Discoms financials: Cost pressure wanes

Drivers of power purchase cost-increase see course correction

- **Discoms' (distribution companies) losses grew 5x over FY08-13 to INR1t, versus an average of INR200b pa over FY98-07, led by an increase in power purchase cost.**
- **Key factors attributable are: a) lower absorption of fixed charge, b) quantum and cost of imported coal and c) ST (short term) prices/power procurement. Course correction in these factors can lower losses by ~30%.**
- **However, pass-through of such cost savings through lower tariff to consumers (unlikely given past arrears/ongoing losses) as a part of government's political agenda, is a key risk to our assumptions.**

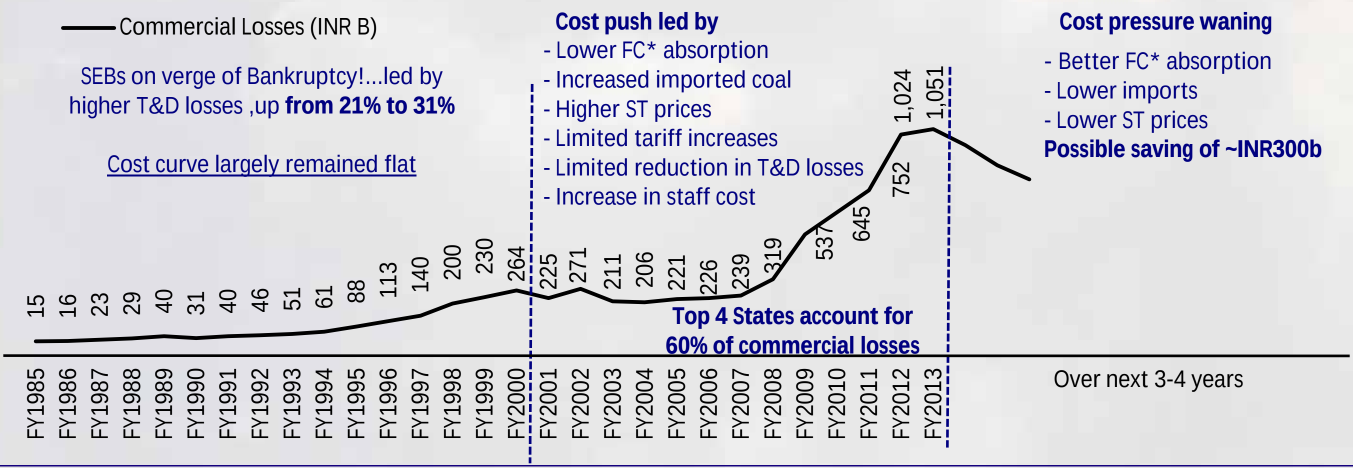
Please refer to our Utilities/Metals sector report dt 11 Dec 2014

Discoms losses widened 5x over FY08-13, triggers exist for lower losses

Over the past three decades, Discoms' commercial losses have been rising. It was ranging between INR200-220b over FY98-07 and near break-even on a cash basis. Commercial losses grew ~5x from FY08 to INR1t in FY13 and cash losses increased to INR489b versus INR22b in FY07. Power purchase cost increase accounted for 70% of the total cost increase. Key drivers of the same were: a) lower absorption of capacity charge, b) high cost and quantum of imported coal and c) ST prices.

However, these factors have seen a course correction since FY13 and may provide headroom for Discoms to lower losses. Thus, all these factors could trim the losses by ~30%. Key risk to our assumption is an adjustment in fuel/power purchase cost by the regulator, influenced by government's political agenda. Though the need to address current under-recovery and past arrears may mean that tariff may not be lowered. Persistent tariff hikes and a focus to reduce transmission and distribution losses (T&D) could be other levers to lower losses going forward.

Exhibit 1: Analyzing factors leading to losses and course correction



* Fixed Cost

Source: Company, MOSL

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#1. Lower absorption of capacity charge

Power demand by Discoms de-grew due to their precarious financial position led by a boom in ST power purchases (FY07/08) and poor availability of domestic coal impacting supply of low cost power. The recovery of capacity charge on lower volumes led to higher cost/unit. Further, the FY09-14 tariff regulation for central public sector undertaking (CPSUs) linked incentives to “availability” versus generation earlier, thereby further aggravating cost/unit. We note that coal project PLFs declined by 10ppt over FY08-13. While a decline in PLF by 10% for a 1gw project increases capacity charge by INR0.26/unit, an increase due to FY09-14 regulation was INR0.15/unit.

Course correction: As PLFs are well below 85% (65% in YTDFY15), incremental power procurement by Discoms would be at variable cost. Also, the FY14-19 regulation eliminated the gains of FY09-14 regulation. An INR0.25/unit blended savings on ~800BUs (coal generation in FY15E) could mean possible savings of INR200b – 20% of FY13 commercial losses, 40% of cash losses.

Please refer to our Utilities sector report dt 24 Sep 2014

#2. Increased share of coal imports, domestic price hike

Stagnation in domestic coal availability due to volume growth constraints in Coal India and the need to establish higher “availability” led to an increase in imports. Share of imports in the fuel basket rose from 3% in FY08 to 10% in FY13, on a higher base. The phase also marked a sharp rise in global coal prices, 2x on an average and 3x at its peak. Cost of imports thus rose 5.5x from INR32b in FY08 to INR172b in FY13. Moreover, Coal India increased prices by ~25% on FSA coal for power sector.

Course correction: Global coal prices are down ~25% since FY13, entailing INR0.50/unit savings. Higher domestic coal supply replacing imports can reduce the cost by another INR1/unit. Total savings on units generated (on project with pass-through benefit) due to imported coal could be INR79b – 16% of FY13 cash losses.

