Utilities

While extreme optimism led to power oversupply…

Excessive pessimism now will drive shortage; Top picks – JSPL and NTPC

We analyzed aggregate financials of the last 10-11 years of power generation companies in India. In the initial three years, PAT increased at CAGR of 15%, which was followed by huge investments tripling capital employed to INR6t over the next seven years. But, aggregate PAT declined at CAGR of 6% to just INR127b and RoE dropped from 11% to 5% in the same period. Private sector was even worse off, though they themselves were to be blamed for it. This eventually dried up new private capital.

In our recent report (link), we highlighted that Indian power oversupply has started correcting on tapering of capacity addition and accelerated retirements. PLF has started improving after seven years of descent. Although India has achieved peak PLF of 63% for conventional power generation in FY10, we expect next peak PLF to be much lower, around 56% in FY22E due to displacement by renewable energy. We expect the market to find a balance in three-to-four years unless there is a major breakthrough in storage technology. With new investments drying up and keeping in mind that new brownfield capacities take 3-5 years to build, we should move from overcapacity to shortage in the next three to four years. As we move towards market balance, margins in merchant power business will trend up. This will benefit many stressed assets, but the biggest gain in equity value is likely to accrue to Jindal Steel and Power, which riding the tailwind and seeing a turnaround in the steel business. We also like NTPC.

The Indian electricity generation sector has witnessed significant erosion in value terms over the last decade. While **capital deployed** by major power-generating companies (listed) **increased by ~INR4t since FY10** (*Exhibit 1*), the **annual adj. PAT was lower by ~INR50b** (*Exhibit 2*). Further, the sector's **market capitalization almost halved** (lower by ~INR1.5t) over the same period.

The condition of private sector power-generating companies is precarious. While **capital deployed by private players increased by ~INR2.3t** (*Exhibit 3*), the **annual adj. PAT dropped by ~INR67b** (*Exhibit 4*) over the same period. Also, for two consecutive years now, this sub-segment has reported losses. The cause, in our view, is primarily the private sector's aggressiveness and reliance on the government's over-optimistic forecast (with hindsight bias). Lack of timely actions by the regulator to tackle various issues (like shortage of domestic coal, cancellation of coal blocks, change in land acquisition law, etc.) also did not help. **Except for a select few, the private sector lost its ability for new investment**.

The cost pass-through mechanism protects **public sector companies**, and hence, they **fare better than their private counterparts, but only in relative terms**. Capital deployed by public sector companies increased by ~INR1.8t since FY10 and the annual adj. PAT grew by only ~INR17b. **RoEs have declined from ~12% seen until FY14 to ~9% in FY18**. We hope the regulator will take notice, before considering any further tightening in the upcoming tariff regulations.

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Disappointingly, the **public DISCOMs failed to take advantage of the stress faced by the generation sector** with DISCOMs remaining under heavy losses. There has been some recent improvement, but primarily due to financial restructuring under the Ujwal DISCOM Assurance Yojana (UDAY). Probably, DISCOMs would have had a much larger loss bill, if not for the tough times faced by the generation companies.

Nonetheless, there has been good physical progress. Generation capacity has more than doubled over the period and electricity generation (read, demand) is higher by ~70% since (*Exhibit 5*). From a deficit in electricity, India can now at least claim to have 'economic' surplus in electricity.

As we move ahead, the outlook, as implied by the market is not encouraging. The **sector is trading close to its lowest trailing P/BV of ~1x compared to the peak of ~2.5x** (data from FY10, *Exhibit 6).* For the sector's RoE of ~5% in FY18 (*Exhibit 7)*, even 1x P/BV is optimistic. However, can the sector survive with such low returns?

A simple macro view of India's electricity consumption highlights the requirement of huge investments. If India's per capita electricity consumption were to increase from ~1,000kWh to the global average of ~3,100kWh, it would **require an additional generation capacity of ~500-600GW—to achieve this—a ball-park figure of ~INR25t or USD0.4t (Exhibit 9) would be required**.

