (Net)	290	200	298	298	298
Sources of funds	6,874	11,070	12,102	14,484	17,189
Gross block	4,676	5,213	6,255	7,268	7,768
Depreciation	600	899	1,222	1,490	1,789
Net block	4,076	4,314	5,032	5,778	5,980
Capital work in progress	23	189	514	0	0
Investments	206	5	18	18	18
Inventories	1,506	2,053	2,258	2,426	2,861
Sundry debtors	9,041	14,300	18,510	16,593	19,520
Cash and bank balances	214	680	1,365	1,538	2,813
Loans and advances	1,717	2,701	3,266	2,909	3,422
Total current assets	12,478	19,735	25,398	23,466	28,616
Sundry creditors and others	9,539	12,633	18,416	14,375	16,950
Provisions	370	540	444	402	474
Total current liabilities & provisions	9,908	13,173	18,860	14,777	17,425
Net current assets	2,569	6,562	6,538	8,688	11,192
Uses of funds	6,874	11,070	12,102	14,484	17,189
Book value per share (BV) (INR)	69	98	113	147	188

Free cash flow					(INR mn)
Year to March	FY07	FY08	FY09	FY10E	FY11E
Net profit	1,046	1,722	1,163	1,971	2,293
Add: Depreciation	334	251	227	268	298
Add: Deferred tax	89	(90)	98	-	-
Add: Others	(3)	707	(144)	-	-
Gross cash flow	1,467	2,589	1,344	2,239	2,592
Less: Changes in working capital	2,087	3,526	(709)	1,978	1,228
Operating cash flow	(620)	(937)	2,053	261	1,364
Less: Capex	140	655	1,366	500	500
Free cash flow	(761)	(1,592)	686	(239)	864

Cash flow metrics					
Year to March	FY07	FY08	FY09	FY10E	FY11E
Operating cash flow	(620)	(937)	2,053	261	1,364
Financing cash flow	339	1,857	12	411	411
Investing cash flow	(142)	(454)	(1,379)	(500)	(500)
Net cash flow	(422)	466	685	173	1,275
Capex	(140)	(655)	(1,366)	(500)	(500)
Dividend paid	(198)	(289)	(289)	(289)	(289)
Share issuance/(Buyback)	0	92	0	0	0

Profitability & liquidity ratios

Year to March	FY07	FY08	FY09	FY10E	FY11E
ROAE (%)	48.3	46.3	22.3	30.7	27.7
ROACE (%)	36.8	37.1	24.0	29.6	28.7
Inventory (days)	35	32	31	30	28
Debtors (days)	142	151	175	164	143
Payable (days)	236	199	222	208	168
Cash conversion cycle	(59)	(16)	(17)	(14)	4
Current ratio	1.3	1.5	1.3	1.6	1.6
Debt/EBITDA	1.5	1.7	2.1	1.7	1.6
Interest cover (x)	3.7	4.9	2.8	4.3	4.4
Debt/Equity (x)	1.4	1.2	1.1	1.0	0.8
Adjusted debt/Equity	1.4	1.2	1.1	1.0	0.8

Operating ratios

Year to March	FY07	FY08	FY09	FY10E	FY11E
Fixed assets turnover (x)	4.9	6.7	7.3	7.2	7.8
Total asset turnover(x)	3.3	3.1	3.0	2.9	2.9
Equity turnover(x)	9.4	7.6	6.6	6.1	5.6

Du pont analysis

Year to March	FY07	FY08	FY09	FY10E	FY11E
NP margin (%)	5.1	6.1	3.4	5.0	5.0
Total assets turnover	3.3	3.1	3.0	2.9	2.9
Leverage multiplier	2.8	2.4	2.2	2.1	1.9
ROAE (%)	48.3	46.3	22.3	30.7	27.7