#3. High ST prices, Southern region premium

Total cost of ST power purchases by Discoms increased by INR200b over FY08-13, while the share as a percentage of power purchase cost stood at 9% in FY13, though lower from 14% in FY10. Despite a moderation in ST prices over FY10-13, the premium in Southern region (40% of total commercial losses in FY13) continued due to a lack of inter-regional capacity.

Course correction: ST prices are now in the range of INR3-3.50/unit, in line with LT tariff. Commissioning of Raichur-Solapur line would bridge the connectivity gap with Southern region. Thus, INR0.25/unit savings on 100BUs of ST power could save INR25b for Discoms – 5% of FY13 cash losses.

Discoms revival may boost demand; focus on clean play

Discoms’ losses can see meaningful improvement aided by lower power cost, tariff increase and lower T&D losses. This would boost demand growth, which rose by a mere 0.7% YoY in FY14. We have already seen a revival in demand growth in FY15E (~8%), though part of it can be due to the base effect. Increase in volumes would benefit players with firm PPA and fuel linkages. We reiterate our positive view on **NTPC, CESC** and **RattanIndia**. The headroom of lower cash losses would also boost T&D sector investment, and **Powergrid** has already identified JVs with state governments as one of its key drivers of growth. Power sector has been witnessing a push from the government and a revival in the macro environment is in the offing. Improvement at the developer level may however take a bit long due to PPA/tariff issues, stretched financials among others.

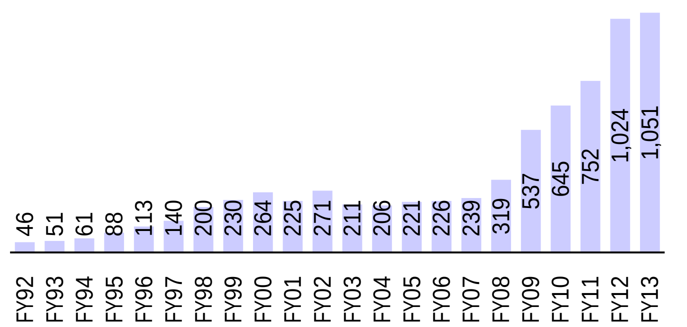
Exhibit 2: Comparative valuations

Company	Recom	EPS (INR/sh)			RoE (%)			P/BV (x)			P/E (x)			EV/EBITDA (x)		
		FY15E	FY16E	FY17E	FY15E	FY16E	FY17E	FY15E	FY16E	FY17E	FY15E	FY16E	FY17E	FY15E	FY16E	FY17E
CPSUs																
NTPC	Buy	10.7	11.4	12.9	9.9	10.6	12.0	1.4	1.5	1.4	14.4	13.5	11.9	11.2	10.9	9.6
PGCIL	Buy	9.6	11.1	13.4	13.9	14.7	16.0	2.1	1.9	1.7	15.5	13.3	11.0	11.0	10.1	9.0
Coal India *	Neutral	24.8	27.7	30.8	23.1	22.7	22.2	4.8	4.2	3.7	14.9	13.3	12.0	10.2	8.5	7.2
NHPC	Neutral	1.9	2.2	2.2	7.2	7.5	7.3	0.7	0.7	0.7	10.5	9.0	8.8	7.8	6.9	6.5
Private Sector																
CESC	Buy	53.4	58.4	62.8	10.7	10.3	10.1	1.1	1.0	0.9	11.1	10.2	9.4	6.9	6.3	5.7
Tata Power	Neutral	4.3	4.9	5.6	8.3	8.4	9.0	1.4	1.3	1.3	31.5	12.3	10.4	16.3	12.1	11.5
JSW Energy	Neutral	9.1	8.5	8.7	21.1	17.1	15.6	2.3	2.1	1.8	11.9	12.9	12.5	6.5	7.1	6.9
Reliance Infra	Buy	53.7	63.4	63.1	6.7	7.5	7.0	0.6	0.5	0.5	8.5	7.2	7.3	3.7	2.2	2.0
PTC	Buy	11.0	12.4	14.1	7.5	9.4	10.0	0.9	0.9	0.8	7.4	6.6	5.8	6.3	4.9	3.7
RattanIndia Power	Buy	-2.2	1.4	2.8	-	7.3	13.8	0.6	0.5	0.5	-	7.3	3.5	190.7	5.1	4.2

Source: Company, MOSL

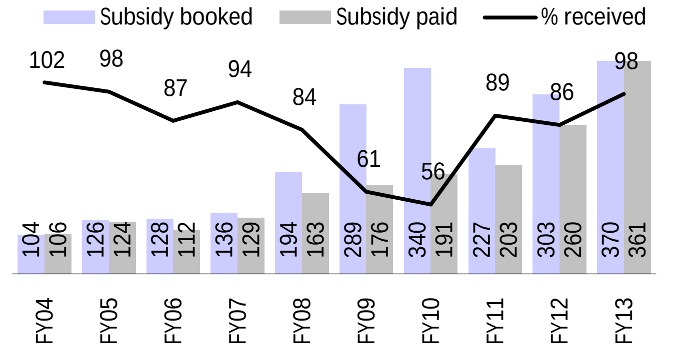
Story in charts

Exhibit 3: Commercial losses rise sizably (INR b)



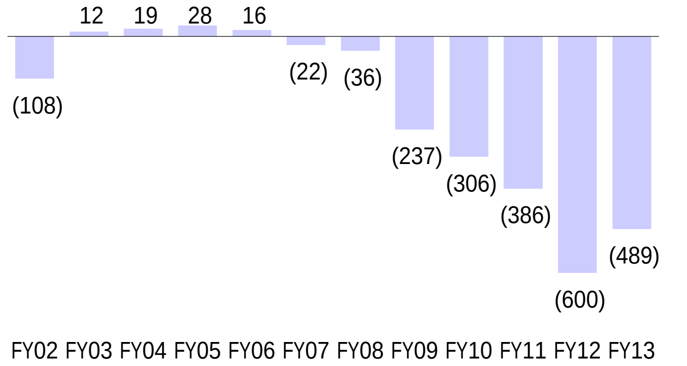
Source: Company, MOSL

Exhibit 4: Subsidy payments too grew (INR b)



