

## CHAPTER 5

**Data Analysis : Investment Decisions made by IPPs  
& Views under current uncertainty****5.1 Introduction**

This section captures the views of experts on how investment decisions are made by Independent Power Producers in Indian power sector and the nature of current uncertainties faced by Developers. It also seeks to assess whether there is appetite for fresh investment now and also examines whether Real Option Theory could have helped Developers in building up certain flexibility in design which could be use under today's uncertain circumstances. Qualitative data collected through various interviews were analyzed through framework analysis.

**5.2 Views of Developers/ Consultants/ Banker**

Depth interviews were conducted with 5 renowned Developers (IPPs), 3 leading Consultants in power sector, 1 Industry Association and 1 renowned Banker.

The interviews and subsequent analyses were conducted following "Framework Analytic Approach" (Ritchie & Spencer, 1994). Transcriptions were made and interesting segments of texts were highlighted. These text responses were read through to look for patterns and/or themes emanating. Themes and responses were charted.

*Table 5-1: Interview Chart I.-Investment criteria used during investment*

Themes	Respondent	Responses	Recurrent themes & emerging issues	Mapping & interpretation
<b>Criteria used</b>	Developer 1	DCF Based (IRR)	<ul style="list-style-type: none"> <li>• Developers mostly use discounted cash flow method</li> </ul>	
	Developer 2	DCF Based (IRR)		
	Developer 3	Sometimes IRR but other criteria are also used. Sometimes projects are undertaken for social causes as well, recovering only cost.	<ul style="list-style-type: none"> <li>• Internal Rate of Return.</li> </ul>	
	Developer 4	DCF Based (IRR)		
	Developer 5	IRR		Investors: IRR
	Consultant 1	IRR for promoter – DSCR for lenders		
	Consultant 2	IRR		
	Consultant 3	IRR		
	Industry Asscn 1	DCF Based (IRR)		
	Banker	Lenders – DSCR (Repayment capacity)	<ul style="list-style-type: none"> <li>• Lenders prefer DSCR</li> </ul>	Lenders: DSCR

<b>Hurdle rate</b>	Developer 1	Around 14%	<ul style="list-style-type: none"> <li>Hurdle rate used to be 12% to 14% in 2008. Now extremely wary of new investment unless it has major strategic fit. Hurdle rate not lower than 22% now.</li> </ul>	12%-14%	Effect of uncertainty
	Developer 2	Around 13%			
	Developer 4	12%-14%			Results in 40% increase in IRR (Hurdle Rate) $\geq 1.2$
	Developer 5	12%-14%			
	Industry Asscn 1	12%-13%			
	Banker	DSCR 1.2 or Better	<ul style="list-style-type: none"> <li>One large international power investor pointed out that the recent change in fuel policy is really unsettling. They have decided not to invest in India</li> </ul>		

Sample Quotes:

1. “Global investors’ (LPs), equity returns expectation from a diversified, risk-balanced portfolio is in the range of 10-12% (in US \$ terms).” –Consultant
2. “You see ,we are in the business for a very long time almost 100 years. And the criteria from the very first project with XXX’s [Group name] took over in the field of power generation was to serve the humanity – provide power at reasonable rates and clean power and in abundance. That was the guiding philosophy and even now we are continuing with that.” – Developer
3. “We cannot invest for a social cause. We should have some margin – then the social cause comes.” –Another Developer
4. My response to your question that as we representing international investors – how we really view changes that are taking place in the fuel policy – is basically really unsettling the investment sentiment and the whole basis of investment is getting totally vitiated..”  
Developer

Table 5-2: Interview Chart II - Major uncertainties now being faced

Themes	Respondent	Responses	Recurrent themes & emerging issues	Mapping & interpretation	
<b>1) Major areas of Uncertainty</b>	Developer 1	Fuel supply			
		Market issues			
	Developer 2	Policy inconsistency issue (Shared detailed data)			
		Market issues			
	Developer 3	Fuel supply	• Fuel Supply		
		Market issues	• Market Issues		• <b>Fuel uncertainty</b>
	Developer 4	Policy and Contract issues			
		Fuel supply	• Policy & Contract issues		• <b>Market uncertainty</b>
	Developer 5	Market issues			
		Policy and Contract issues			
	Consultant 1	Fuel & Market issues			
		Fuel supply			
	Industry Asscn 1	Market issues			
		Transmission bottleneck			
		Policy & Regulatory issues			
Fuel supply					
Market issues					
Banker	Legal				
	Policy issues				
	Fuel supply				
	Market issues				
		Policy issues			