Valuation parameters

Year to March	FY07	FY08	FY09	FY10E	FY11E
Diluted EPS (INR)	27.8	34.9	23.6	39.9	46.5
Y-o-Y growth (%)	112.3	25.7	(32.5)	69.5	16.4
CEPS (INR)	39.0	38.1	30.2	45.4	52.5
Diluted P/E (x)	19.4	15.4	22.8	13.5	11.6
Price/BV(x)	7.8	5.5	4.8	3.7	2.9
EV/Sales (x)	1.2	1.1	0.9	0.8	0.7
EV/EBITDA (x)	9.5	9.0	10.4	7.6	6.5
Dividend Yield (%)	0.8	0.9	0.9	0.9	0.9
Basic EPS	27.8	34.9	23.6	39.9	46.5

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TATA POWER

All-round improvement continues



■ Robust expansion plans; strong portfolio of pipeline projects

Tata Power (TPWR) has lined up huge expansion plans to be executed over the next 5-7 years, including the 4,000 MW Mundra UMPP and 1,050 MW Maithon project, in JV with Damodar Valley Corp., expected to be commercialized in phases starting from FY11 till FY13. The company also plans to set up 6,000 MW of additional projects for which fuel/offtake arrangements are concluded.

■ Increasing power portfolio to lower coal weightage in earnings

With the full commissioning of the Mundra UMPP and Maithon projects, power earnings are likely to scale up from the current ~INR 8 bn (including Power Links and NDPL) to ~INR 18 bn over the next 3-4 years. With coal earnings, in the interim, being used to repay the debt raised for acquiring stake in Indonesian coal mines, we estimate cash flows (currently at ~INR 6 bn) to rise significantly by 4x in FY13-14 on a consolidated basis.

■ Value unlocking from investments could fund more projects

TPWR has 8.5% stake in Tata Telecom (TTSL) that was recently valued at USD 10 bn with the TTSL-Docomo deal. The company also has investments in other group companies like TTML, which could be encashed to fund more projects in future.

■ Tata Power's PVC to be post FY12

lumpiness in earnings post commercialization of ~5 GW in FY13 (from ~3 GW currently) and repayment of debt taken for coal mines is expected to expand RoE to ~24% in FY12. While a similar capex and RoE is expected for the subsequent projects of ~6 GW, the CAGR is lower than the previous expansion phase. Unless the growth target is increased or RoE expands, TPWR's peak value creation phase is likely to be in FY12-15.

■ Outlook and valuations: Earnings scaling up; maintain 'BUY'

With issues for under construction projects getting addressed and increasing visibility on earnings from the coal mining business, we believe key concerns are over for TPWR. We believe there is greater visibility on power earnings and potential value unlocking from investments. We maintain TPWR as 'BUY'. On relative return basis the stock is rated 'Sector outperformer'.

Financials

Year to March	FY08	FY09	FY10E	FY11E
Revenue (INR mn)	59,159	72,362	83,121	92,607
Rev. growth (%)	25.5	22.3	14.9	11.4
EBITDA (INR mn)	9,622	11,190	16,486	16,541
Net profit (INR mn)	5,628	5,474	7,959	8,687
Shares outstanding (mn)	221	221	236	236
EPS (INR)	25.4	24.7	33.7	36.8
EPS growth (%)	16.0	(2.7)	36.3	9.1
P/E (x)	51.8	53.3	39.1	35.8
P/B(x)	3.9	3.6	3.6	3.4
ROAE (%)	8.7	7.0	9.5	9.7
ROACE (%)	10.5	10.3	12.7	11.4

November 19, 2009

Reuters : TTPW.BO Bloomberg : TPWR IN

EDELWEISS 4D RATINGS

Absolute Rating	BUY
Rating Relative to Sector	Outperformer
Risk Rating Relative to Sector	Medium
Sector Relative to Market	Underweight

Note:
Please refer last page of the report for rating explanation

MARKET DATA

CMP	:	INR 1,317
52-week range (INR)	:	1,487 / 596
Share in issue (mn)	:	237.1
M cap (INR bn/USD mn)	:	312.3 / 6,728.6
Avg. Daily Vol. BSE ('000)	:	684.4

SHARE HOLDING PATTERN (%)

Promoters*	:	31.1
MFs, FIs & Banks	:	27.7
FIIIs	:	18.3
Others	:	22.9
* Promoters pledged shares (% of share in issue)	:	12.2

RELATIVE PERFORMANCE (%)