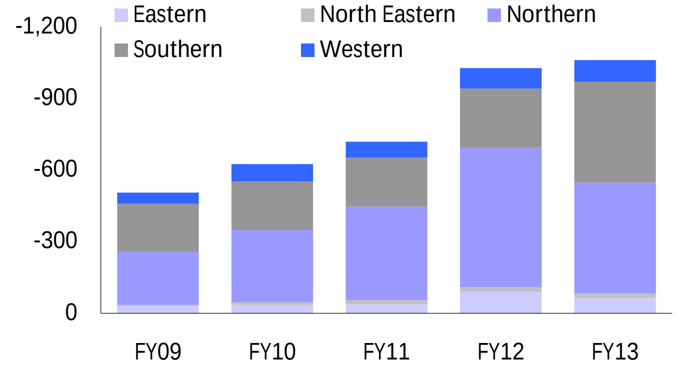
Source: Company, MOSL

Exhibit 5: Cash losses still spiraled up (INR b)



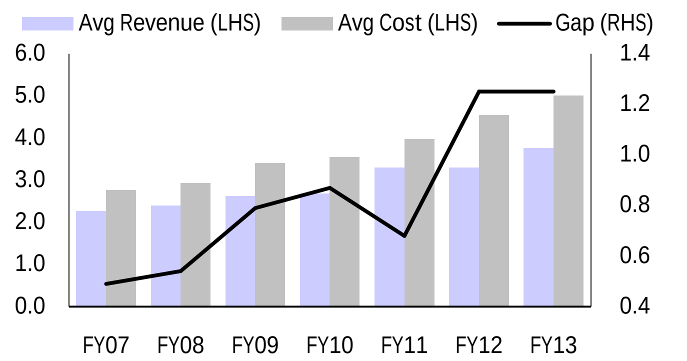
Source: Company, MOSL

Exhibit 6: Regional distribution of commercial losses (INR b)



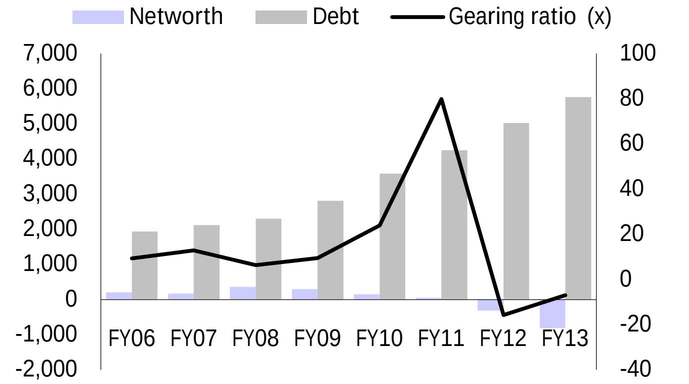
Source: Company, MOSL

Exhibit 7: Gap widens despite the tariff hike (INR/unit)



Source: Company, MOSL

Exhibit 8: Discoms financial position precarious (INR b)



Source: Company, MOSL

Discoms financials: Cost pressure wanes

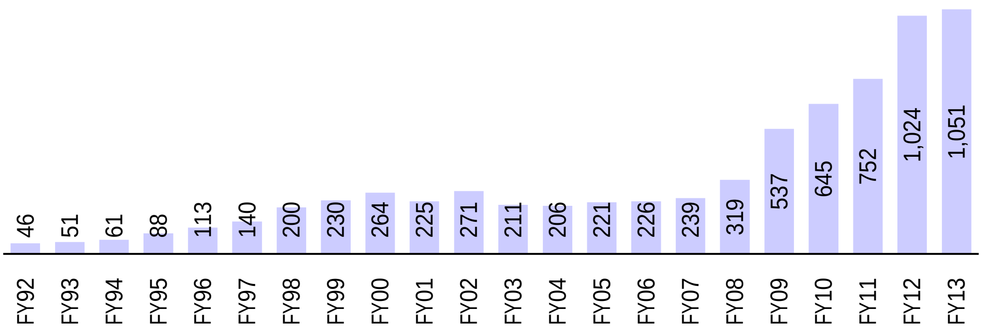
Drivers of power purchase cost-increase see course correction

- **Discoms losses grew 5x over FY08-13 to INR1t, versus range of INR200-220b pa over FY98-07, led by an increase in power purchase cost. Cash losses stood at INR489b versus INR22b in FY07.**
- **Key factors attributable are: a) lower absorption of fixed charge, b) quantum and cost of imported coal and c) ST prices/power procurement. Course correction in these factors can lower losses by ~30% over the next three to four years.**
- **However, pass-through of such cost savings through lower tariff to consumers (unlikely given past arrears/ongoing losses) as a part of government's political agenda, is a key risk to our assumptions.**

Commercial losses for Discoms at INR1t+, cash loss at ~INR490b

State-owned Discoms are a vital link between end consumers and developers. Over the last three decades, commercial losses (excluding subsidy) of Discoms have been rising, without aberration. Pertinently, commercial losses remained range bound over FY98-07 at INR200-220b pa, while there was a near breakeven on cash losses. Commercial losses for Discoms accelerated significantly from FY08 to grow ~5x at INR1t in FY13, despite the series of tariff hikes beginning FY11.