The potential displacement due to **renewable energy (RE)** is also driving some pessimism. In our view, **India is hugely under-penetrated as an electricity market, which RE alone cannot meet**. Moreover, due to **India's evening peak**, lack of hydro-electricity, and uneconomical gas-based generation, we believe coal-based plants will remain in demand. Nevertheless, **RE is also capital intensive, and an opportunity for even existing players**. We note that new private capital is becoming scarce for RE companies and recent public equity offerings have not found enough interest in investors (media article link). We, therefore, believe that **returns will have to improve if the sector needs to attract capital.**

Certain developments and policy initiatives also point towards a positive outlook.

- In our recent report (link) we highlighted that **incremental demand has started to outpace capacity addition**, which is a key turning point. The shutdown of old power plants, primarily for environmental reasons, should aid faster balancing of the system.
- Coal availability has again emerged as a constraint. But there is **active investment in railway evacuation**. This would take time (report link) but should ease a major bottleneck in the sector. Recent policy initiatives like 'SHAKTI' and swapping of coal linkages are also helpful.
- The **Insolvency and Bankruptcy code has provided a legal way for resolution of financially stressed assets**. A few deals (*Exhibit 10*) have concluded and many are in pipeline (*Exhibit 11*).
- **Pass-through of cost due to 'Change in law'** is now time-bound (link). The draft Electricity Act gives allowance for carrying-cost due to regulatory delays.
- On the demand front too, some encouraging developments are taking place. There is an **intense focus on 'Power for All'**, which was never visible before. The political system is talking about penalties on monopolistic state-owned

DISCOMs against load-shedding (as part of the law) and achieving targeted loss reduction. **Metering** is a focus area and **data transparency** has increased, which can play a huge role in fixing accountability, thereby reducing losses. **Steady demand growth and lower losses of DISCOMs will play the most important role in revival of the generation sector.**

Overall, progress will take time, but we should see an inflection point soon, though, it's difficult to pinpoint when. One argument against increasing electricity supply to the marginalized sections (and thus boosting demand) is the unviable economics of such supply. But we understand, the government's logic of 'supply and enhance'; standard of living (thus, paying ability) of people should improve as basic services are made available.

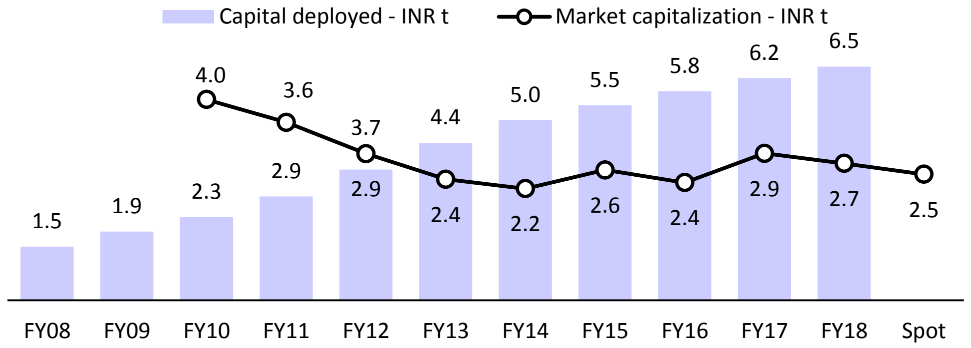
But, as always there are some risks. The declining renewable energy prices, below even the variable cost of coal-based generation, can question the logic of giving assured RoE at low plant load factor (PLF). The future of less-risky 25-year power purchase agreements (PPAs) look dim; instead, there could be more of a medium and time-of-day -based contracts. Intensity in AT&C loss reduction could hamper demand in the short term. Advance meters should open doors for data crunching, thus, optimizing power purchases by DISCOMs leading to time-of-day tariffs, which can flatten the demand curve. DISCOM losses are still high; stern actions in form policy actions and political intervention are required.

We expect **merchant power rates to increase** (early signs already visible). **Demand for new PPAs will emerge in a couple of years**. Thereafter, we expect a gradual increase in **requirement for new capacities (post FY23E).** Debt resolution for stressed assets will open **in-organic opportunities for players with strong balance sheet**.