	Sensex	Stock	Stock over Sensex
1 month	(1.3)	(6.0)	(4.7)
3 months	13.1	6.2	(6.9)
12 months	93.7	96.2	2.5

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Sum of the parts (SOTP)

	Valuation	Value/share	Methodology
Power - Operational	INR mn	INR	
Regulated	77,985	330	1.7x P/B, CoE = 12.7%, RoE = 18%
Merchant capacity (220 MW)	19,500	83	7.8x P/B, CoE = 15%, long term merchant rate = INR 4/unit
Power - Under construction			
Mundra UMPP	23,111	98	NPV
Maithon	14,019	59	NPV
Tata Steel IPP	740	3	Book value
Investments			
Quoted	14,791	63	25% discount to market value
Unquoted	51,371	217	TTSL valued as per our telecom analyst, others at book value
Bumi mines	122,794	520	NPV of USD 5/MT for 2.1 bnT reserves, less the debt at SPV
Unregulated debt	(12,910)	(55)	Bridge loan raised for SPV's equity
Total	311,401		
Number of shares	236		Adjusted for the GDR issue
SOTP	1,318		

Source: Edelweiss research

- **Company description**

TPWR is a pioneer in India's power sector, with a presence in all spheres of the power industry, encompassing generation, transmission, trading and distribution. It has demonstrated exceptional performance in its transmission and distribution JVs. The company was also awarded the first UMPP at Mundra (Gujarat) due to its lowest levelised tariff bid at INR 2.26 per unit. It has 2,817 MW of installed capacity, most of which is regulated or IPPs and 200 MW is merchant capacity.

- **Key risks**

Of the total 5,660 MW under construction, two of its plants have a capacity of 5,050 MW (Mundra—4,000 MW and Maithon—1,050 MW). Hence, any delay in commissioning projects could impact earnings adversely.

The company is using supercritical technology for its Mundra UMPP. This is a first-of-its-type in the country. Any problem regarding stabilisation of these units could be a major risk for the company.

Financial Statements

Income statement					(INR mn)
Year to March	FY07	FY08	FY09	FY10E	FY11E
Income from operations	47,153	59,159	72,362	83,121	92,607
Direct costs	33,735	42,640	53,453	58,120	66,845
Employee costs	1,919	2,497	2,919	3,519	3,699
Other expenses	4,265	4,400	4,801	4,996	5,522
Total operating expenses	39,919	49,537	61,172	66,635	76,066
EBITDA	7,234	9,622	11,190	16,486	16,541
Depreciation and amortisation	2,919	2,905	3,289	4,341	4,419
EBIT	4,315	6,717	7,901	12,145	12,122
Interest expenses	1,895	1,676	3,058	3,828	3,786
Other income	3,440	4,658	6,324	2,738	3,728
Income from provisions written back	2,130	3,073	3,748	0	0
Profit before tax	3,730	6,627	7,419	11,054	12,065
Provision for tax	(1,108)	999	1,945	3,095	3,378
Core profit	4,838	5,628	5,474	7,959	8,687
Extraordinary items	2,130	3,073	4,201	0	0
Profit before minority interest	6,968	8,700	9,675	7,959	8,687
Profit after minority interest	6,968	8,700	9,675	7,959	8,687
Shares outstanding	198	221	221	236	236
EPS (INR) basic	24.4	25.5	24.7	33.7	36.8
Diluted shares (mn)	221	221	221	236	236
EPS (INR) fully diluted	21.9	25.4	24.7	33.7	36.8
Dividend per share	7.8	10.6	11.5	8.8	9.6
Dividend payout (%)	26.0	31.4	46.5	26.0	26.0

Common size metrics- as % of net revenues

Year to March	FY07	FY08	FY09	FY10E	FY11E
Operating expenses	84.7	83.7	84.5	80.2	82.1
Depreciation and amortization	6.2	4.9	4.5	5.2	4.8
Interest expenditure	4.0	2.8	4.2	4.6	4.1
EBITDA margins	15.3	16.3	15.5	19.8	17.9
Net profit margins	10.3	9.5	7.6	9.6	9.4

Growth metrics (%)