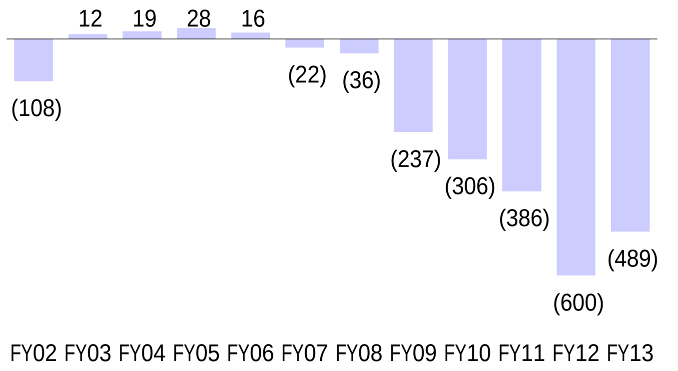
Exhibit 9: Commercial losses up sizably from FY08 (INR b)



Source: Company, MOSL

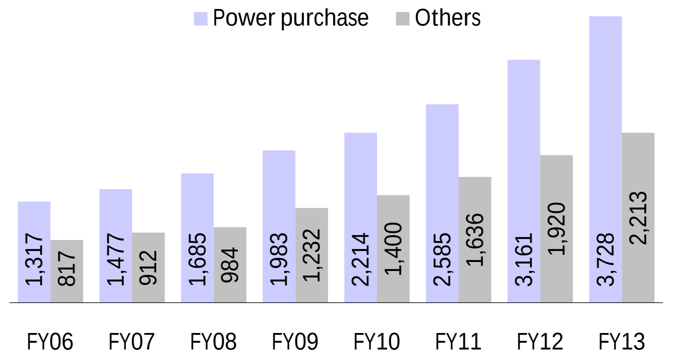
Higher subsidy quantum (up from INR194b in FY08 to INR370b in FY13) has contained cash losses for Discoms at INR490b, though up meaningfully from FY08 levels of breakeven. Increase in losses is due to a sizable increase in the power purchase cost. Of the total increase in Discoms cost over FY10-13, power purchase and generation cost accounted for 70% of the total increase.

Exhibit 10: Cash losses contained by subsidy (INR b)



Source: Company, MOSL

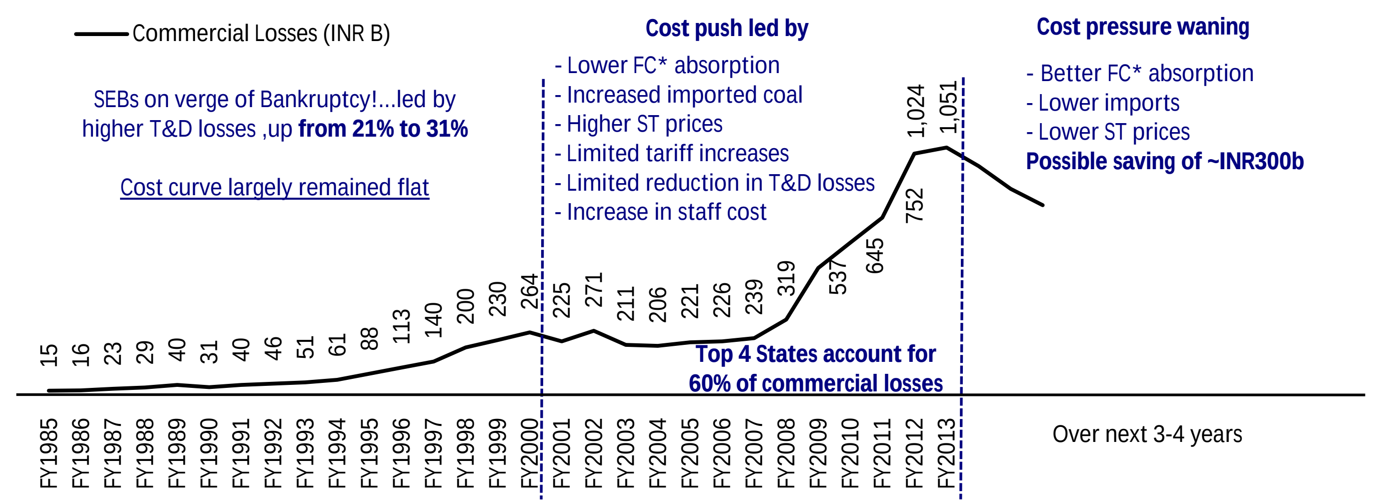
Exhibit 11: Power cost was a key driver (INR b)



Source: Company, MOSL

We attempt to decipher factors leading to the power purchase cost increase. In our view, a) lower fixed cost absorption, b) rising quantum and cost of imported coal and c) ST prices/procurement are the key reasons. However, these factors are witnessing a course correction and offer headroom to lower Discoms' losses. Hence, the factors could trim losses by ~30% over the next three years.

Exhibit 12: Analyzing factors leading to losses and course correction



*Fixed cost

Source: Company, MOSL

Key risk to our assumption is an adjustment in fuel/power purchase cost by the regulator, influenced by government's political agenda. Though the need to address current under-recovery and past arrears may mean that tariff may not be lowered. We note that the average tariff hike over FY08-10 was a mere 4% (near nil in FY10), which improved to 11% CAGR over FY10-13. Adoption of the Financial Restructuring Plan (FRP) by loss-making states meant that the tariff hike persisted in FY14/15, though the quantum remains less than desired. Resolve on the part of state/central government to reduce losses, possible introduction of State Electricity Distribution Management Responsibility Bill, 2013 (SEDMRB) would be key triggers to watch out for a consistent tariff hike.

