



White Paper – Reviving Stressed Power Assets

Conference on Stressed Power Assets at Hotel Hyatt Regency, Mumbai

Initiative By



Supported By



13th April 2017

Acknowledgements

We wish to acknowledge noble contribution of each and every industry stakeholders for this white paper on **“Reviving Stressed Power Assets”** and we take this opportunity to thank them. While working on engagements related to stressed power assets, we interacted with different stakeholders and each one of them had a point of view for resolution of power sector NPAs (~Rs 1 lac cr+). Need was felt to bring these stakeholders together and that was the genesis behind organisation of this event and white paper. We interacted with 20+ decision makers across banks, ARCs, special situation funds, IPPs, OEMs, solution providers and experts. We would like to thank each one of them for their learned inputs and constructive suggestions.

Further, we thank PFC esp Mr Chinmoy Gangopadhyay (Director-Projects) for their proactive support. We would like to thank SBICAP esp Mr Supratim Sarkar (EVP & Group Head – PA & SF), principle force in the country for infrastructure debt , for their unique insights.

It is our humble attempt to share our passionate thought process through this white paper on an issue of national concern. We hope that a small step, in terms of culmination of thoughts through this white paper, could start long journey of resolution of stressed power assets with all stakeholders marching in same rhythm and hope that it will light up million minds for proactive actions on revival of Stressed Power Assets in years to come .

Jai Hind!!!

Shardul Kulkarni, MD& CEO

Deesha Power Solutions

Extensive stakeholder consultation has been carried out

STAKEHOLDER NAMES (ALPHABETICAL ORDER)

A-K

1. Ambit Capital
2. AMS Shardul
3. AION Capital
4. ARCIL
5. AXIS Bank
6. CLSA
7. IDBI Capital
8. IDFC Alternatives
9. International ARC
10. Kotak Infra Fund

L-Z

11. L&T Capital
12. Large Infra Fund
13. PFC
14. Phoenix ARC
15. Procon Engineers
16. RattanIndia
17. Reliance Power
18. Rothschild
19. Tata Projects
20. International Utility

TABLE OF CONTENT



1. Executive Summary.....	04
2. Introduction.....	07
3. Power Sector Trends.....	09
4. Genesis Behind Stressed Power Assets.....	15
5. How big is the issue of Stressed Power Assets?.....	22
6. Stakeholder Consultation.....	25
7. Deesha Power Views	35
8. Annexure	
I. About Deesha Power.....	42
II. Abbreviations.....	50
III. References.....	51

- **Executive Summary**
- Introduction
- Power Sector Trends
- Genesis Behind Stressed Power Assets
- How big is the issue of Stressed Power Assets?
- Stakeholder Consultation
- Deesha Power Views
- Annexure

Deesha Power's white paper aims at discussing issues and magnitude of stressed power, stakeholder's views and our suggestions on way forward

EXECUTIVE SUMMARY (1/2)

- ✓ Deesha Power's white paper aims at discussing genesis of stress power in India, challenges for revival, stakeholder's views and way forward
- ✓ India's per capita electricity consumption is ~1/3rd of world per capita electricity consumption, implying great potential for power generation in India
- ✓ India's met demand and supply shortfall is ~1.7% for FY 17 (YTD); however with unmet demand the gap is expected to be higher
- ✓ India's peak power demand is expected to reach 235 GW and 318 GW by 2022 and 2027 respectively
- ✓ India, being 3rd largest carbon emitter, has ratified Paris protocol
- ✓ India's climate change commitments have resulted in steep increases in coal cess over the years
- ✓ Feedstock uncertainty, irrational exuberance of project proponent & lenders and moderation in industrial demand were some the reasons for stressed power
 - Policy paralysis on feedstock front has contributed to issue of stressed power assets the most
 - Easy availability of credit coupled with poor monitoring of asset quality aggravated issue of bad loans
 - Discom's loan outstanding as well as power purchase payables per unit sold are showing increasing trend
 - Among various consumer categories, growth of industrial demand was slowest during 2012-16
 - Poor project planning has been the root cause of the issue
- ✓ Bank industrial credit to power sector is the highest at ~21%
- ✓ Stressed assets, including restructured standard assets, of power sector were estimated at Rs 553 billion in FY16

Private sector needs to strategize for bringing requisite capital, innovative solutions and efficient management to tap the opportunity of stressed power

EXECUTIVE SUMMARY (2/2)

- ✓ Industry believes that feedstock policy coupled with wrong project planning were among the principle reasons behind the stressed power projects
- ✓ Lack of asset specific strategy and sectoral issues are the main challenges for revival
- ✓ Inability of lead lender to exercise step-in rights/equity control is one of the principle reason to initiate revival proceedings
- ✓ Banks are willing to consider project cash-flow specific haircuts in loan
- ✓ Mindset is the principle reason behind hesitation by banks to put NPAs on block for sale
- ✓ 32% of the respondents opined that 10-20% of total stranded capacity 50-70 GW could be revived
- ✓ Infra NPA bad assets bank along with a government stewardship could ensure structured revival process
- ✓ Deesha Power strongly believes that low hanging fruits may be identified and an exercise to develop asset specific strategy needs to be undertaken
- ✓ Part of clean coal cess could be allocated for giving grants to commission studies to develop asset specific strategies
- ✓ Infra ARC, having longer period for value unlocking, may be established
- ✓ Conducive policy and regulatory framework needs to be established for revival of stressed power assets
- ✓ Private sector needs to strategize for bringing requisite capital, innovative solutions and efficient management to tap the opportunity of stressed power
- ✓ Deesha Power, with it's proven capabilities, would be happy work with the relevant stakeholders to develop asset specific revival strategies or solution specific plans and facilitate its on the ground execution

- Executive Summary

- **Introduction**

- Power Sector Trends
- Genesis Behind Stressed Power Assets
- How big is the issue of Stressed Power Assets?
- Stakeholder Consultation
- Deesha Power Views
- Annexure

Deesha Power's white paper aims at discussing genesis of stressed power in India, challenges for revival, stakeholder's views and way forward

INTRODUCTION

- Stress level in Indian power sector has reached to alarming level on account of variety of reasons such as fuel policy related issues, excess/easy availability of credit, poor planning wrt matching supply with demand, moderation in industrial demand, poor health of discoms etc.
- Experts opine that such stressed capacity could be ~50-70 GW. In monetary terms, the same translates into blocked financial resources of Rs 3 lac to Rs 4 lac crores, which is ~3% of India GDP. This at the best could be termed as **“humongous waste of national resources”**.
- As a result, power sector has the highest share of Bank NPAs
- Through this white paper, it is a humble attempt of Deesha Power to discuss the issues and implications going forward
- Among others, this white paper would discuss genesis of stressed power, stakeholder's opinions and Deesha Power views for revival of stressed power assets

- Executive Summary
- Introduction
- **Power Sector Trends**
 - Genesis Behind Stressed Power Assets
 - How big is the issue of Stressed Power Assets?
 - Stakeholder Consultation
 - Deesha Power Views
 - Annexure

India's per capita electricity consumption is ~1/3rd of world per capita electricity consumption, implying great potential for power generation in India

INDIA VS GLOBAL PER CAPITA ELECTRICITY CONSUMPTION

Per Capita Electricity Consumption (2015)

Country	Electricity Consumption (kWh/capita)
India	1,010
Brazil	2,583
Russia	6,562
China	3,778
US	12,987
Japan	7,836
France	7,382
Germany	7,022
World	3,026