In our view, **Jindal Steel and Power** (JSP: Buy) is likely to be a key beneficiary. Of 3.4GW of installed capacity, ~2.4GW is untied. Its location in heart of the coal mining belt (in Chhattisgarh) gives it logistic cost advantage. JSP is also riding the tailwind of a turnaround in the steel business. There are few pure-play private power sector companies left. Amongst them, **JSW Energy** (Neutral), **CESC** (Under Review) and **Torrent Power** (Not Rated) have strong balance sheet to meaningfully benefit from in-organic opportunities. JSW Energy's diversification into electric vehicles, however, is an overhang. **Tata Power** (Neutral) is on the path to deleveraging, and a positive outcome for Mundra can accelerate it.

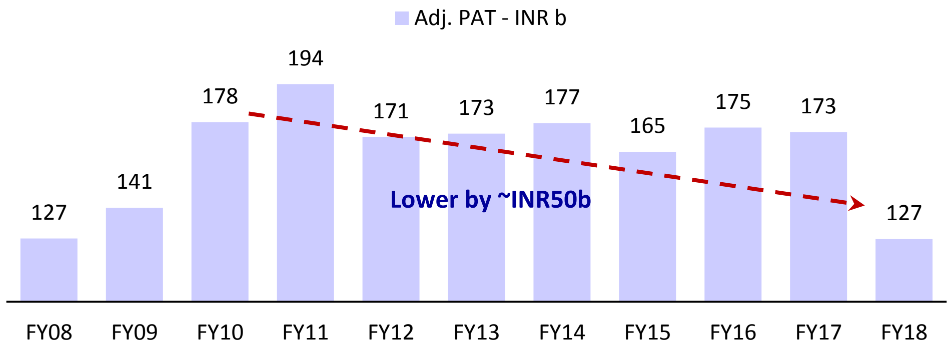
In the public sector, **NTPC** (Buy) already has a strong pipeline of projects and consolidation can add to its portfolio. NTPC has a healthy pipeline of projects which will drive healthy double-digit growth in regulated equity and consolidated PAT. RoE will improve as capitalization outpaces capex. **NHPC** (Buy) also has a strong balance sheet, but acquisition opportunities in hydro are few unless it seeks to diversify.

Exhibit 1: Generation sector capital deployed and market capitalization (INR t)



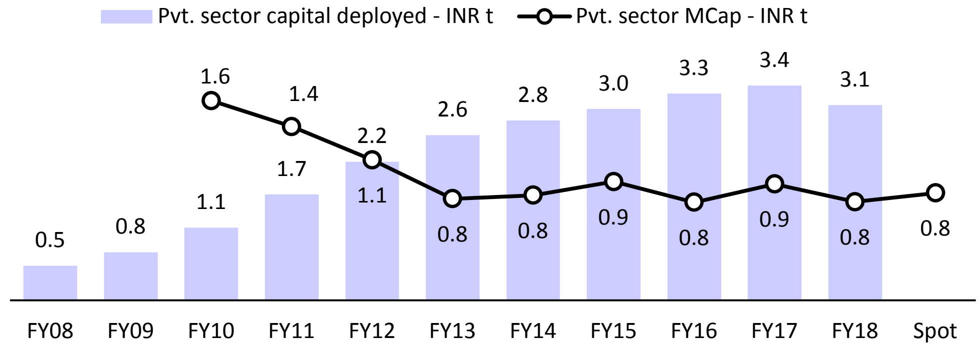
Source: Capitaline

Exhibit 2: Generation sector adj. PAT (INR t)



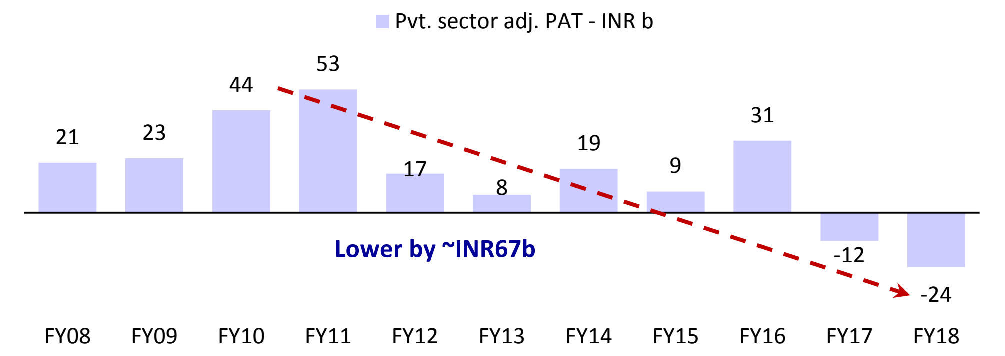
Source: Capitaline

Exhibit 3: Private sector capital deployed and market capitalization (INR t)