<b>THEMES</b>	<b>RESPONDENT</b>	<b>RESPONSES</b>	<b>RECURRENT THEMES &amp; EMERGING ISSUES</b>	<b>MAPPING &amp; INTERPRETATION</b>
<b>2) Appetite for fresh investment in Indian power sector</b>	Developer 1	Only in Renewable (Not in conventional)		
	Developer 3	Primarily in Renewable, exceptionally in Conventional		
	Developer 5	Conventional – Normally No (Unless it has a strategic fit. Will require 20%-22% Hurdle Rate )	Fresh investments unlikely	<i>Unlikelihood of fresh investment</i>
	Consultant 1	Unlikely		
	Consultant 2	Unlikely		
	Industry Asscn 1	Not at this Stage		
	Banker	Lenders would not like <sup>27</sup>		

**Sample Quotes:**

1. *“Stranded assets situation in power sector is very scary; the extent of stranded assets is phenomenal. To me it is the collective failure of the stakeholders including IPPs. In fact the maximum blame is to be taken by IPPs and my experience in India is that most developers don’t really price the risk that are associated with the business. They have under played the risk and then over committed and then over stretched their balance sheet and coupled with the Government policy changes and uncertainty of regulatory regime, have all added to the situation which should have been avoided if everyone was more diligent in their approach. Not only IPPs, I feel Banks also have to take significant blame on this account.” – Developer*
2. *“Investment in Thermal Power Plants are long term investments and investment decisions need to take care of expectations/ concerns of both promoters as well as the investing bankers. Investors have to look for long term returns and thus IRR is normally treated as a good evaluation metric.” – Consultant*
3. *“You can see, XXX as international investor in this scenario, we have done one investment and thereafter have not looked for more. ...Yes, we would look at things again if we get comfortable about the certainty – regulations, policies and sanctity of contracts and the commitments that are given by the Government..” – Developer*

**Table 5-3: Interview Chart III.Could application of ROT have helped**

RESPONDENT	RESPONSE SE	RESPONSE	RECURRENT THEMES & EMERGING ISSUES	MAPPING & INTERPRETATION
Developer 1	No	Reasons Flexibility in fuel would not have helped – oil/ gas far costlier. Flexibility would have capital cost (shared numbers) entailed – projects would have been more unviable today Conversion/Mothballing/ relocation do not help under current situation	1. Generally No 2. Fuel flexibility building would not have helped – oil and gas far costlier 3. In any case, flexibility building would have had additional Capex impact – projects would have been more unviable today	<i>Application of ROT would not have helped</i>
Developer 2	No	No flexibility could have helped today, Fuel & capex issues as above		
Developer 3	No			
Developer 4	No			
Consultant 1	No	No flexibility could have helped today, Fuel & capex issues as above		
Consultant 2	No			
Industry Assen 1	No	No flexibility could have helped today, Fuel & capex issues as above		

**Sample Quotes:** *The options available were very limited....Even if we had thought of that particular issue, having some built in cushion for mitigation of that element would have increased the price and we would not have been competitive in selling our product to the various state electricity boards in a fiercely competitive regime – Developer .*

### 5.3 Investment Appraisal Criteria

Generally on investment appraisal techniques, the developers were seen to be relying on discounted cash flow method (Internal Rate of Return). Head of a leading Group having large investment in power indicated that Hurdle Rate used to be 12%-14% around the year 2008. Because of the uncertainties, investors are extremely wary acquiring any thermal asset now. Only if the project is synergic with the existing business or diversification philosophy, that is, if it has a strategic fit, such assets will be considered, but not at a Hurdle Rate lower than 20-22% because of the perceived risk. A large global consultancy group indicated that Investment in TPPs are long term investments and investment decisions need to take care of expectations/concerns of both promoters as well as the bankers. Investors have to look for long term returns and thus IRR is normally treated as a good evaluation metric. Generally IRR of 18-20 percent is treated as acceptable. The bankers on the other hand are interested in evaluating the repayment capacity and therefore use debt service coverage ratio (DSCR) as the measuring parameter. Generally DSCR of 1.2 or more is treated as acceptable.

Another leading International Consultant opined that the regulatory concept of ROE in India is “profits grossed up for taxes divided by the equity invested in the project should be at least “Reasonable Return”. This concept does not take into account “time value of money” which internal rate of return (IRR) does. According to him, “Internal rate of return (IRR) measures the level of annual return over the life of an investment, whereas return on equity (ROE) measures the return over each accounting period.” Power developers, while developing projects essentially look at viability from an IRR perspective. Since conventional power projects take a long time to commission and return

is realized over an even longer period of 20-30 years, the ROE typically translates into a lower IRR.

However, a leading investor group in India pointed out that their investments were not predicated on so to say, only Return on investment philosophy (Investment Outcome) but were guided by societal responsibilities as well (Development Outcome).