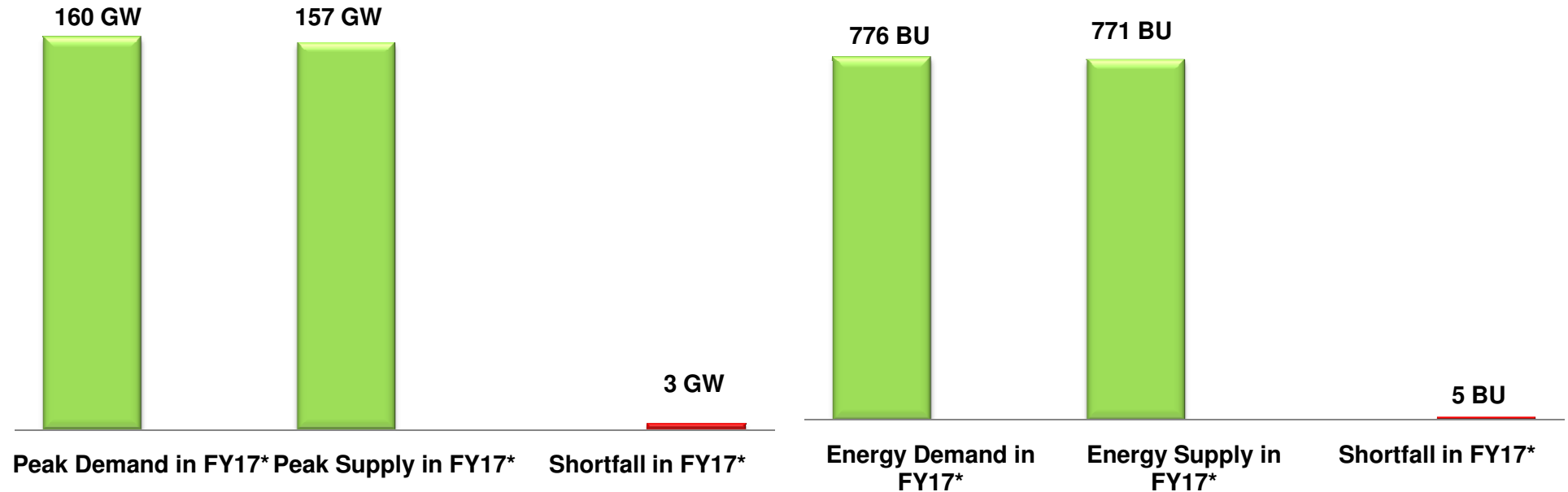
Comments

- The generation capacity, which was only 1,362 MW at the time of independence, has increased to 310,005 MW as on 31st December 2016
- Severe power shortages as consumption by commercial and industrial consumers has been increasing at much faster rate than electricity supply
- The per capita electricity consumption in India is lower compared to many countries despite cheaper electricity tariff in India.

Power Sector Trends

India's met demand and supply shortfall is ~1.7% for FY 17 (YTD); however with unmet demand the gap is expected to be higher

INDIA POWER DD-SS GAP



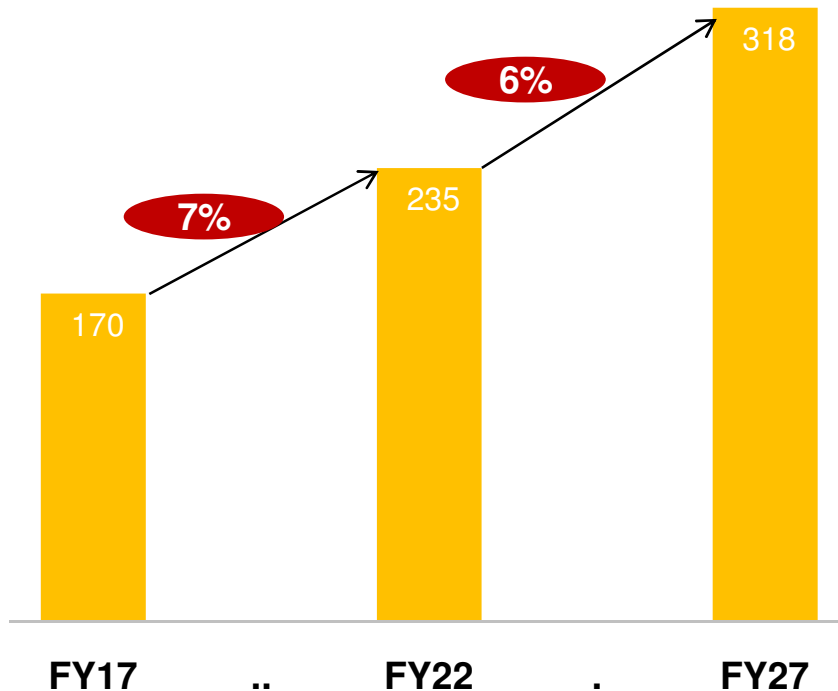
Comments

- Above demand figures represent met demand. In reality, there is a component of unmet demand
- Distribution utilities resort to load shedding rather than buying power from open market due to their precarious financial health
- Experts estimate actual demand (including unmet demand) could be in the range of 105-110% of met demand

India's peak power demand is expected to reach 235 GW and 318 GW by 2022 and 2027 respectively

INDIA PROJECTED POWER DD

India Peak Power Projections (GW)



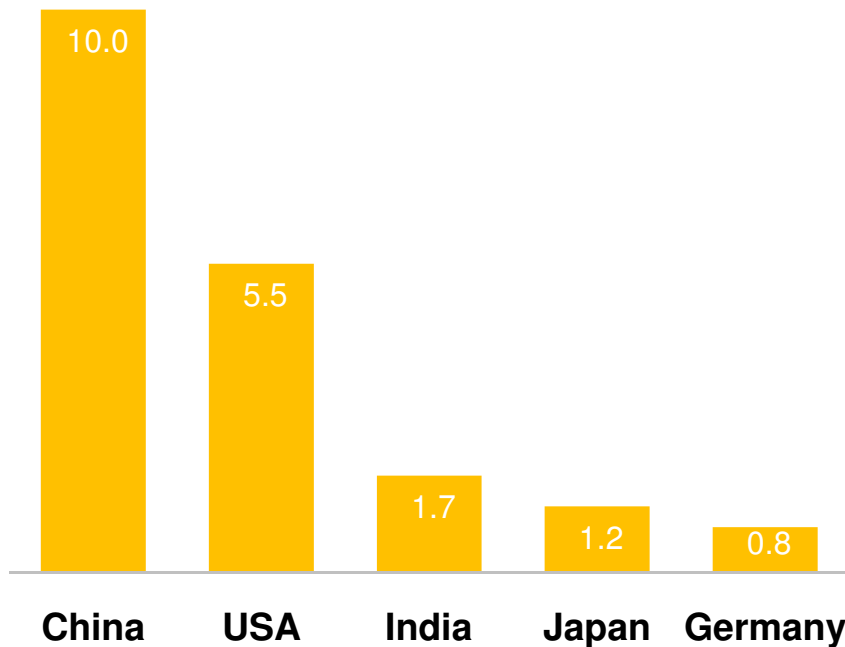
Comments

- As per draft National Electricity Plan, demand projections have been carried out using 4th and 3rd degree regression modelling
- Demand projection take into account impact of various EE/DSM measures to the extent of 9 GW and 12 GW for FY22 and FY27 respectively
- Further, the projections have been estimated with gradual shift of CPP demand to utility demand owing to better quality of power supply

India, being 3rd largest carbon emitter, has ratified Paris protocol

INDIA'S CARBON PHILOSOPHY

Carbon Emissions in 2011 (BN MT)