#1. Lower fixed cost absorption

Lower generation/volume, FY09-14 regulation had inflationary impact

- **Power demand by Discoms de-grew due to their precarious financial position, led by a boom in ST power purchases (FY07/08) and poor availability of domestic coal, which impacted the supply of low cost power.**
- **Recovery of capacity charge on lower volumes led to higher cost/unit. Further, the FY10-14 tariff regulation for CPSUs linked incentives to "availability" versus generation earlier, thereby aggravating cost/unit.**
- **Coal project PLFs declined by 10ppt over FY08-13. Decline in PLF by 10% for a 1gw project increases capacity charge by INR0.26/unit, while incentives as per FY09-14 regulation increased capacity charge by further INR0.15/unit.**
- **Current PLFs are below 85% (65% in YTDFY15), while incremental power procurement would be at variable cost. Also, the FY14-19 regulation has eliminated the gains coming out of FY010-14 regulation. INR0.25/unit savings on 800BUs (FY15E coal generation) could mean a savings of INR200b.**

Higher capacity charge on low volumes

Power sector in India suffered from lower generation/demand growth due to the precarious financial position of Discoms. Also, the domestic coal production flattened, specifically over FY10-12, leading to reduced low cost power supply. While this impacted the overall volume growth, the obligation to pay capacity charge for Discoms remained. Thermal project PLFs declined from 76% in FY08 to 66% in FY13 and further to 60% in YTDFY15. We note that a 10% reduction in PLF below the normative PLF of 85% increases per unit cost by INR0.26/sh and represents 13% of total cost of power procured from such a project.

Exhibit 13: Demand growth muted over FY08-14

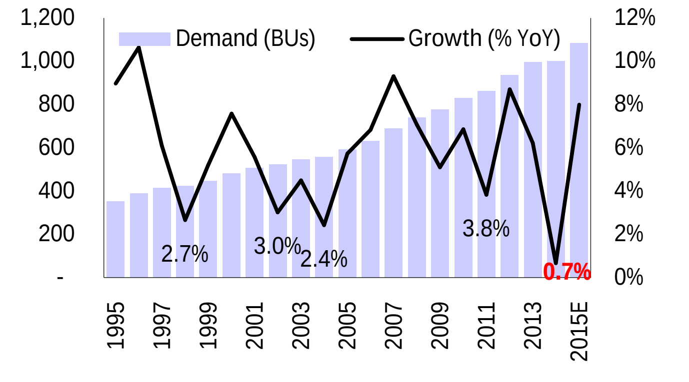
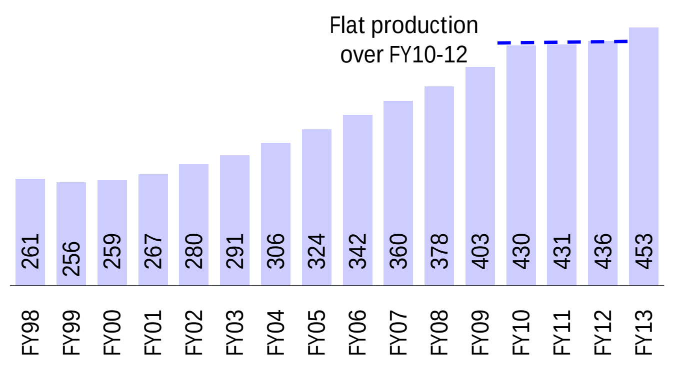
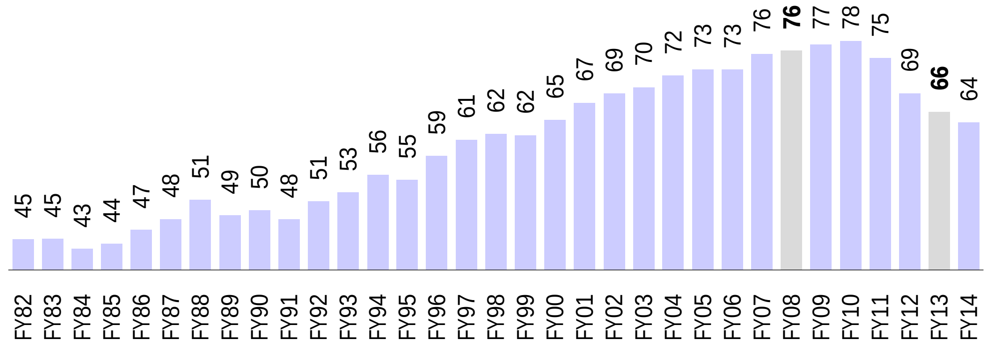


Exhibit 14: Coal India's production disappoints (m tons)



Source: CEA, MOSL

Exhibit 15: 10ppt decline in PLF on higher capacity accentuated fixed charge/unit (%)



Source: CEA

Exhibit 16: Our calculation: Sensitivity of 10% reduction in PLF leads to higher cost

	@ 85% PLF	@ 75% PLF	@ 65% PLF
Interest	0.7	0.8	0.9
Depreciation	0.5	0.5	0.6
RoE	0.5	0.5	0.6
O&M Cost	0.2	0.2	0.3
Tax on RoE	0.1	0.1	0.2
Int on WC	0.1	0.1	0.1
Total (INR/unit)	**2.0**	**2.3**	**2.6**
Change (INR/unit)		**0.26**	**0.60**