One large international power investor pointed out that “the recent change in fuel policy is really unsettling for the investment sentiment in India because the earlier investment got totally vitiated. Policy uncertainty is an important aspect as also sanctity of contract.” This international group made one investment and thereafter have not looked for more. On project appraisal criteria, the Group indicated that they follow a number of them amongst which the most significant is Discounted Cash Flow. Whenever investments are made as a foreign investor, they need Return – only way they can get Return is by way of Dividend. Depending on prevalent situation, the company at its discretion uses various discounting factors. They further indicated that they do consider Real Option Theory in some markets under certain circumstances. The strategy is to make the business anti-fragile.

## **5.4 Overview Of Current Uncertainty In Power Sector For The Power Plant Developer**

### **5.4.1 Private Sector Participation & Projects at risk under current uncertainties**

Most of the Interviewees indicated that the following uncertainties are currently weighing heavily on the fate of the investments made:

- a) Fuel uncertainties and
- b) Power Market Issues



The new business framework brought in by 2003 Act and policies framed thereunder received considerable interest from the private sector. Concept of Merchant Power Developers (Power Generators who do not go in for long term power sale contracts) was discussed at policy level and all necessary support was assured by Central Electricity Authority, GOI (2007). Assurance of the Government was provided regarding the following to the prospective private sector investors in generation market on (Bhattacharyya, Dhingra, & Sengupta, 2016):

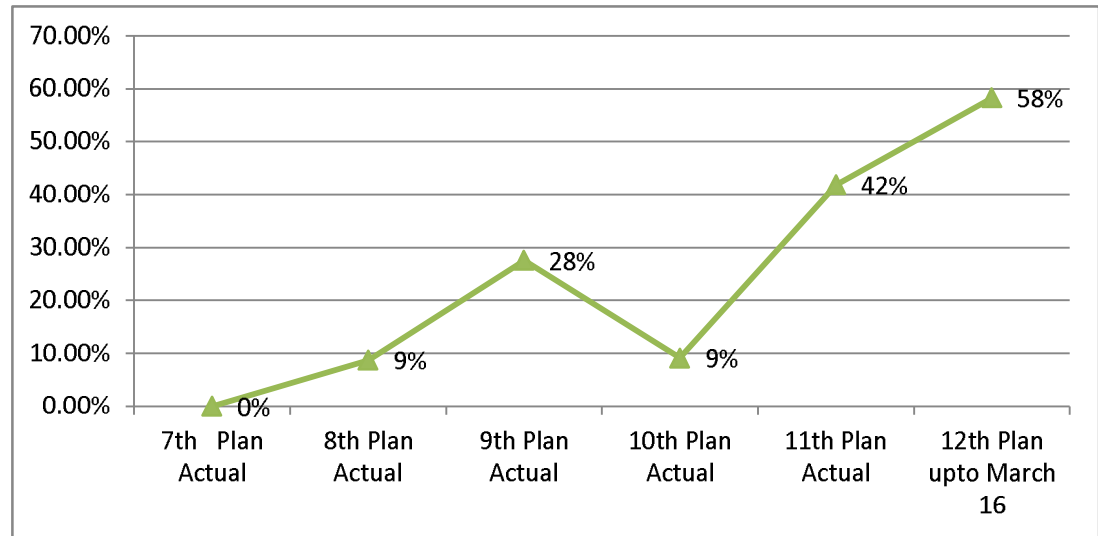
- (1) Concessional domestic fuel (linkage will be granted)
- (2) Wholesale and Retail market will be opened up and created for these power generators
- (3) State Government support for land, water and other infrastructure.

Power shortages in most of the States (all India Energy shortage 11% and Peak power shortage 12% in 2008-09), a well-developed wholesale market in the form of two functional power exchanges, inspiring National Electricity Policy and National Tariff Policy, and assurance from the Government on fuel support and retail market opening, had encouraged a number of entrepreneurs in setting up power plants of fairly sizeable capacity including merchant plants. Availability of credit facility had also encouraged setting up the plant quickly. Contribution of private sector during 11<sup>th</sup> Plan & 12<sup>th</sup> Plan grew far larger compared to about 10% in earlier plan periods.

**Table 5-4 Plan period wise capacity addition<sup>28</sup>**

	Total Addition	Private Sector
<b>11<sup>th</sup> Plan</b>	54964 MW	23013 MW (41.86%)
<b>12<sup>th</sup> Plan (upto March 16)</b>	84991 MW (Mar.16)	49557 MW (58.31%)

<sup>28</sup> CEA, *Executive Summary, Power Sector, December 2015 & March 2016*



**Figure 5-1: Private Sector Contribution – Capacity Addition – 7th Plan to 12th Plan**

#### 5.4.2 Uncertainty in the context of fuel supply to new plants

All the Developers and experts indicated that in a significant move (Model Fuel Supply Agreement, 2013)<sup>29</sup> Government of India, suddenly

<sup>29</sup> “1.1 gg) “PPA” (Long Term) means the Power Purchase Agreement between the Power Generating Source and the power procurer(s), i.e. DISCOM(s) either directly or through PTC(s) who has/have signed back to back PPA(s) with DISCOMs for a period of 7 years and above. However, the same shall not be applicable for the portion which is sold under market driven price.”