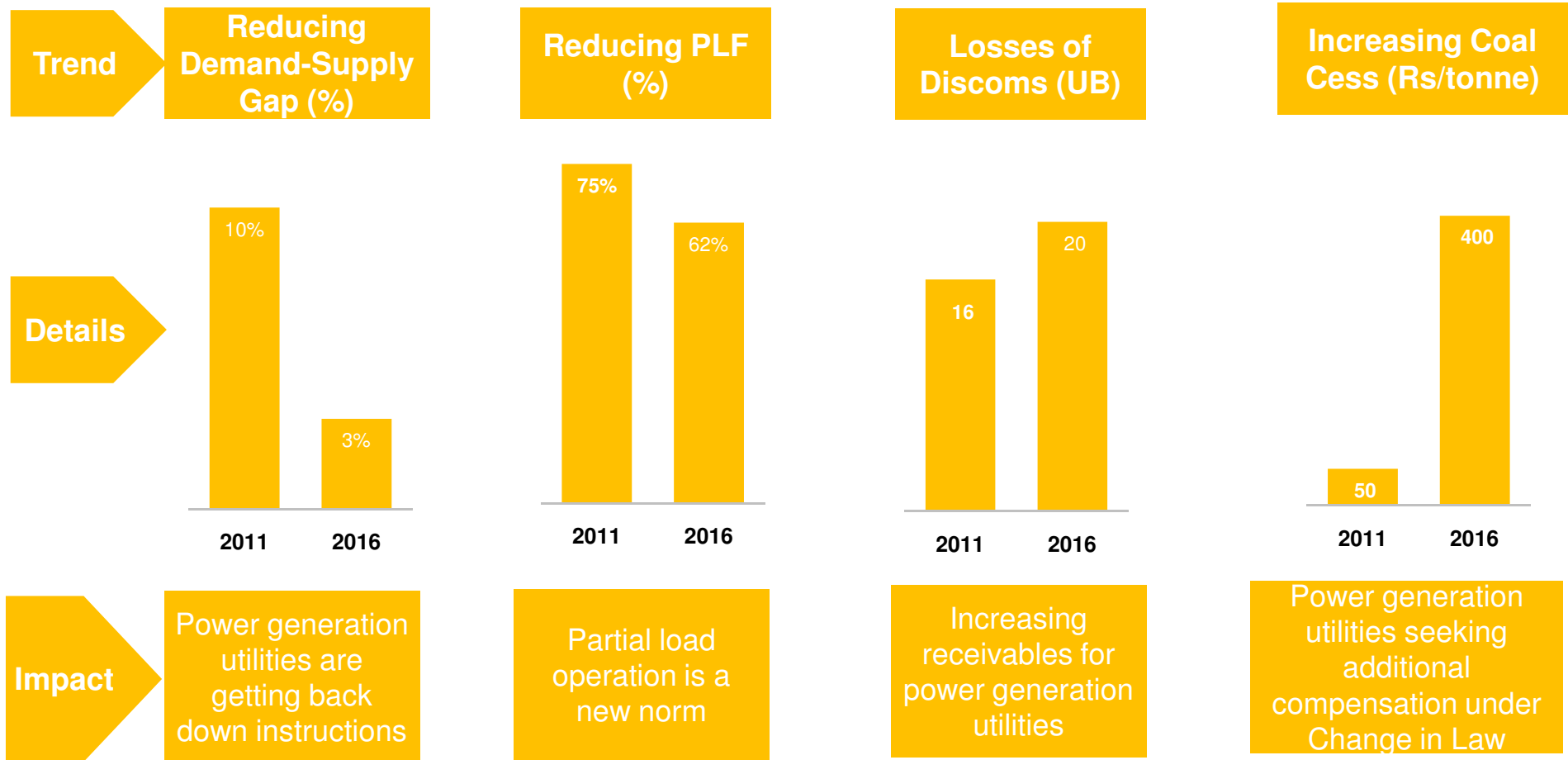


Paris Protocol

- Owing to the agreement, India plans to reduce its carbon emission intensity, i.e. the emission per unit of GDP, by 33-35% from what it was in 2005, by 2030
- India's plans to double annual production of coal to more than one billion tonnes remains a very controversial issue in view of its ratification to Paris Protocol
- The only way India could strike a balance is by introducing strict environmental compliance norms

India's climate change commitments have resulted in steep increases in coal cess over the years

TRENDS

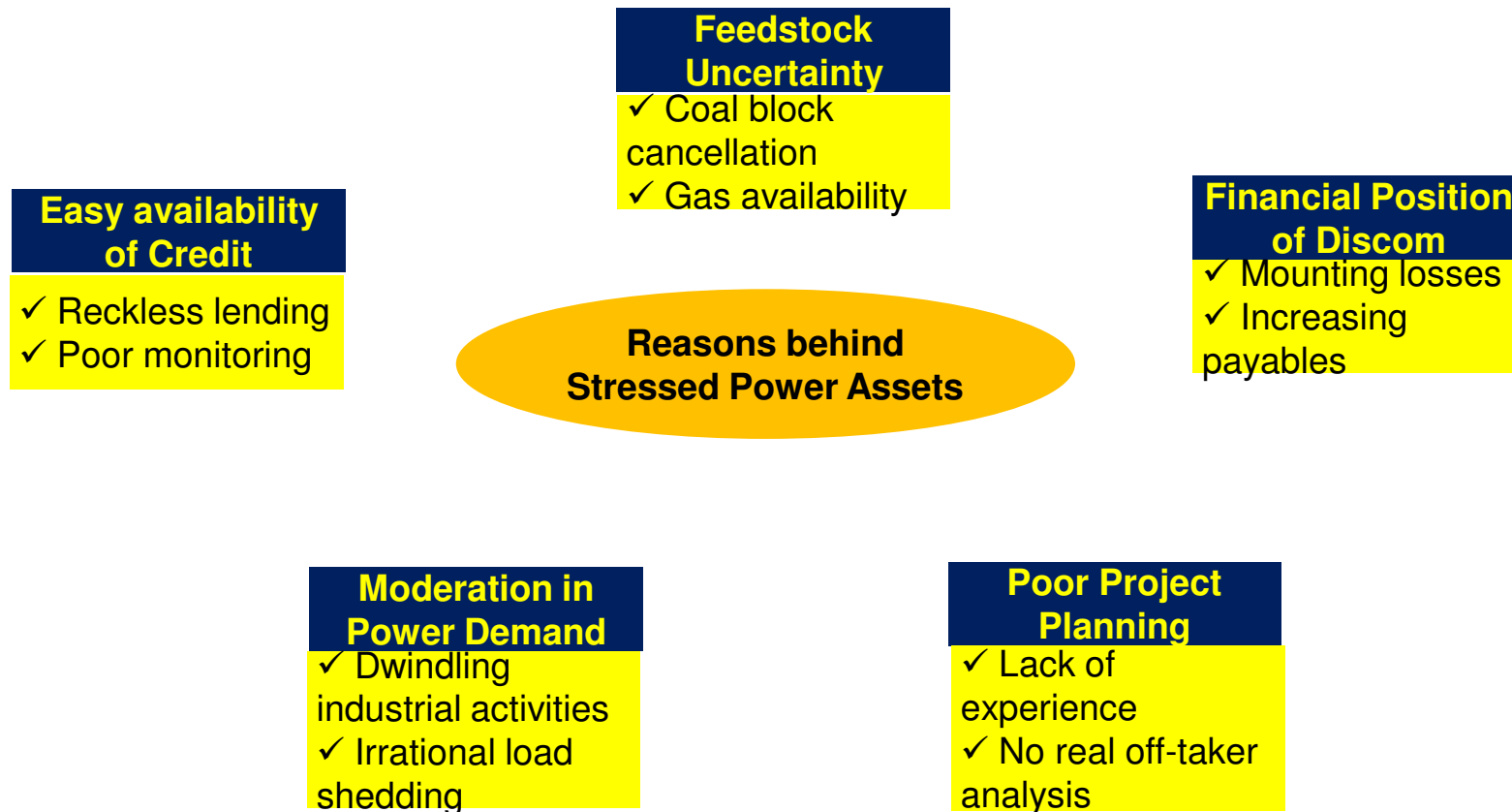


- Executive Summary
- Introduction
- Power Sector Trends
- **Genesis Behind Stressed Power Assets**
 - How big is the issue of Stressed Power Assets?
 - Stakeholder Consultation
 - Deesha Power Views
 - Annexure

Genesis behind Stressed Power Assets

Feedstock uncertainty, irrational exuberance of project proponent & lenders and moderation in industrial demand were some the reasons for stressed power

REASONS BEHIND STRSSED POWER ASSETS



Policy paralysis on feedstock front has contributed to issue of stressed power assets the most

FEEDSTOCK ISSUES

Coal

- Coal blocks were de-allocated after the Supreme Court judgement of 24th September 2014
- Pursuant to directives from Ministry of Coal (MoC), the tapering FSAs have been ceased
- Thanks to special efforts, coal availability has increased. However, in absence of firm mine allocation, TPPs are deprived from getting consistent coal quality with optimum landed cost
- There have been issues related to recovery of higher landed cost. On account this plus weak financial status of discoms, receivables position of TPPs have reached to alarming level
- States have been given allocation of coal mines. But there is hardly any visible progress to experiment tolling arrangement for converting this coal into affordable electricity for all

Gas

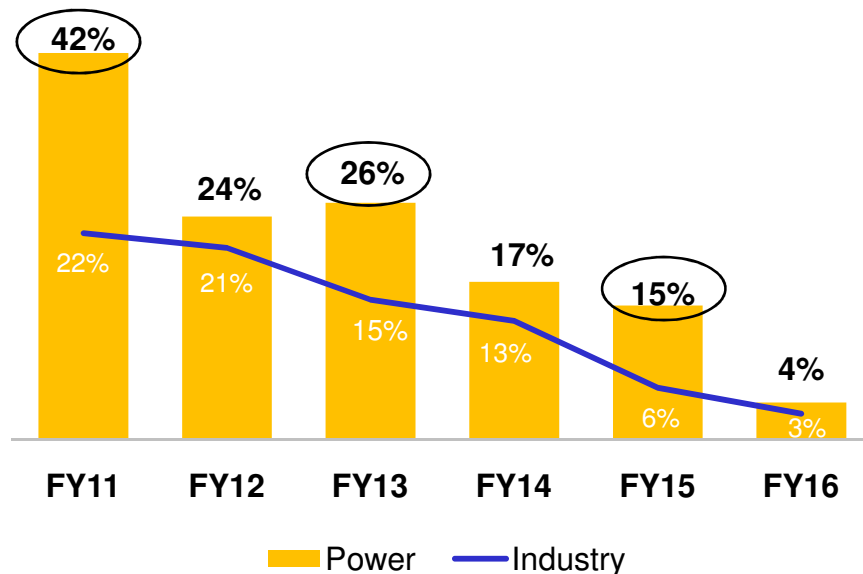
- Unlike coal, availability and pricing have been the issues associated with gas as a feedstock
- Availability at source and lack of pipeline infrastructure has worsened situation
- On account of the same, gas based capacity in India (~18 GW) is facing serious viability issues