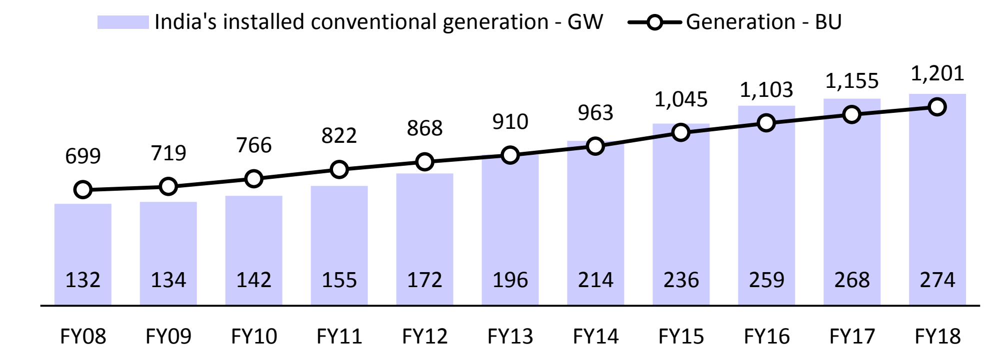
Source: Capitaline

Exhibit 4: Private generation sector adj. PAT (INR t)



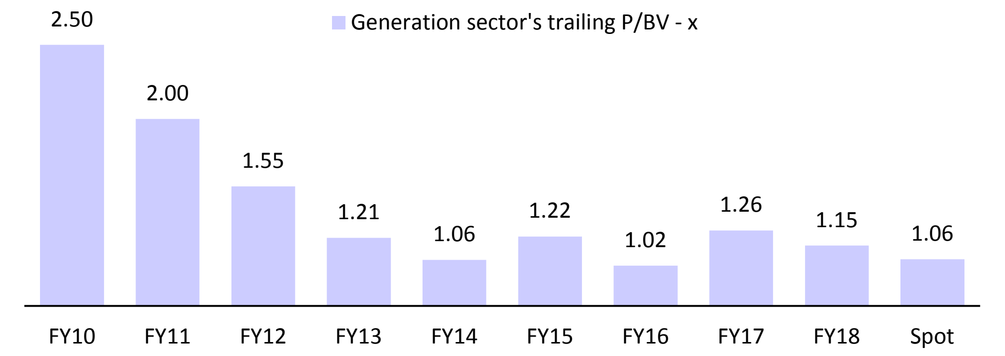
Source: Capitaline

Exhibit 5: India's installed conventional generation capacity and generation



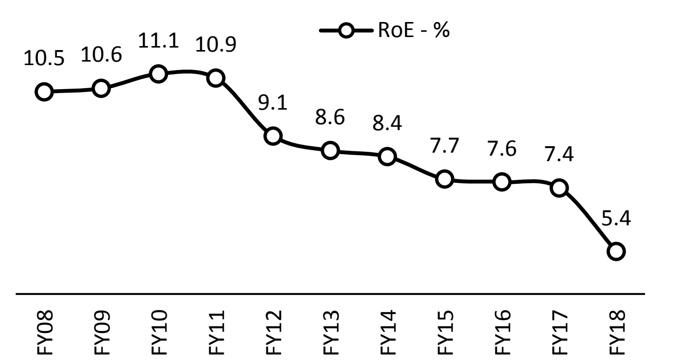
Source: CEA

Exhibit 6: Generation sector's trailing P/BV - x



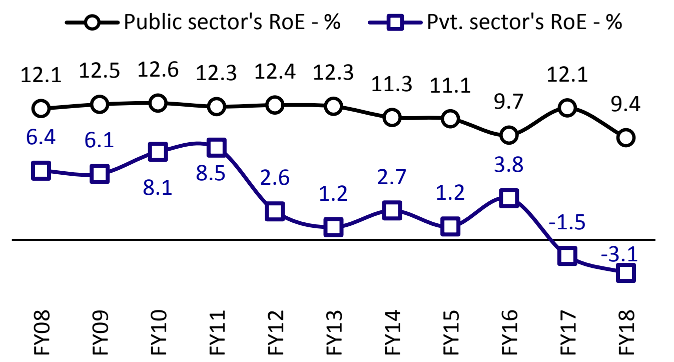
Source: Capitaline

Exhibit 7: Sector's RoE (%)