And,

“14.0 Suspension of coal supplies

(d) fails to submit a Certificate (annual) from the State / Central Regulatory Authority as the case may be to the effect that the DISCOM(s) have received consistent supply of power from the power producer in case of a direct PPA(s) or from the PTC(s) to whom the power producer has supplied the power to be supplied to the DISCOM(s) under the PPA.”

Press Release – CRISIL, 28 July 2015; - CRISIL today said “46,000 mw of power projects are facing viability issues due to lack of long-term buyers for electricity, inadequate fuel supply, and aggressive bidding to win projects and coal blocks.

Of this, 36,000 mw are coal-based projects within which tariff under-recovery has impacted 20,000 mw of capacities, while the rest are reeling because of inadequate feedstock and poor electricity offtake by discoms. And 10,000 mw of gas-based projects have become unviable because of dwindling fuel supplies from the Krishna-Godavari basin.

Says Pawan Agrawal, Chief Analytical Officer, CRISIL Ratings: “Total loans to these stressed generation projects are currently about Rs.2.1 lakh crore. A sixth of it, or about Rs.35,000 crore, is for projects which have the cushion of a strong parent. Additionally, projects with loans of Rs.1 lakh crore could become viable if their payment profiles can be structured appropriately. This leaves the remaining Rs.75,000 crore of loans at risk.”

Another Rs.1.9 lakh crore of debt is owed by weak discoms for which moratorium on principal repayment – based on a financial restructuring package (FRP) announced in 2012 – ends in the current and next fiscal. Till date, government support has prevented these discoms from turning weak. Assurance of continuing financial support is necessary else this debt, too, can be at risk.”

imposed prohibition for coal supply to power developers who do not have long term contracts with power distributing licensees. MOC, in according coal linkage for the projects earlier, did not put this condition in the Clearance or LOA based on which developers made significant investments. This subsequent prohibition brought in major uncertainty for a number of developers who made such investments on market based merchant power plants following Government policy of developing power market for promoting competition. India is a country where Government controlled monopoly Coal India Ltd. control the domestic market and alternate source for securing stable coal supply is practically non-existent. Import and e-auction routes for coal supply are fraught with uncertainties relating to inconsistent supply, price volatility and lack of consistence in movement logistics. Additionally, the price differential is large vis-à-vis coal supplied by Coal India under administered pricing regime.

It is thus evident that there has been a major change in Fuel supply conditions made by GOI and such change came after investments had been made by the Developers. These changes were adverse and Non-availability of Indian Domestic coal through “Linkage” route will impinge on the cost of power generation in a major adverse way.

A total of 108000 MW capacity was having Letters of Assurance. MOP, GOI requested Ministry of Coal in a communication of August

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“After the FRP, states and discoms did not follow through fully with measures to improve financial discipline and commercial orientation. The FRP, thus, provided only a liquidity respite. Discoms will continue to face liquidity pressure till there are appropriate tariff hikes and a significant reduction in aggregate technical and commercial (AT&C) losses from the current level of 25.4%.

CRISIL believes significant efforts to augment domestic coal production and improvement in the ability of discoms to sign long-term PPAs are critical going forward.

While the government has taken some positive steps to improve fuel availability through coal block auctions and gas subsidy, these provide only limited relief and the plant load factor of capacities commissioned after fiscal 2009 will remain sub-optimal at 45%.

And if discoms remain financially fragile and stay away from signing power purchase agreements (PPAs), capacities at risk will increase.”

2015 to take necessary action for signing FSA for these plants on their commissioning and becoming eligible for drawal of coal so that these assets would not become stressed for want of fuel.<sup>30</sup>

The following table illustrates the position (FICCI Sub Group, August 2016)

**Table 5-5 Capacity without PPA/ Coal**

		<b>Without PPA</b>	<b>Without Coal</b>
Already commissioned (A)	45126 MW	14014 MW	17410 MW
In pipeline (Not yet commissioned) (B)	33180 MW*	28265 MW (85%)	13410 MW (39%)
Total (A) + (B)	78306 MW	42279 MW	30820 MW