Genesis behind Stressed Power Assets

Easy availability of credit coupled with poor monitoring of asset quality aggravated issue of bad loans

CREDIT AVAILABILITY

YoY Growth in Gross Bank Credit (%)



○ Relative High Growth Years as Compared to Industry

Comments

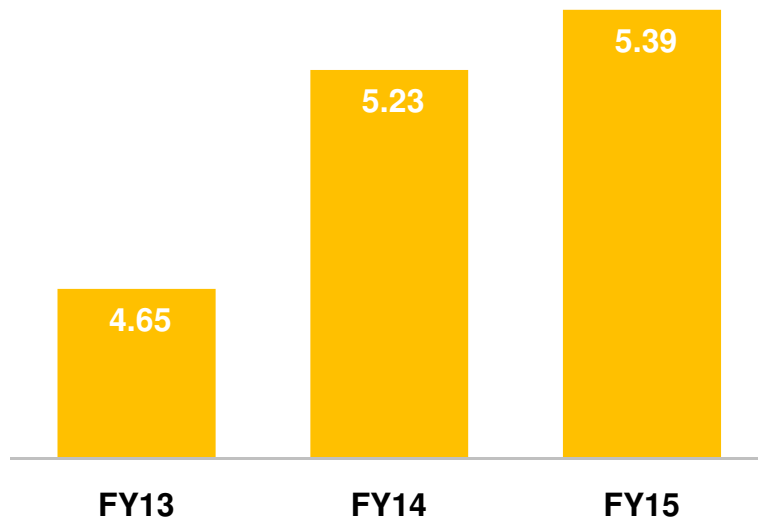
- Thanks to artificial low rates by Fed in US, easy money was available from abroad
- Power sector attracted certain pie
- Higher than normal access of credit to power sector was observed in FY11, FY13 & FY15
- Combined impact, power sector lending sky rocketed
- Existing monitoring failed to give warning bells once problem started
- Many a times, project progress facts were misrepresented
- Tight monitoring could have reduced severity of bad loan issue by atleast 30-40%

Genesis behind Stressed Power Assets

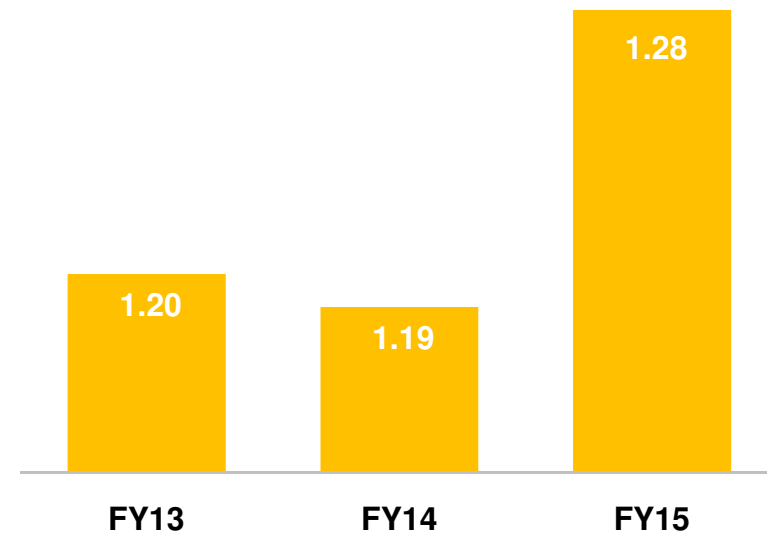
Discom's loan outstanding as well as power purchase payables per unit sold are showing increasing trend

FINANCIAL POSITION OF DISCOM

Discom Loan Outstanding (Rs/unit sold)



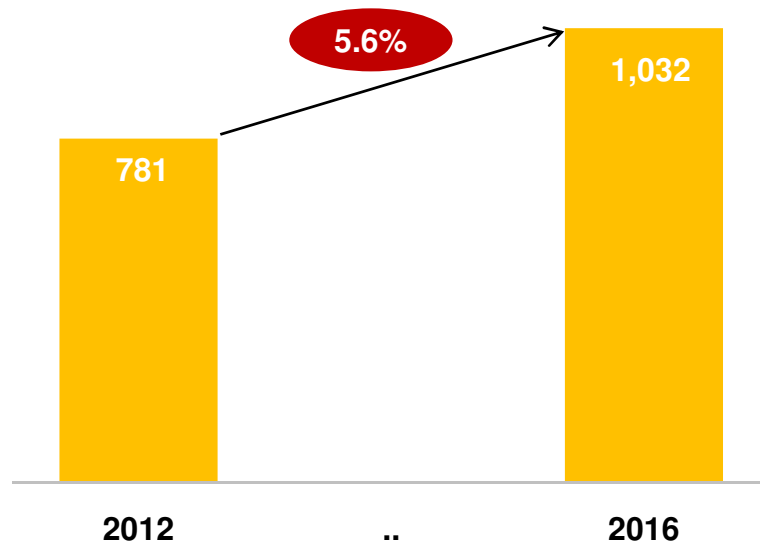
Discom PP Payables (Rs/unit sold)



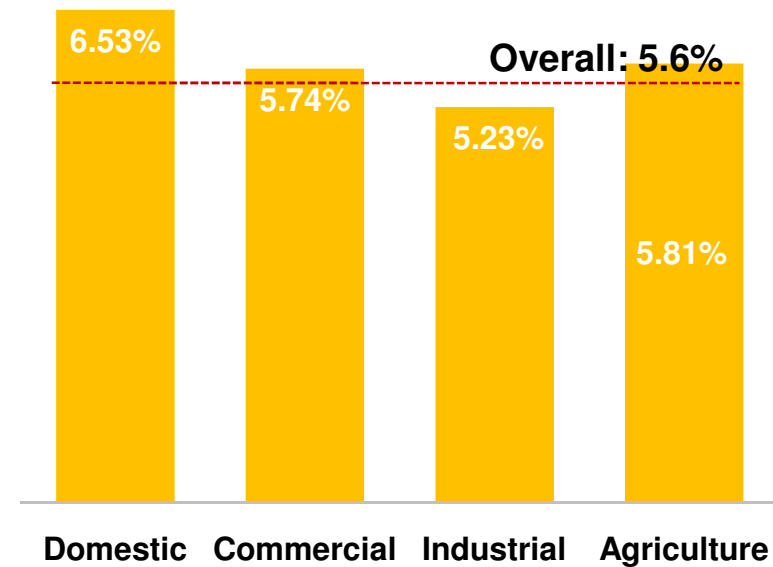
Among various consumer categories, growth of industrial demand was slowest during 2012-16

HISTORICAL POWER DEMAND GROWTH

Growth in Energy Consumption (BU)

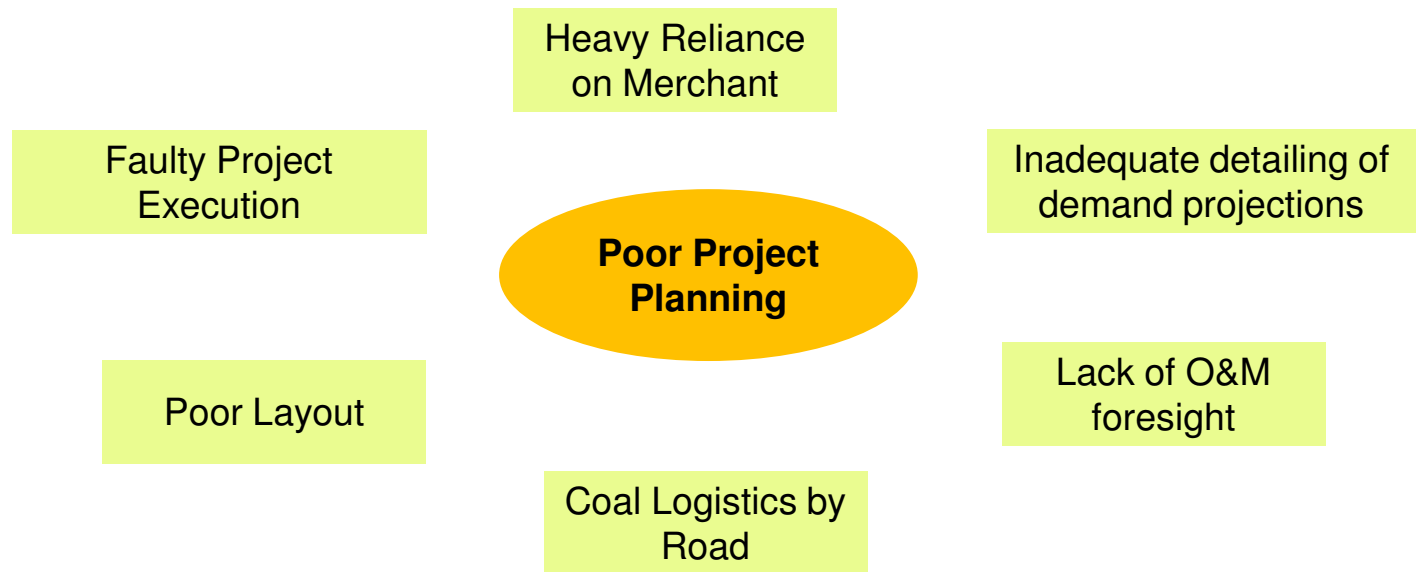


Category-wise CAGR 2012-2016 (%)