Year to March	FY07	FY08	FY09	FY10E	FY11E
Revenues	4.0	25.5	22.3	14.9	11.4
EBITDA	(16.2)	33.0	16.3	47.3	0.3
PBT	(33.6)	77.7	11.9	49.0	9.1
Net profit	14.0	16.3	(2.7)	45.4	9.1
EPS	2.2	16.0	(2.7)	36.3	9.1

Balance sheet**(INR mn)**

As on 31st March	FY07	FY08	FY09	FY10E	FY11E
Equity capital	1,979	2,817	2,214	2,362	2,362
Reserves & surplus	52,594	72,375	78,885	84,423	90,467
Shareholders funds	54,573	75,192	81,099	86,785	92,829
Secured loans	13,543	23,311	39,317	53,302	54,760
Unsecured loans	22,791	7,062	12,665	12,665	6,614
Borrowings	36,334	30,373	51,982	65,967	61,374
Others	5,815	5,986	6,969	6,969	6,969
Sources of funds	96,722	111,551	140,050	159,721	161,172
Gross block	62,297	64,820	89,859	95,259	104,154
Depreciation	31,994	34,765	37,953	42,294	46,713
Net block	30,303	30,055	51,905	52,964	57,441
Capital work in progress	7,811	16,817	7,612	8,895	5,333
Total fixed assets	38,114	46,872	59,517	61,860	62,774
Investments	35,702	44,300	54,435	54,435	54,435
Inventories	3,964	4,736	6,441	6,981	8,010
Sundry debtors	14,782	14,145	15,880	16,327	18,190
Cash and equivalents	13,677	287	455	16,960	16,826
Loans and advances	7,704	18,993	23,550	23,550	23,550
Total current assets	40,128	38,162	46,326	63,817	66,577
Sundry creditors and others	11,257	12,539	14,193	14,356	16,579
Provisions	6,316	5,854	6,520	6,520	6,520
Total CL & provisions	17,573	18,393	20,713	20,876	23,098
Net current assets	22,555	19,768	25,613	42,942	43,478
Others	352	611	485	485	485
Uses of funds	96,722	111,551	140,050	159,721	161,172
Book value per share (BV) (INR)	275	341	366	367	393

Free cash flow**(INR mn)**

Year to March	FY07	FY08	FY09	FY10E	FY11E
Net profit	6,968	8,700	9,675	7,959	8,687
Depreciation	2,919	2,905	3,289	4,341	4,419
Deferred tax	(162)	0	0	0	0
Others	(793)	0	(2,461)	(0)	(0)
Gross cash flow	8,933	11,606	10,503	12,300	13,106
Less: Changes in W. C.	2,443	10,604	5,677	824	670
Operating cash flow	6,490	1,002	4,826	11,477	12,436
Less: Capex	8,742	11,530	15,833	6,684	5,333
Free cash flow	(2,252)	(10,528)	(11,007)	4,793	7,102

Cash flow metrics**(INR mn)**

Year to March	FY07	FY08	FY09	FY10E	FY11E
Operating cash flow	6,490	1,002	4,826	11,477	12,436
Financing cash flow	3,563	2,351	14,742	8,974	(10,964)
Investing cash flow	(9,466)	(15,470)	(19,644)	(3,946)	(1,605)
Net cash flow	587	(12,117)	(76)	16,505	(134)
Capex	(8,742)	(11,530)	(15,833)	(6,684)	(5,333)
Dividends paid	(1,813)	(2,733)	(424)	(2,421)	(2,642)
Share issuance/(buyback)	0	228	7	148	0

Profitability & liquidity ratios

Year to March	FY07	FY08	FY09	FY10E	FY11E
ROAE (%)	9.3	8.7	7.0	9.5	9.7
ROACE (%)	7.8	10.5	10.3	12.7	11.4
Current ratio	2.3	2.1	2.2	3.1	2.9
Debtors (days)	98	89	76	71	68
Average fixed assets t/o (x)	1.6	2.0	1.8	1.6	1.7
Average working capital t/o (x)	2.0	2.1	2.1	1.7	1.7
Average capital employed t/o (x)	0.5	0.6	0.6	0.6	0.6
Debt / Equity	0.7	0.4	0.6	0.8	0.7
Debt/EBITDA	5.0	3.2	4.6	4.0	3.7
Adjusted debt/Equity	0.7	0.4	0.6	0.8	0.7