*\*Includes :Under Construction....14025 MW  
On Hold....19155 MW*

<sup>30 30</sup> The Press Information Bureau made the following announcement with regard to coal linkages to Private Companies on 3<sup>rd</sup> March 2016. As per New Coal Distribution Policy (NCDP), 2007, Standing Linkage Committee (Long-Term) [SLC (LT)] is authorized to recommend the Letters of Assurance (LOAs) for supply of coal. Based on the SLC (LT)'s recommendation, so far 177 LOAs have been issued to various power plants including Central/State Government Sector as well as IPPs (Independent Power Producers i.e., private companies) covering capacity of 108000 MW. Out of this 1,08,000 MW capacity, the competent authority in 2013 had approved signing of Fuel Supply Agreements (FSAs) in respect of 78,000 MW capacity power plants which have been commissioned or are likely to be commissioned by 31.03.2015. This was stated by Sh. Piyush Goyal, Minister of State (IC) for Power, Coal & New and Renewable Energy in a written reply to a question in the Lok Sabha today. The Minister further stated that it was further decided that coal may also be supplied to power plants of 4660 MW capacity and other similarly placed power plants that do not have any fuel linkage subject to the availability of coal and on the condition that such supplies would not adversely impact the availability of coal for the identified plants of 78,000 MW capacity as per the approval accorded and other LoA holders. A Presidential Directive to this effect was issued to Coal India Limited (CIL) on 17.07.2013. The power projects of the remaining capacity of 30,000 MW are yet to be authorized for signing of FSAs. Keeping in view the negative coal balance reported by subsidiary coal companies of CIL, new linkages/ Letters of Assurance (LoA) have not been granted to any of the sectors since 2010, the Minister added.

The Minister further stated that the coal linkages/LOAs issued to the Power Producers are converted into Long Term Fuel Supply Agreements after achievement of prescribed milestones. The consumers under the FSA are supplied coal at the price notified by CIL from time to time. This applies to the regulated sectors (like Power Utilities including IPPs, Fertilizers, and Defence). For non-regulated sectors (like sponge iron, cement, steel, Captive Power Plants and other industries), CIL charges a price which is about 35 % higher than the notified price”

### Mine Auction

According to some of the interviewees, auction of coal mine for power sector was aimed at augmenting power production and providing coal to the sector for power consumers benefit at large. Certain conditions were accordingly stipulated in the Bidding Documents as to the recovery of costs for mining. Since all the nine mines auctioned for power sector were of “Reverse then Forward” bidding, the bidders are not allowed to recover from power consumers the mining cost and the additional premium they offered to the Government for securing these mines. Since production at mines will entail significant under-recovery of cost, it remains to be seen how far production is sustained by the successful bidders.<sup>31</sup>

**Table 5-6: Successful Bidders – Auction of Mines for Power Sector**

S. No	Coal mine	Allottee	Fixed rate for power to be sold under PPAs (in ` per tonne)	Additional premium (in ` per tonne)
(A)	(B)	(C)	(D)	(E)
1.	Talabira-I	GMR Chhattisgarh Energy Limited	100.00	378.00
2.	Sarisatolli	CESC Limited	100.00	370.00
3.	Trans Damodar	The Durgapur Projects Limited	100.00	840.00

<sup>31</sup> **“Scenarios of Recovery of Costs**

<b>Scenario I: Reverse bidding</b>	(a) The final price offer (run-of-the-mine cost, pursuant to which the successful bidder has received the vesting order); and; (b) The fixed rate <sup>17</sup> (Rs.100 per tonne)
<b>Scenario II: Reverse then forward bidding</b>	• The fixed rate (Rs.100 per tonne)

Audit noticed that all the nine mines of the power sector, auction of which had been successfully completed, were auctioned at additional premium ranging between Rs.202 per tonne and Rs.1,010 per tonne. Additional premium was not allowed to be charged from the power consumers under the ‘reverse then forward’ methodology with the objective of keeping the tariff low.” - Report of the Comptroller and Auditor General of India On e-Auction of Coal Mines Ministry of Coal Report No. 20 of 2016 (Compliance Audit)

S. No	Coal mine	Allottee	Fixed rate for power to be sold under PPAs (in ` per tonne)	Additional premium (in ` per tonne)
(A)	(B)	(C)	(D)	(E)
4.	Amelia North	Jaiprakash Power Ventures Limited	100.00	612.00
5.	Tokisud North	Essar Power MP Limited	100.00	1010.00
6.	Jitpur	Adani Power Limited	100.00	202.00
7.	Mandakini	Mandakini Exploration and Mining Limited	100.00	550.00
8.	Ganeshpur	GMR Chhattisgarh Energy Limited	100.00	604.00
9.	Utkal – C	Monnet Power Co. Limited	100.00	670.00

(Source: Report of the Comptroller and Auditor General of India  
On e-Auction of Coal Mines, Ministry of Coal Report No. 20 of 2016)

#### 5.4.3 Effect of Uncertainty in fuel supply

Thus, currently, large number of plants are facing a major challenge because of uncertainty in fuel supply.<sup>32</sup> Commenting on the dismal

<sup>32</sup> CRISIL today said “46,000 mw of power projects are facing viability issues due to lack of long-term buyers for electricity, inadequate fuel supply, and aggressive bidding to win projects and coal blocks.