Poor project planning has been the root cause of the issue

POOR PROJECT PLANNING



- Executive Summary
- Introduction
- Power Sector Trends
- Genesis Behind Stressed Power Assets

- **How big is the issue of Stressed Power Assets?**

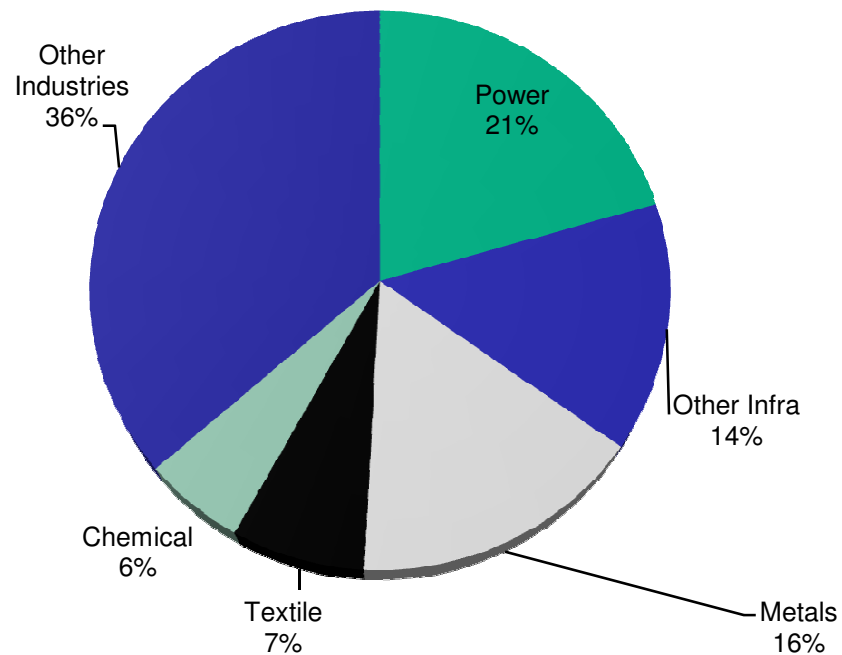
- Stakeholder Views and Their Wish List
- Deesha Power Views
- Annexure

How big is the issue of Stressed Power Assets?

Bank industrial credit to power sector is the highest at ~21%

MAGNITUDE OF STRESSED POWER NPA

Bank's Industrial Credit as on 20th Jan 2017 (%)



Bank's Industrial Credit : Rs 25,866 Bn

Description

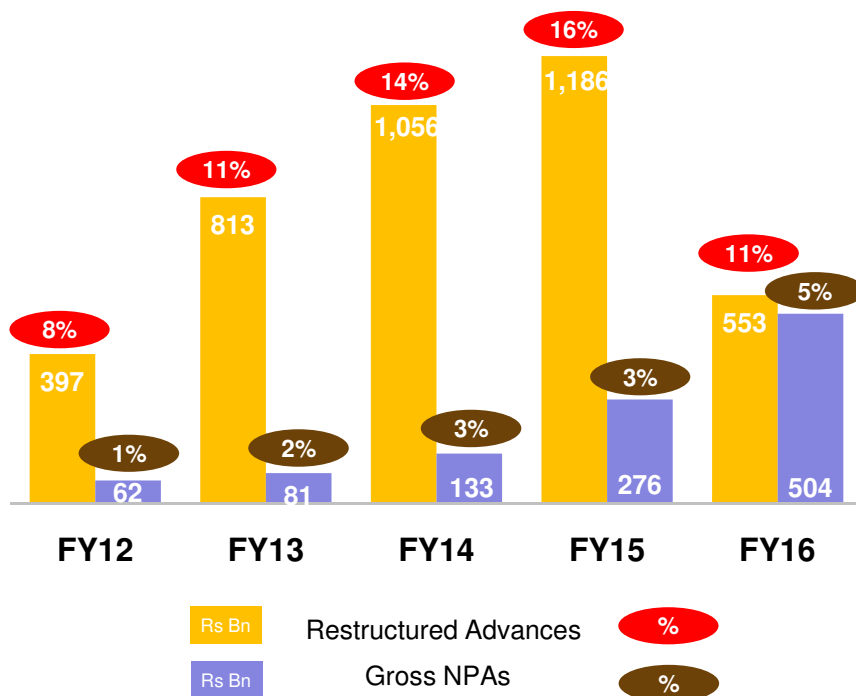
- As per RBI report, power sector's share as on 20th Jan 2017 has been the highest in the range of ~21%
- This is in spite of the fact that, power sector exposure as on 20th Jan 2017 has been reduced by ~11% as compared to similar exposure as on 22nd Jan 2016 on absolute basis
- Due to overall mess in the sector, which is characterized with the highest exposure, recovery has been posing a great threat to banking industry at large

How big is the issue of Stressed Power Assets?

Stressed assets, including restructured standard assets, of power sector were estimated at Rs 553 billion in FY16

MAGNITUDE OF STRESSED POWER NPA

Power : Restructured Advances and Gross NPA (Rs Bn)



Description

- The gross NPAs of the power sector accounts for nearly 5% percent of the NPAs of the banking sector
- Total stressed assets including restructured standard assets of power sector was about 11% percent of the total stressed assets of banking industry
- Reasons
 - CoD not linked to realistic progress
 - Shorter repayment tenor
 - Faulty feedstock policies

- Executive Summary
- Introduction
- Power Sector Trends
- Genesis Behind Stressed Power Assets
- How big is the issue of Stressed Power Assets?

- **Stakeholder Consultation**

- Deesha Power Views
- Annexure

Stakeholder's inputs were sought through structured questionnaire

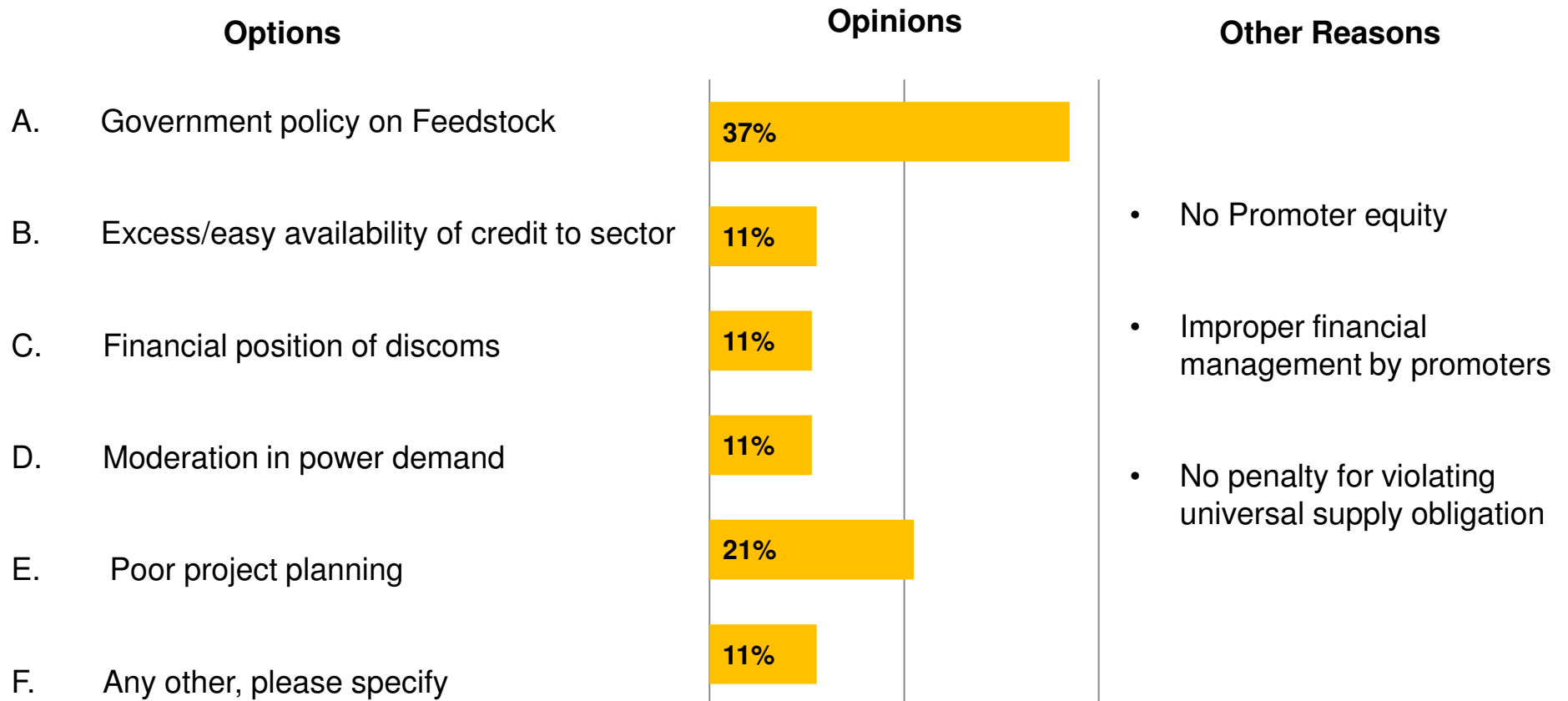
STAKEHOLDER VIEWS (1/7)