Source: Capitaline

Exhibit 8: RoE between public and private sector (%)



Source: Capitaline

Exhibit 9: Capital required if India's consumption increases to the world average

a. World's per capita electricity consumption	kWh	3,100
b. India's per capita electricity consumption	kWh	1,000
c. India's population	b	1.35
d. Potential incremental demand if India catches up to world average = c*(a-b)	BU	2,835
e. Capacity required at avg. PLF of 50-60%	GW	500 - 600
f. Capital cost of new capacity per GW	INR m	50
h. Additional capital required @ 500GW capacity	INR t	25

Source: MOSL

Exhibit 10: Recently concluded deals where lenders have taken a haircut

Plant	Buyer	Capacity (MW)	Mechanism
Jayee's Bara power plant	Resurgent Power	1,980	One-time settlement
SKS Chhattisgarh	Agritrade Resources	1,200	One-time settlement

Source: MOSL

Exhibit 11: Commissioned/soon-to-be-commissioned assets under financial stress

	Promoter	Plant	Type	Capacity (MW)	PPA (MW)
Commissioned/soon-to-be-commissioned projects					
Majority by banks	JPVL	Bina	Coal	500	350
Majority by banks	JPVL	Nigrie	Coal	1,320	495
Majority by banks	JPVL	Vishnuprayag	Hydro	400	400
52% by banks	GMR	Raikheda, Chhattisgarh	Coal	1,370	0
55% by banks	GMR	Rajahmundry	Gas	768	0
Majority by banks	Jindal India Thermal	Derang	Coal	1,200	528
Majority by banks	KSK	Wardha Warora	Coal	540	292
Majority by banks	KSK	Akaltara	Coal	2,400	2,125
Potential	Rattan India	Amravati	Coal	1,350	1,350
Potential	Rattan India	Nasik	Coal	1,350	0
NCLT	Lanco	Anpara	Coal	1,200	1,200
NCLT	Lanco	Pathadi, Amarkantak I&II	Coal	600	600
NCLT	Essar	Mahan	Coal	1,200	0
Potential	Ind Bharat	Odisha	Coal	700	575
NCLT	Avantha	Jhabua Power	Coal	600	425
Potential	R.K.M	Uchpinda, Chh	Coal	1,440	824
Potential	India Power	Haldia, WB	Coal	450	297
				17,388	**9,461**
Imported coal plants under-stress					
Majority by banks	Essar	Salaya	Coal	1,200	1,200
NCLT	Adani	Mundra, Gujarat	Coal	2,200	2,200
				3,400	**3,400**
Total				**20,788**	**12,861**

Source: MOSL

Exhibit 12: Capital employed (INR b)

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Adani Power	24	73	164	325	459	466	515	507	667	615	595
CESC	59	70	80	99	122	176	206	237	300	309	267
Guj Inds. Power	18	20	23	25	24	25	25	25	27	28	32
JP Power Ven.	19	21	104	190	237	307	351	395	340	347	324
KSK Energy Ven.	19	43	81	101	149	171	186	214	226	256	32
NHPC Ltd	331	361	415	464	515	527	516	537	548	516	516
NLC India	118	137	147	167	182	200	209	224	248	280	321
NTPC	832	962	1,084	1,231	1,381	1,561	1,744	1,904	1,973	2,174	2,386
Rattanindia Pow.	20	24	41	63	80	144	165	177	189	195	181
Reliance Power	140	151	167	246	365	490	524	569	562	565	563
SJVN	77	82	83	99	106	116	124	138	149	148	138
Tata Power Co.	175	235	308	410	503	538	557	582	566	681	700
Torrent Power	58	68	77	85	119	150	168	171	168	175	190
JSW Energy	33	74	127	153	157	166	167	169	246	248	231
Total	**1,923**	**2,321**	**2,900**	**3,658**	**4,398**	**5,037**	**5,457**	**5,849**	**6,208**	**6,536**	**6,477**
PSUs	1,376	1,562	1,752	1,986	2,208	2,429	2,618	2,828	2,944	3,146	3,392
Ex-PSUs	547	758	1,148	1,671	2,190	2,609	2,839	3,020	3,264	3,390	3,084