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Another Rs.1.9 lakh crore of debt is owed by weak discoms for which moratorium on principal repayment – based on a financial restructuring package (FRP) announced in 2012 – ends in the current and next fiscal. Till date, government support has prevented these discoms from turning weak. Assurance of continuing financial support is necessary else this debt, too, can be at risk.

After the FRP, states and discoms did not follow through fully with measures to improve financial discipline and commercial orientation. The FRP, thus, provided only a liquidity respite. Discoms will continue to face liquidity pressure till there are appropriate tariff hikes and a significant reduction in aggregate technical and commercial (AT&C) losses from the current level of 25.4%.

CRISIL believes significant efforts to augment domestic coal production and improvement in the ability of discoms to sign long-term PPAs are critical going forward.”

picture of coal based power sector, Chairman of a global equipment manufacturer said “There is going to be a bloodshed (in coal-based power sector). You just wait and see..... is willing to construct, but not invest in the power sector,”

***Table 5-7 Project without coal source***

<b><i>Category</i></b>	<b><i>Capacity (MW)</i></b>
<b>Commissioned plants with coal source but without PPA</b>	12256
<b>Projects to be commissioned by March 2017 with coal source but without PPA</b>	20912
<b>Projects without coal source</b>	12570 (9450 MW is tied up)

Also, there are uncertainties relating to market demand and prices for the product.

#### 5.4.4 Uncertainty in Market Demand

A number of experts indicated that the developers are suffering from major uncertainties in market dealings.

Central Electricity Authority conducts Electric Power Survey (EPS) at periodic intervals to estimate future demand for electricity. Such projections are considered by the developers in order to take investment decisions. The projections have been generally higher than the actuals recorded later. Over-estimation of demand presented a better market outlook than what transpired through reality at a later date.

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“While the government has taken some positive steps to improve fuel availability through coal block auctions and gas subsidy, these provide only limited relief and the plant load factor of capacities commissioned after fiscal 2009 will remain sub-optimal at 45%.

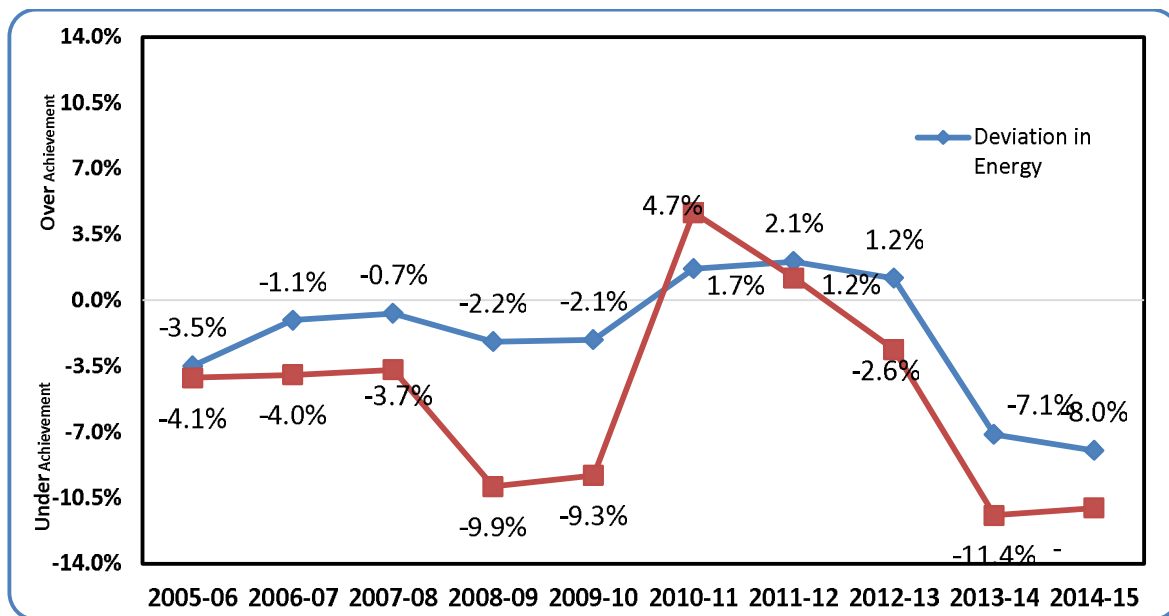
And if discoms remain financially fragile and stay away from signing power purchase agreements (PPAs), capacities at risk will increase.”