Stakeholder Consultation

Industry believes that feedstock policy coupled with wrong project planning were among the principle reasons behind the stressed power projects

STAKEHOLDER VIEWS (2/7)



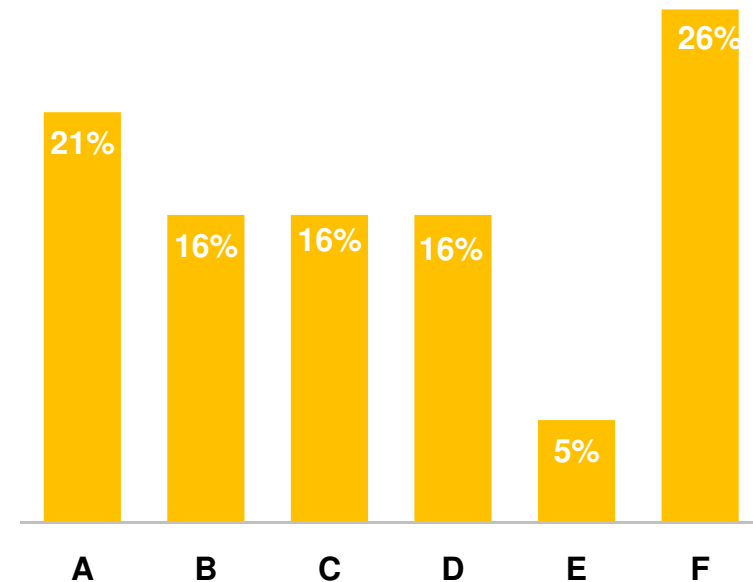
Lack of asset specific strategy and sectoral issues are the main challenges for revival

STAKEHOLDER VIEWS (3-A/7)

Options

Opinions

- A. Sector issues
- B. Execution difficulties during revival process
- C. Lender agreement for initiating revival process
- D. Limited availability of options for disposal
- E. Legal infra/inefficient legal rights
- F. Lack of systematic efforts/strategy for revival of specific project



Inability of lead lender to exercise step-in rights/equity control is one of the principle reason to initiate revival proceedings

STAKEHOLDER VIEWS (3-B/7)

A. Top 2 Sector Challenges

- I. Lack of demand resulting in low merchant rates
- II. Lack of long term PPA

B. Top 2 Execution Challenges

- I. Difficulty in raising funding for revival
- II. Ousting existing management

C. Top 2 Lender Disagreements

- I. Fear of regulatory/vigilance actions
- II. Lead lender, with support of consortium members, not exercising step-in rights/equity control to drive project

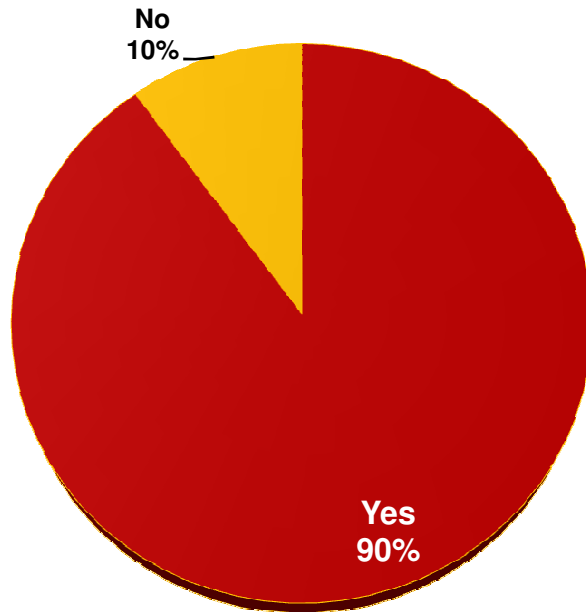
D. Top 2 Legal Gaps

- I. DRT/DRAT do not have enough bandwidth
- II. Ability of judicial body to assess viability is limited

Banks are willing to consider project cashflow specific haircuts in loan

STAKEHOLDER'S VIEWS (4/7)

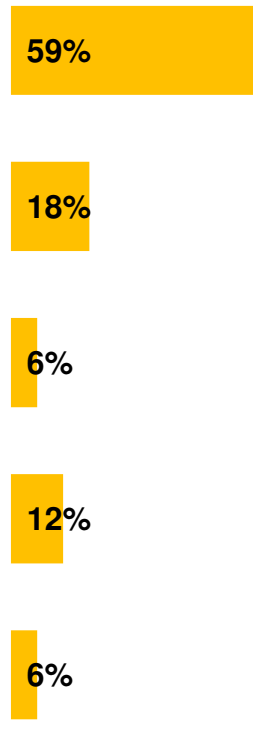
Are Bankers Willing to Take Haircuts? (Y/N)



Haircut Options

- A. Project Cashflow Specific
- B. 10% - 30%
- C. 30% - 40%
- D. 40% - 50%
- E. 50% & Above

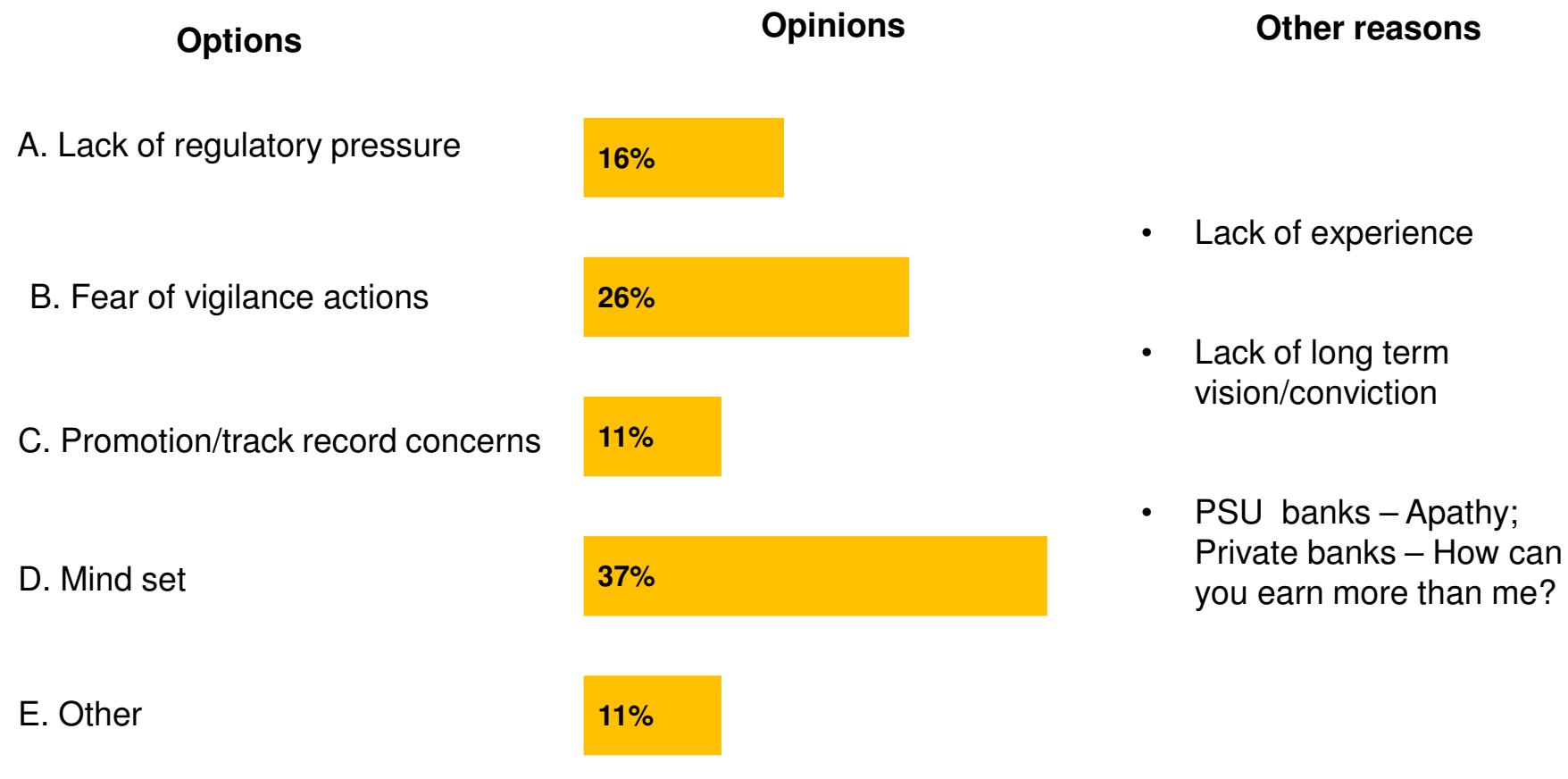
Opinions



Stakeholder Consultation

Mindset is the principle reason behind hesitation by banks to put NPAs on block for sale