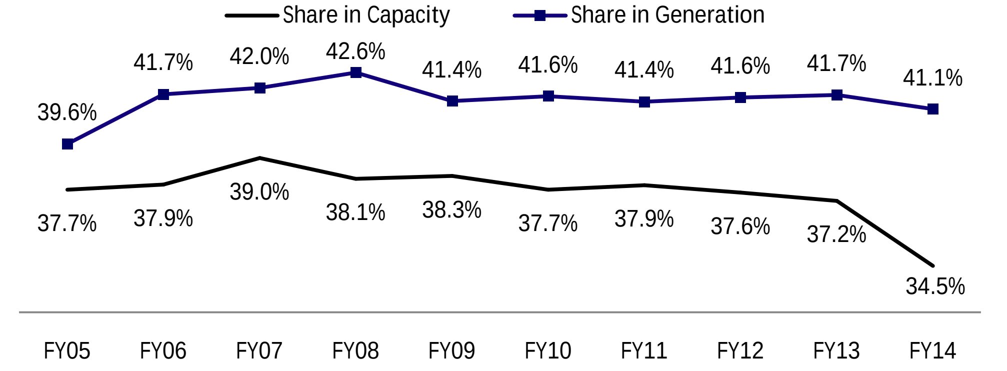
Source: Company, MOSL

FY10-14 regulation also had inflationary push to cost of power purchase

The Central Electricity Regulatory Commission (CERC) specified norms for FY09-14 applicable to central sector undertaking, which would largely be adopted by the state regulatory commission to a varying degree. Among the key changes were a shift in base RoE by 50bp, gross-up using applicable tax rate for RoE providing tax arbitrage to developers (in turn cost to consumer/Discoms) and incentives based on availability, rather than generation above 85%.

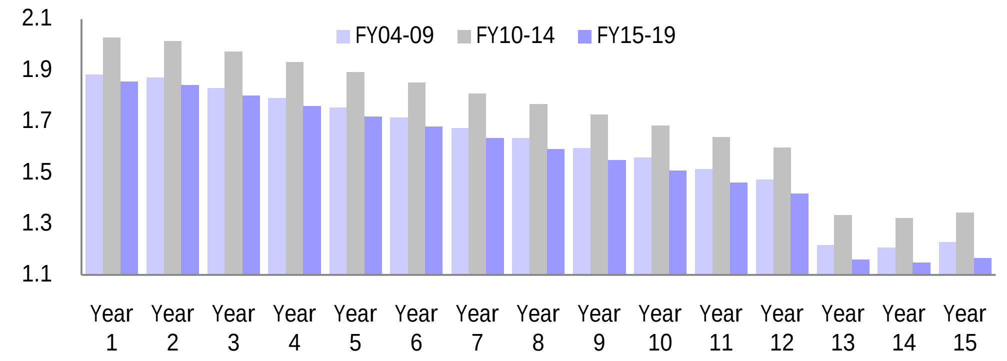
This clearly had a cascading effect in the wake of lower generation. Our calculation suggests the capacity charge for a 1gw regulated power project in FY09-14 regulation was higher by INR0.15/unit versus FY05-09 regulation. Lower PLFs would further increase the cost per unit of power procured for Discoms. Central sector accounts for 33% of total coal-based capacity and 40% of coal-based generation. Thus, the higher cost due to FY10-14 regulation would have materially impacted Discoms' power purchase cost.

Exhibit 17: CPSUs dominate 40% of total coal-based generation in India (%)



Source: CEA, MOSL

Exhibit 18: FY10-14 regulation provided INR0.15/unit additional FC *



*Comparison is on uniform operational & financial assumption; PAF at 90%/PLF at 85% Source: MOSL

Course correction: higher offtake at marginally lower cost

In YTDFY15, demand growth has picked up to 8% versus 0.4% in FY14. While this could be partly attributable to the base effect, demand environment is set to look up due to the financial restructuring proposals for loss-making Discoms, focus on T&D loss reduction and scaling up manufacturing capability in India through flagship programmes like "Make in India".

Given that current PLFs are well below 85% (65% in YTDFY15), incremental power procurement would be at variable cost. Also, FY14-19 regulation has eliminated the gains coming from the FY10-14 regulation. Thus, INR0.25/unit savings on 800BUs (FY15E coal generation) could mean savings of INR200b – 20% of FY13 commercial losses and 40% of cash losses.

#2. Imported fuel cost, domestic price hike

Falling global coal price, higher domestic coal availability are key triggers

- **Stagnation in domestic coal supply and need to establish higher "availability" under the new norms led to an increase in imports. Share of imports in the fuel basket rose from 3% in FY08 to 10% in FY13, on a higher base.**
- **The phase also marked a sharp increase in global coal prices, 2x on average and 3x at its peak. Cost of imports thus rose 5.5x from INR32b in FY08 to INR172b in FY13. Moreover, Coal India hiked prices by ~25% on FSA coal for the power sector.**
- **Global coal prices are down ~25% since FY13 entailing INR0.50/unit savings, while a higher domestic coal supply replacing imports can reduce the cost by another INR1/unit.**
- **Total savings on units generated (on project with pass-through benefit) due to imported coal could be INR79b – 16% of FY13 cash losses.**

Imports rose sizably over FY08-13

Coal production in India was impacted significantly post FY10 due to clearance and land acquisition issues, while dispatches were impacted by evacuation bottlenecks. Coal India's production stood flat from 430m tons in FY10 to 436m tons in FY12, while dispatch to the power sector grew marginally from 296m tons in FY09 to 312m tons in FY12. This led to increased dependence on imported coal – the share of which rose from 3% in FY08 to 8% in FY13. While part of the increase was attributable to the demand from dedicated imported coal-based power projects, the incentive to show "higher availability" was the key driver of imports.