- Press Release, CRISIL, July 28, 2015

**Table 5-8: Power Survey Projections vis-à-vis Actuals<sup>33</sup>**

Year	Energy (MU)			Peak Demand (MW)		
	EPS Projections	Actuals	Over-achievement [(-)Under-achievement] in %	EPS Projections	Actuals	Over-achievement (Under-achievement) in %
2005-06	654603	631757	-3.5%	97269	93255	-4.1%
2006-07	697961	690587	-1.1%	104867	100715	-4.0%
2007-08	744515	739345	-0.7%	113059	108866	-3.7%
2008-09	794561	777039	-2.2%	121891	109809	-9.9%
2009-10	848390	830594	-2.1%	131413	119166	-9.3%
2010-11 <sup>1</sup>	847410	861591	1.7%	116841	122287	4.7%
2011-12 <sup>1</sup>	918280	937199	2.1%	128477	130006	1.2%
2012-13	986464	998114	1.2%	139104	135453	-2.6%
2013-14	1079270	1002257	-7.1%	153480	135918	-11.4%
2014-15	1161679	1068943	-8.0%	166577	148166	-11.1%
2015-16 <sup>2</sup>	1249462	1018261		180701	153366	

1. Revised estimates were made during finalisation of 18th EPS.
2. Actuals pertain to YTD figures upto February.

**Figure 5-2: Deviation of Actuals from EPS Projections**

Thus a span of 10 years, only for 8 years there were incidence of under achievement. This is causing problems of over capacity vis-à-vis demand.<sup>34</sup>

<sup>33</sup> Parliamentary Standing Committee on Energy noted (December 2016) that “overachievement of production target of electricity has been achieved only due to private sector and the state agencies could achieve only 56% of their target.” – Asian Age 25.12.2016



### 5.4.5 Implication of current situation on power market for Developers

Wholesale power market is experiencing subdued prices for quite sometime, which is not allowing the Developers to recoup even its fuel cost of sourcing coal from the market. On the other hand, insufficient bidding opportunities in the long term market precludes its possibilities for securing a sales contract which will qualify for FSA coal to flow in. Thus, from either side the Developers are severely constrained.

Share prices of these Companies/ holding companies have suffered major negative sentiment in the stock market progressively over last 6/7 years as illustrated by the following Charts.

#### Movement of Share Prices of Power Companies involved in capacity addition

***Figure 5-3: Share price movement: Jindal Steel & Power Limited***



<sup>34</sup> A press Report (DNA, 22.8.2016) suggests a vast majority of thermal power Units in Maharashtra have been shut down (Mahagenco) owing to absence of power demand in the State. Out of 27 power generating units, only 12 are being run currently.