Companies considered for aggregate Source: Capitaline

Exhibit 13: Net worth (INR b)

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Adani Power	13	23	58	63	60	43	65	57	75	30	9
CESC	29	30	32	34	37	41	47	52	106	106	84
Guj Inds. Power	11	12	12	14	14	16	18	18	20	22	24
JP Power Ven.	10	11	34	46	55	65	63	64	76	94	78
KSK Energy Ven.	7	20	27	28	30	31	29	33	28	22	8
NHPC Ltd	189	198	251	265	286	298	282	308	316	290	300
NLC India	90	95	103	112	120	130	139	149	128	121	134
NTPC	529	574	626	684	744	812	873	821	916	978	1,036
Rattanindia Pow.	20	24	39	42	44	54	54	51	47	41	25
Reliance Power	135	138	145	168	176	186	195	206	202	214	225
SJVN	57	60	67	72	78	84	91	102	113	115	107
Tata Power Co.	83	94	123	140	127	123	122	141	116	132	153
Torrent Power	29	32	40	48	58	61	62	66	65	69	77
JSW Energy	10	15	48	57	57	62	66	75	97	104	111
Total	**1,213**	**1,325**	**1,604**	**1,775**	**1,886**	**2,006**	**2,106**	**2,142**	**2,306**	**2,338**	**2,369**
PSUs	877	939	1,060	1,147	1,243	1,340	1,403	1,398	1,493	1,527	1,600
Ex-PSUs	337	387	544	627	643	666	703	745	812	811	769

Exhibit 14: Adj. PAT (INR b)

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Adani Power	0	0	2	5	-4	-23	-2	-13	6	-21	-21
CESC	2	1	2	3	2	4	5	2	7	6	8
Guj Inds. Power	1	1	1	2	1	2	2	1	2	2	2
JP Power Ven.	2	1	2	2	4	4	0	1	-2	-12	-13
KSK Energy Ven.	0	1	2	2	1	2	-2	-3	-4	-12	-16
NHPC Ltd	11	12	22	23	30	24	15	24	20	18	12
NLC India	11	13	12	13	14	13	15	13	0	42	20
NTPC	75	81	89	94	99	115	114	99	109	108	105
Rattanindia Pow.	0	1	0	0	0	-1	-1	-7	-4	-6	-17
Reliance Power	1	2	1	3	7	10	10	10	9	11	10
SJVN	7	10	10	9	11	11	11	18	13	16	12
Tata Power Co.	8	10	19	20	-9	-1	-3	1	-1	13	16
Torrent Power	2	4	8	10	13	4	1	3	9	4	9
JSW Energy	6	3	7	8	2	10	10	13	13	6	0
Total	**127**	**141**	**178**	**194**	**171**	**173**	**177**	**165**	**175**	**173**	**127**
PSUs	106	117	133	141	154	165	158	156	144	185	151
Ex-PSUs	21	23	44	53	17	8	19	9	31	-12	-24

Companies considered for aggregate Source: Capitaline

Exhibit 15: Market Capitalization (INR b)

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	Current
Adani Power	253	246	149	97	140	136	116	154	92	200
CESC	48	39	34	33	63	80	63	111	92	92
Guj Inds. Power	18	14	10	11	10	13	12	16	15	12
JP Power Ven.	142	89	107	76	42	30	14	30	29	12
KSK Energy Ven.	69	38	21	16	26	25	14	4	4	1
NHPC Ltd	375	312	242	245	211	220	267	329	284	270
NLC India	243	174	144	111	103	118	119	164	128	119
NTPC	1,707	1,591	1,342	1,171	989	1,215	1,062	1,368	1,399	1,157
Rattanindia Pow.	62	46	35	22	20	27	29	24	15	9
Reliance Power	358	364	328	173	197	159	138	135	101	78
SJVN	91	91	81	79	87	102	119	140	131	110
Tata Power Co.	326	316	239	229	201	209	175	245	215	215
Torrent Power	136	118	95	66	44	77	111	112	110	126
JSW Energy	183	118	100	90	97	194	114	103	119	112
Total	**4,012**	**3,555**	**2,927**	**2,417**	**2,229**	**2,604**	**2,352**	**2,935**	**2,734**	**2,515**
PSUs	2,435	2,183	1,819	1,616	1,400	1,668	1,578	2,017	1,957	1,669
Ex-PSUs	1,577	1,372	1,108	801	829	936	773	918	777	846