Operating ratios

Year to March	FY07	FY08	FY09	FY10E	FY11E
Total asset turnover	0.5	0.6	0.6	0.6	0.6
Average fixed assets t/o (x)	1.6	2.0	1.8	1.6	1.7
Equity turnover	0.9	0.9	0.9	1.0	1.0

Du pont analysis

Year to March	FY07	FY08	FY09	FY10E	FY11E
NP margin (%)	10.3	9.5	7.6	9.6	9.4
Total assets turnover	0.5	0.6	0.6	0.6	0.6
Leverage multiplier	1.7	1.6	1.6	1.8	1.8
ROAE (%)	9.3	8.7	7.0	9.5	9.7

Valuation parameters

Year to March	FY07	FY08	FY09	FY10E	FY11E
Diluted EPS (INR)	21.9	25.4	24.7	33.7	36.8
Y-o-Y growth (%)	2.2	16.0	(2.7)	36.3	9.1
CEPS (INR)	39.9	30.3	39.6	52.1	55.5
Diluted P/E (x)	60.1	51.8	53.3	39.1	35.8
Price/BV(x)	4.8	3.9	3.6	3.6	3.4
EV/Sales (x)	5.3	4.7	4.0	3.7	3.3
EV/EBITDA (x)	34.2	28.7	25.8	18.5	18.2
Dividend yield (%)	0.6	0.8	0.9	0.7	0.7

NOTES:

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NOTES:

Power				Engineering and Capital Goods			
Company	Absolute reco	Relative reco	Relative risk	Company	Absolute reco	Relative reco	Relative risk
CESC	Buy	SO	H	Thermax	Buy	SO	L
Tata Power Co.	Buy	SO	M	Voltas	Buy	SO	L
Lanco Infratech	Hold	SO	H	AIA Engineering	Buy	SO	M
Mundra Port & SEZ	Hold	SO	H	Crompton Greaves	Buy	SO	L
NTPC	Reduce	SP	L	Sanghvi Movers	Buy	SO	H
Power Grid Corp. of India	Reduce	SU	L	Suzlon Energy	Hold	SO	H
Adani Enterprises	Hold	SU	M	Techno Electric & Engg.	Buy	SO	M
Reliance Infrastructure	Buy	SO	M	Larsen & Toubro	Hold	SU	L
GVK Power and Infrastructure	Hold	SO	H	Cummins India	Hold	SP	M
GMR Infrastructure	Reduce	SU	H	Jyoti Structures	Hold	SP	M
				Voltamp Transformers	Hold	SP	M
				Texmaco	Buy	SP	H
				Siemens	Hold	SU	L
				Bharat Heavy Electricals	Hold	SU	L
				ABB India	Hold	SU	L
				KEC International	Buy	SO	M
				Kalpataru Power Transmission	Hold	SP	M

ABSOLUTE RATING

Ratings	Expected absolute returns over 12 months
Buy	More than 15%
Hold	Between 15% and - 5%
Reduce	Less than -5%

RELATIVE RETURNS RATING

Ratings	Criteria
Sector Outperformer (SO)	Stock return > 1.25 x Sector return
Sector Performer (SP)	Stock return > 0.75 x Sector return
	Stock return < 1.25 x Sector return
Sector Underperformer (SU)	Stock return < 0.75 x Sector return

Sector return is market cap weighted average return for the coverage universe within the sector

RELATIVE RISK RATING

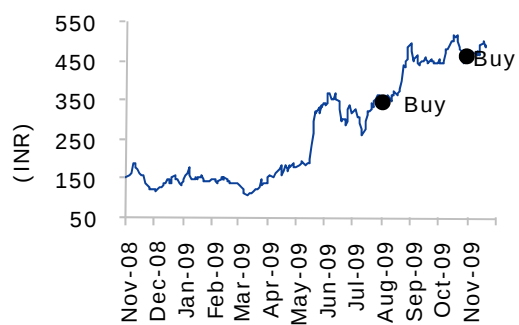
Ratings	Criteria
Low (L)	Bottom 1/3rd percentile in the sector
Medium (M)	Middle 1/3rd percentile in the sector
High (H)	Top 1/3rd percentile in the sector