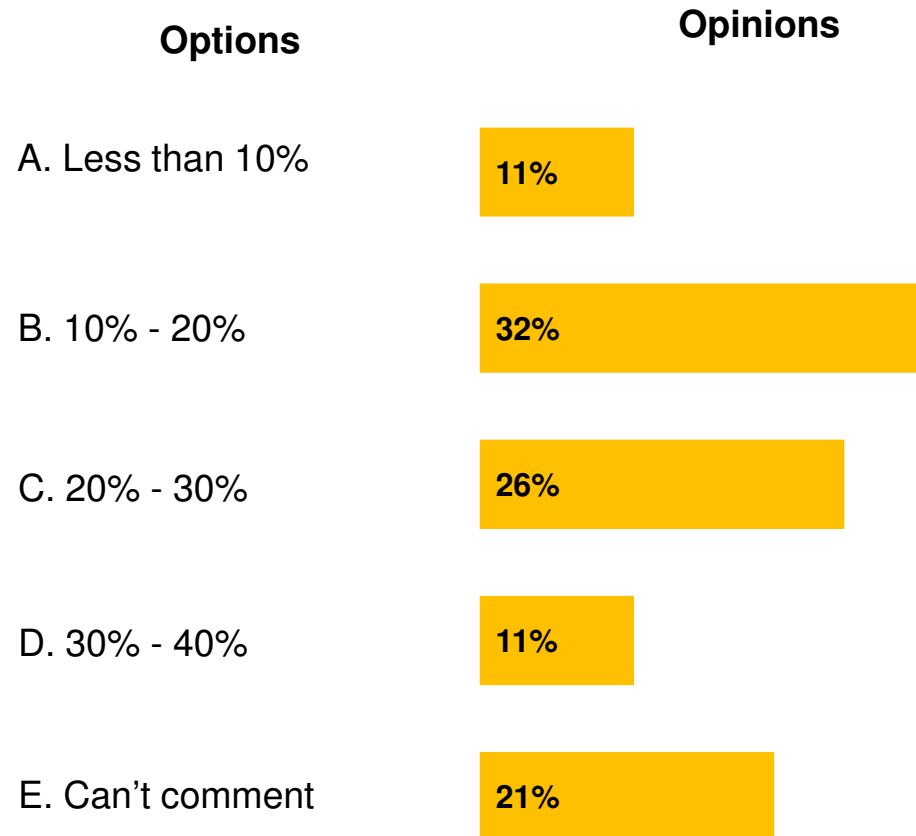
STAKEHOLDER'S VIEWS (5/7)



Stakeholder Consultation

32% of the respondents opined that 10-20% of total stranded capacity 50-70 GW could be revived

STAKEHOLDER'S VIEWS (6/7)



Attributes of Revival Prospect

- PPA in place for atleast 70% of capacity (52%)
- Experience Promoter Group (16%)
- Debt < Rs 4 Cr/MW (16%)
- Atleast 70% of construction completed (11%)
- Fuel linkage (5%)

Which Combination Might Work?

- Lender with new strategic investor (44%)
- SSF/ARC with new strategic investor (22%)
- GoI Resolution Fund/Infra ARC with NTPC as trustee (11%)

Infra NPA bad assets bank along with a government stewardship could ensure structured revival process

STAKEHOLDER'S VIEWS (7-A/7)

COO, Reputed ARC

- National pool of stressed power assets may be created, under overall supervision of central power utility
- Majority of capacity such projects could be linked to nearby /identified industrial belt

SVP, Infra Fund

- Framework of LT power purchase by states (case 1/2) may be declared
- Banks to be awarded /encouraged for realistic self assessment for sustainable debt for each of the stressed account

CFO, IPP

- Infra NPA bad assets bank along with a government stewardship could ensure structured revival process
- State Gencos backed by respective Govt, in view of their aging capacities, could consider taking equity in stressed projects

Country Head, International Fund

- Banks to exercise their step-in rights more decisively
- Cases with experienced promoters could be given priority to bring receivables to 90 days with targeted UDAY assistance

Timely action by stakeholder is not only key for revival but also limits the haircut

STAKEHOLDER'S VIEWS (7-B/7)

CEO, Large NBFC

- Timely action by stakeholder is not only key for revival but also limits the haircut.
- But this requires the conformity of all the stakeholders which is the key challenge

Director, Reputed MNC I-Bank

- Extremely distressed situations should be addressed in an unemotional and quick manner.
- Such projects should be taken over by lenders and disposed off to a buyer or dismantled and equipment auctioned off

CEO, IPP

- Inefficient and environmentally non-compliant old capacity (mostly with state gencos) may be retired to create a space for new capacity
- This will have two benefits viz environmental commitment fulfilment and reduction in cost to end consumers

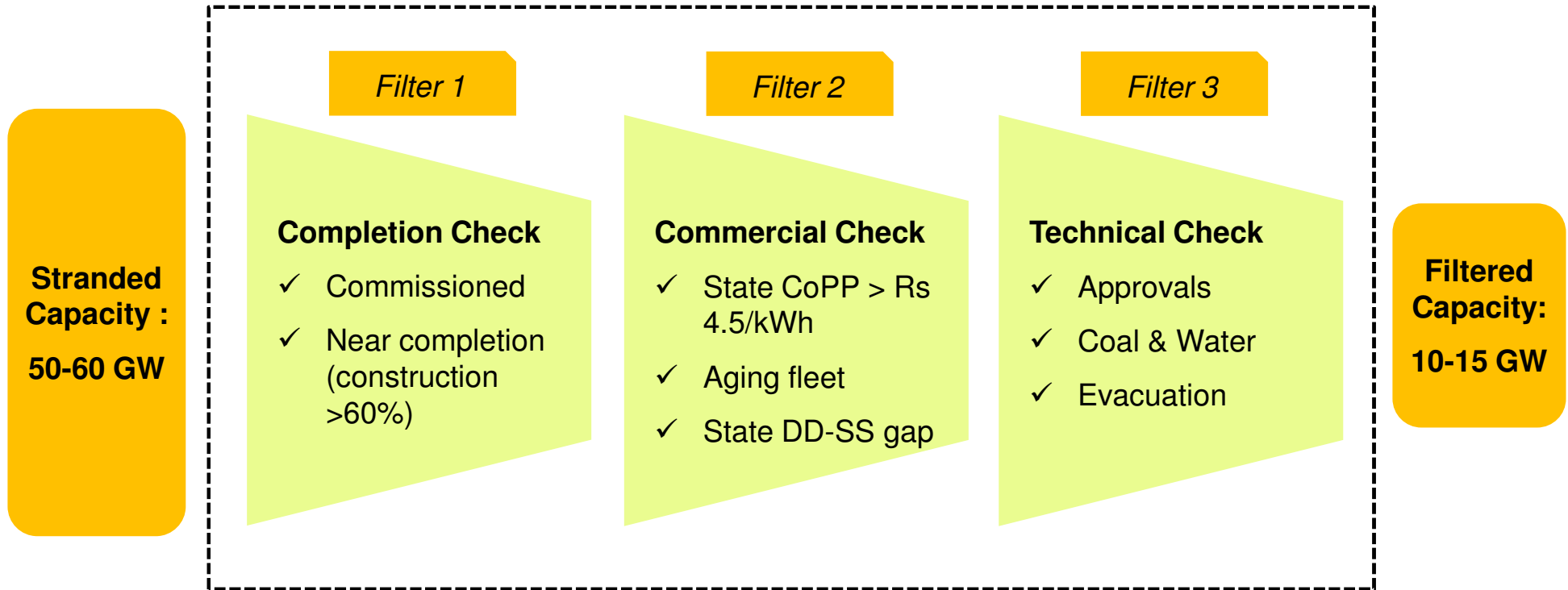
Director, Large Fund

- Common policy involving power ministry, coal ministry and RBI specifically dealing with the issues so that all stakeholders can work towards a solution without fear
- High pressure on promoters to fall in line and do what is required to revive the project, including legal stick