Companies considered for aggregate

Source: Capitaline

Exhibit 16: Utilities sector valuation

	Rating	CMP (INR)	MCAP (USD M)	EPS (INR)			P/E (x)		P/B (x)		RoE (%)	
				FY18	FY19E	FY20E	FY19E	FY20E	FY19E	FY20E	FY19E	FY20E
Powergrid	Buy	199	14,324	16.5	18.5	20.2	10.7	9.8	1.7	1.5	16.7	16.1
NTPC	Buy	150	16,998	10.7	13.7	15.9	10.9	9.4	1.1	1.1	10.6	11.6
JSW Energy	Neutral	72	1,614	3.0	2.9	4.4	24.7	16.1	1.0	1.0	4.3	6.4
Tata Power	Neutral	79	2,957	5.3	4.4	7.0	18.1	11.4	1.2	1.1	7.3	10.5
NHPC	Buy	26	3,976	2.4	2.3	2.7	11.4	9.8	0.9	0.9	7.7	8.8
Coal India	Buy	252	21,892	19.2	27.0	30.8	9.3	8.2	7.3	6.7	80.9	85.1

Source: MOSL, Company

Exhibit 17: Metals sector valuation

	Rating	Price (INR)	MCAP (USD M)	EPS (INR)			P/E (x)		EV/EBITDA (x)		P/B(x)	
				FY18	FY19E	FY20E	FY19E	FY20E	FY19E	FY20E	FY19E	FY20E
Steel												
Tata Steel	Sell	527	7,333	71.9	91.6	66.1	5.8	8.0	5.6	6.8	0.9	0.9
JSW Steel	Buy	311	10,781	23.4	37.1	27.2	8.4	11.5	6.5	7.8	2.3	2.0
JSPL	Buy	168	2,199	-8.5	2.3	-1.2	nm	nm	6.6	6.3	0.5	0.5
SAIL	Neutral	55	3,226	0.3	8.9	5.2	6.1	10.6	5.6	6.4	0.6	0.5
Non-Ferrous												
Hindalco	Buy	227	6,722	18.9	26.6	27.8	8.5	8.2	5.7	5.6	1.2	1.0
Nalco	Buy	64	2,367	5.1	10.2	7.4	6.3	8.6	2.9	4.2	1.1	1.1
Vedanta	Buy	207	8,791	20.4	18.4	25.4	11.3	8.1	6.0	4.7	1.2	1.1
Rain Ind.*	Buy	140	672	23.7	27.6	24.4	5.1	5.7	4.9	5.1	1.1	1.0
Mining												
Coal India	Buy	252	22,796	19.2	27.0	30.8	9.3	8.2	4.9	4.3	7.3	6.7
Hindustan Zinc	Neutral	282	17,051	21.1	21.0	27.0	13.4	10.4	8.5	6.4	3.4	2.9
NMDC	Buy	97	5,525	13.1	13.0	14.3	7.5	6.8	4.0	3.8	1.2	1.1

Source: MOSL, Company

Explanation of Investment Rating	
Investment Rating	**Expected return (over 12-month)**
BUY	>=15%
SELL	< - 10%
NEUTRAL	< - 10 % to 15%
UNDER REVIEW	Rating may undergo a change
NOT RATED	We have forward looking estimates for the stock but we refrain from assigning recommendation

*In case the recommendation given by the Research Analyst becomes inconsistent with the investment rating legend, the Research Analyst shall within 28 days of the inconsistency, take appropriate measures to make the recommendation consistent with the investment rating legend.

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