Exhibit 19: Domestic coal supply muted over FY09-12

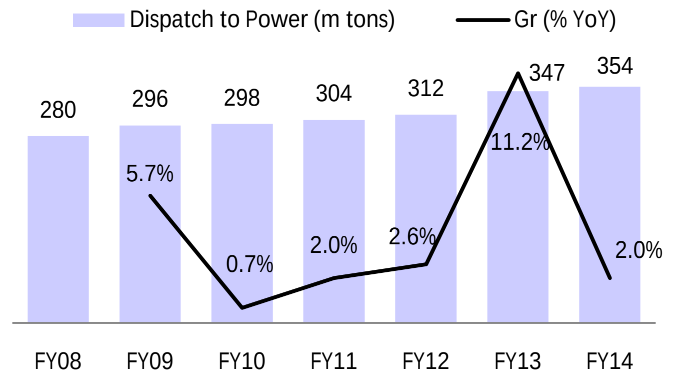
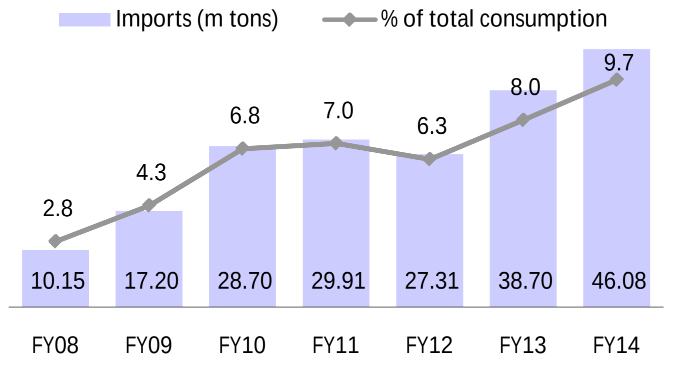


Exhibit 20: Share of imports thus rose



Source: MoC, Coal India, MOSL

This coincided with a sharp increase in global coal price from USD53/ton in 1QFY08 to the highs of USD159/ton in 2QFY09. Even afterwards, coal prices remained at high levels of USD85-90/ton over FY09-13. The total cost of imports rose from a mere INR32b in FY08 to INR172b in FY13, representing 4.6% of power purchase and generation cost in FY13, versus 2% in FY08.

Exhibit 21: Steep rise in imported coal price (USD/ton)

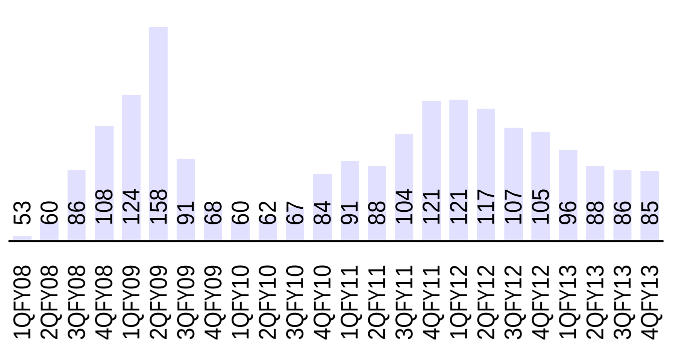
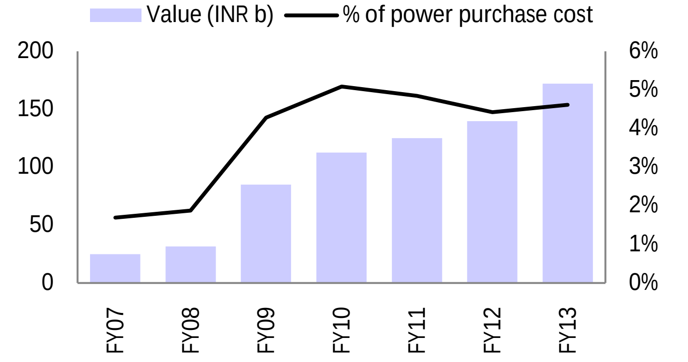


Exhibit 22: Imported coal cost rose



Source: MOC, MOSL, Bloomberg

Coal India price hikes

Coal India affected three price hikes from 2009 to 2013 and a further increase in freight cost and handling/sizing charges. While the impact is limited on an overall basis, the marginal increase in cost/losses is inevitable. We note that FSA coal available to the power sector for an average GCV of 3,600-4,000kCal/kg costs ~25% higher now compared to FY09. This translates into an increase in cost of generation by ~INR0.20/unit.

Course correction: benign imported coal prices and change in mix

Imported coal prices are down ~25% from FY13 levels of USD85/ton to USD63/ton now. This leads to a gain of INR0.54/unit for a developer from FY13 fuel cost. Given that part of such imported coal is used for a project with competitive tariff and have limited/no escalation in fuel cost, the benefit of fall in imported coal cost would not be available. Assuming imports reduced to a bare minimum, there is further scope of INR1/unit decline in the average fuel cost due to a change in mix. Thus, the potential benefit to Discoms on the account could be INR79b, or 16% of FY13 cash losses.

Exhibit 23: Possible savings in cost due to import price fall and change in mix over ~3 years

Particulars	Units	Amount
FY13 Imports volume	m tons	39
Imports used in projects with quoted tariffs*	m tons	14
Potential generation	BU	51.1
Total Demand	BU	795.0
% of units with benefit of lower cost	%	6%
Fuel cost @ FY13 levels	INR/unit	2.17
- ~25% fall in coal price till now	INR/unit	0.54
- Substitution by domestic coal	INR/unit	1.00
Potential benefit	INR/unit	1.54
Total cost saving	**INR m**	**79**
FY13 Cash losses	**INR m**	489
Possible savings	**%**	**16.1%**

**Represents amount of coal used for Case-1/Case-2 bid with limited/no escalation and thus lower PPA tariff is already a boon. Lower imported coal cost would help reduce developer losses though.*

#3. Moderating ST prices, trend likely to continue

Regional premiums to converge

- **ST power purchases by Discoms grew by INR200b over FY08-13, accounting for 9% of power purchase cost in FY13, though down from 14% in FY10.**
- **Despite moderation in ST prices over FY10-13, the premium in Southern region (40% of total commercial losses in FY13) continued due to the lack of inter-regional connectivity.**
- **ST prices are in the range of INR3-3.50/unit, in line with LT tariff. The commissioning of Raichur-Solapur line would bridge the connectivity gap with Southern region. Thus, an INR0.25/unit savings on 100BUs of ST power could save INR25b for Discoms.**

The other key factor for accelerating losses was steep ST prices in FY08-10, led by the general elections in FY07-08. ST volumes grew ~2x from FY07 levels of 31BUs to 67BUs in FY10, while the total cost of ST power purchase rose from INR116b in FY07 to INR318b in FY10 – an increase of ~3x. This led to mounting losses for Discoms and was followed by a financial crunch as working capital availability was squeezed by financial institutions.