**Figure 5-4: Share price movement: Reliance Power Limited**



**Figure 5-5: Share price movement: KSK Energy Ventures Limited**



**Figure 5-6: Share price movement: Adani Power Ltd**



***Figure 5-7: Share price movement: Lanco Infratech Ltd***



***Figure 5-8: Share price movement: GMR Infrastructure Ltd***



***Figure 5-9: Share price movement: GVK Power and Infrastructure Ltd.***

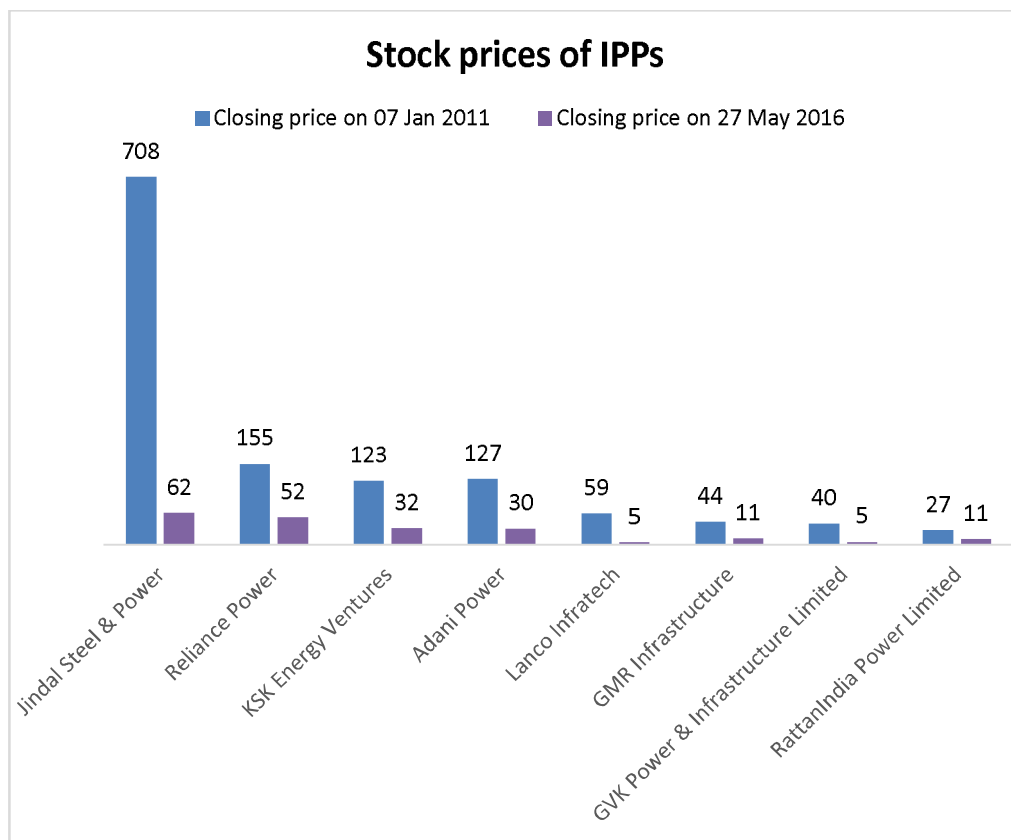


**Figure 5-10: Share price movement: RattanIndia Power Ltd**



(Source: NSE India)

**Figure 5-11: Stock prices of IPPs**



Large investment / cost stand sunk today with the entire construction work having been completed. Units have been commissioned, Plant is ready to supply but fuel supply will not commence unless the project wins long term contracts on power sale to Power Distribution Companies. This can be achieved only by placing lowest bids in the tenders to be invited by Distribution Companies. Unfortunately, adequate tenders are not being floated by Discoms. Selling power in any other forms of contract will not allow the plant to get coal supply.<sup>35</sup> The effect is palpable now and Economic Times reports that Singapore based Sembcorp Industries Ltd. waved a red flag on investor mindset for India,<sup>36</sup> with CLP India indicating that they would have to stop investing in coal fired plants.<sup>37</sup>

An invitation of Bids for taking over a 600 MW power project has recently been floated by IDBI Capital Markets & Securities Ltd.<sup>38</sup> GOI is also considering whether PSUs like NTPC and PFC can take over stressed power projects.<sup>39</sup>

The recent Draft National Electricity Plan (2017-2022) suggests that India does not need more coal based power capacity till 2022.<sup>40</sup> As per media report (Mint dated 15.12.16) this power plan sounds death knell for thermal capacities. Similar view has recently been expressed by

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<sup>35</sup> “Indicating the rising stressed assets in the power sector, the ratio of PFC’s gross NPAs to total loan assets stood at 3.15 per cent in FY16. The figure was 1.16 per cent in the previous year. .... According to PFC officials, the pipeline of big-ticket generation projects is empty. As for the portfolio of independent power projects based on conventional fuel, 18-20 Gw capacity is without any power purchase agreement. In the past five years, no generation project has achieved financial closure, according to market data.” Business Standard dated 5.9.2016

<sup>36</sup> Economic Times dated 7.12.2016 on India’s debt-laden power retailers seen scaring off global investors.

<sup>37</sup> Business Standard dated 26.11.2016 – We will have to stop investing in coal fired plants at some point.

<sup>38</sup> Source: Business Standard dated 24.10.2016 Invitation of Bids for taking over 600 MW power project.

<sup>39</sup> Source: Financial Express dated 24.10.2016 on PSUs roped in to save 25-GW power units

<sup>40</sup> CEA – Draft National Electricity Plan – December 2016

CII in its presentation to Ministry in November 2016.<sup>41</sup> Overall, the magnitude and extent of current uncertainties are large, wide and significant. Latest Economic Survey 2016-2017 also recognizes such plight of the IPPs in India.<sup>42</sup>

## 5.5 Conclusion:

This section captures the key findings out of the interviews with Developers/ Consultants/ Bankers on Investment Appraisal are as follows:

- (a) IRR is the most popular investment appraisal criteria for the Indian Independent Power Producers
- (b) Considerable uncertainty that currently exists around fuel and market issues have severely impacted viability of investments undertaken by IPPs in India
- (c) Developers feel keeping ROT in view earlier would not have helped in current uncertainty

It further goes on to discuss the major uncertainties faced by the Developers today. The following section would examine the implication of such uncertainties for the viability on the investments made.

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<sup>41</sup> CII – Need for Hiatus on capacity addition by State / Central Sector Generating Station, November 2016

<sup>42</sup> Finance Express dated 1.2.2017 ‘Union Budget 2017: Economic Survey shows outlook grim for power producers’