Risk ratings are based on Edelweiss risk model

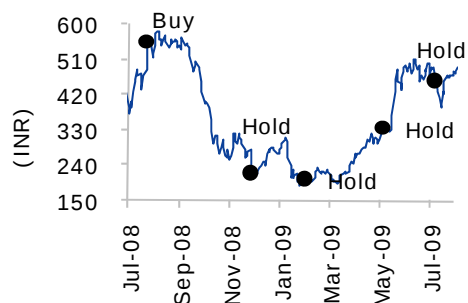
SECTOR RATING

Ratings	Criteria
Overweight (OW)	Sector return > 1.25 x Nifty return
Equalweight (EW)	Sector return > 0.75 x Nifty return
	Sector return < 1.25 x Nifty return
Underweight (UW)	Sector return < 0.75 x Nifty return

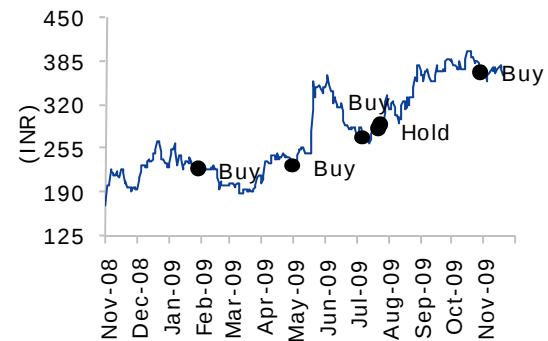
BGR Energy



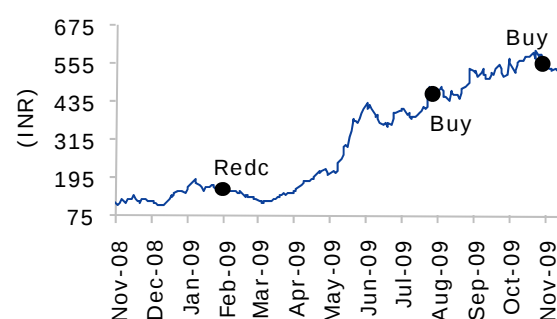
BHEL



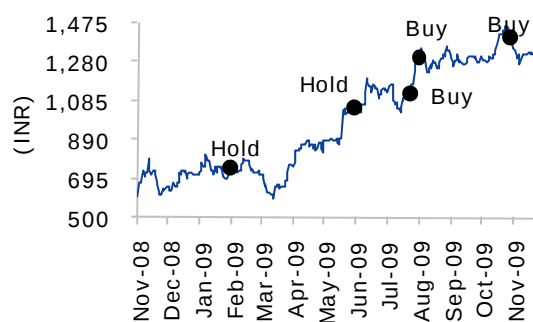
CESC



KEC International



Tata Power



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Coverage group(s) of stocks by primary analyst(s):

Power

Adani Enterprises, CESC, GIPCL, GVK Power, GMR Infrastructure, Lanco Infrastructure, NTPC, Power Grid Corporation, Reliance Infrastructure and Tata Power.

Engineering and Capital Goods

ABB, BHEL, Crompton Greaves, Cummins India, Emco, Jyoti Structures, Kalpataru Power Transmission, KEC International, L & T, Siemens, Techno Electric, Thermax, Transformer and Rectifier, Voltamp Transformers and Voltas.

Distribution of Ratings / Market Cap					Rating Interpretation	
Edelweiss Research Coverage Universe					Rating	Expected to
	Buy	Hold	Reduce	Total		
Rating Distribution*	87	51	13	153	Buy	appreciate more than 15% over a 12-month period
* 2 stocks under review						
	> 50bn	Between 10bn and 50 bn	< 10bn			
Market Cap (INR)	94	43	16		Hold	appreciate up to 15% over a 12-month period
					Reduce	depreciate more than 5% over a 12-month period

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