The grid collapse (2012) and subsequent reduction in carrying capacity further diminished ST open access and thus ST prices continued to subside. Despite this, the total ST trading market in value terms stood at INR354b in FY13, up from INR153b in FY08. ST power procurement as a percentage of power purchase cost for Discoms increased from 9% in FY08 to 14.5% in FY10, before moderating back to 9.5% in FY13.

Exhibit 24: ST volume growth slowed post FY10...

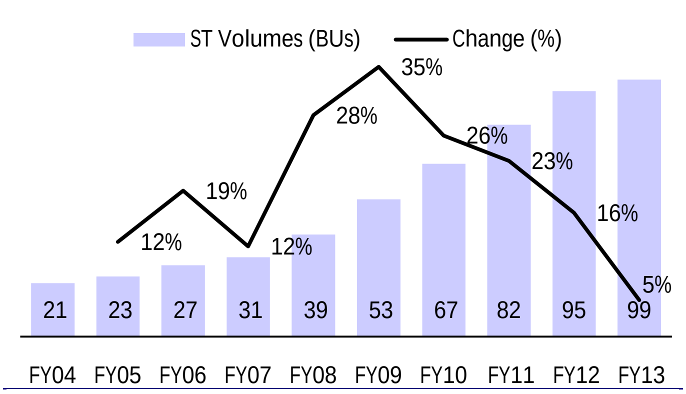
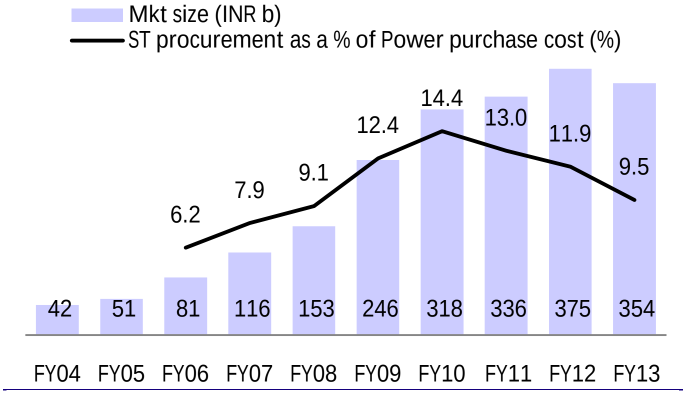


Exhibit 25: ...as also share of ST cost in purchase cost

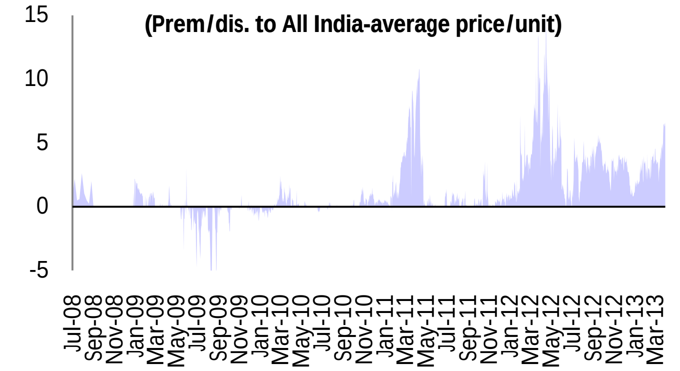


Source: CEA, MOSL

Another vital factor is the premium in ST prices prevailing in the Southern region. We note that while average ST prices declined in other regions, the premium in Southern region continued, driving losses for Southern states like Andhra Pradesh, Tamil Nadu, Karnataka etc. Southern region accounted for 40% of the total commercial losses in FY13.

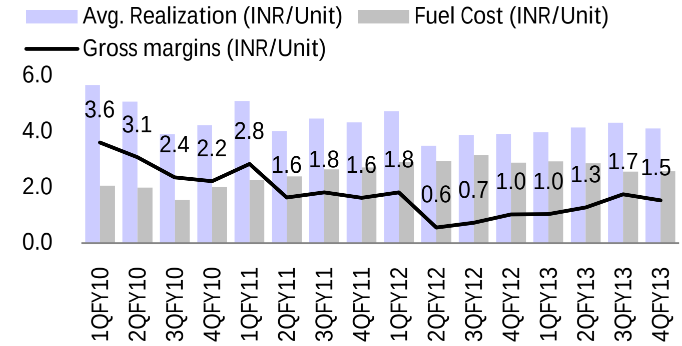
However, a key bottleneck in interlinking the southern grid is now addressed with the commissioning of Raichur-Solapur line. While the current ramp-up of carrying capacity is gradual, the increase in availability of power under LTPPA at competitive rate would help lower the premium in Southern region. ST prices in the region are then likely to converge to the national average.

Exhibit 26: Southern grid premium still high



Source: IEX

Exhibit 27: JSWEL's gross margin remained strong



Source: Company, MOSL

Course correction: ST prices may mirror LT tariffs

ST trading is vital for sustenance of the system as a whole and thus inevitable. While we comprehend the point, we believe that ST market may sustain but tariffs may mirror LT tariffs under PPA, maybe with a slight premium. We note that an INR0.25/unit decline in average ST prices on 100BUs of ST volumes could improve the power purchase cost by INR25b.

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