- Executive Summary
- Introduction
- Power Sector Trends
- Genesis Behind Stressed Power Assets
- How big is the issue of Stressed Power Assets?
- Stakeholder Views and Their Wish List
- **Deesha Power Views**
- Annexure

Low hanging fruits may be identified and an exercise to develop asset specific strategy needs to be undertaken

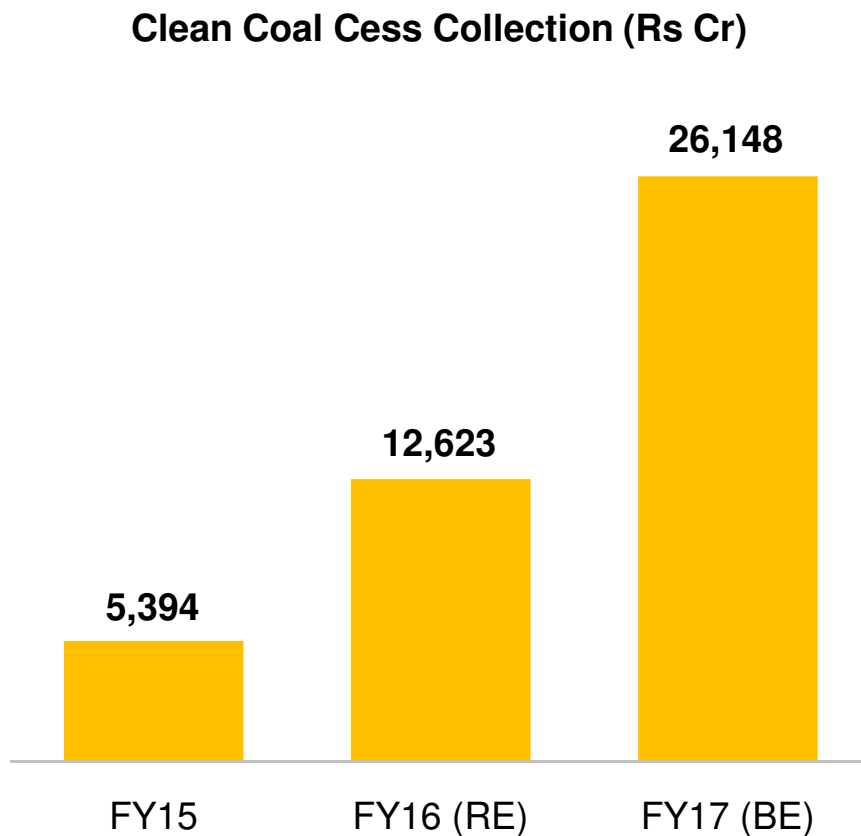
DEESHA POWER VIEWS (1/5)



Asset specific strategy needs to be developed for filtered capacity

Part of clean coal cess could be allocated for giving grants to commission studies to develop asset specific strategies

CONSTRUCTIVE SUGGESTIONS (2/5)

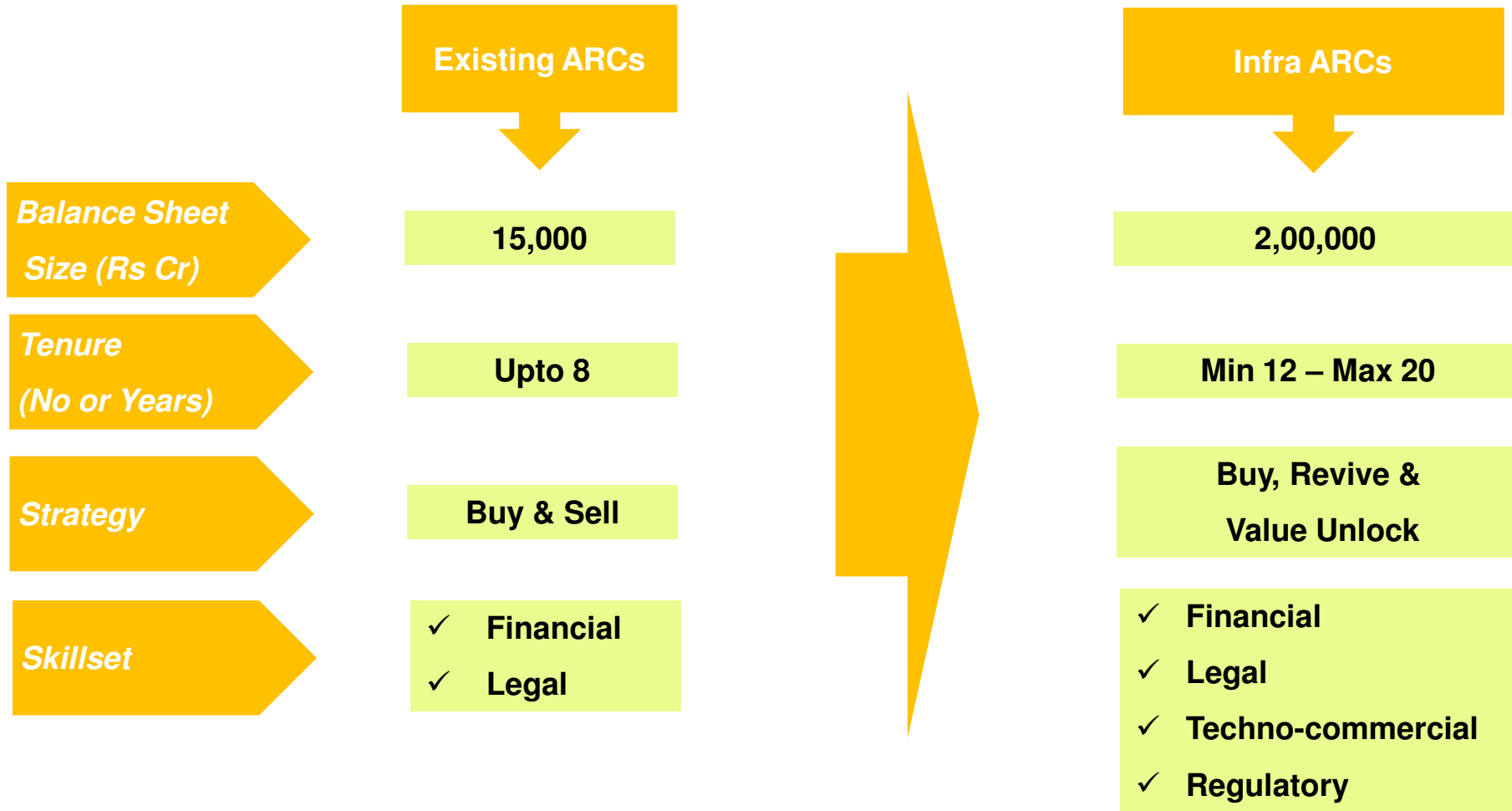


Comments

- Each location is unique in terms of unit configuration, coal and on the ground challenges for revival
- Revival strategy needs to be worked out for each location
- Coal cess could be used for developing such strategies
- At the moment, ~1/3rd of Coal Cess collected is getting utilised for NCEF. Part of said collection could be made available for such studies

Infra ARC, having longer period for value unlocking, may be established

DEESHA POWER VIEWS (3/5)



Conducive policy and regulatory framework needs to be established for revival of stressed power assets

DEESHA POWER VIEWS (4/5)

	RBI	MoP & MoC	MoEF	State Govt	Regulator
Role	<i>Catalyst</i>	<i>Convener</i>	<i>Environment Protection</i>	<i>State Economy Development</i>	<i>Consumer Right Protection</i>
Action Point	<ul style="list-style-type: none"> ➤ Regulation for Infra ARC ➤ Penalizing mechanism for carrying stressed assets in books 	<ul style="list-style-type: none"> ➤ Strategy development & deployment ➤ Feedstock allocation 	<ul style="list-style-type: none"> ➤ De-rate non-compliant capacity ➤ Relax norms for restructured capacities 	<ul style="list-style-type: none"> ➤ Provide financial support ➤ Retire old fleet 	<ul style="list-style-type: none"> ➤ Tariff for restructured entities ➤ Review of state genco capacity & PP rates

Private sector needs to strategize for bringing requisite capital, innovative solutions and efficient management to tap the opportunity of stressed power

DEESHA POWER VIEWS (5/5)

	Banks	ARC/ Investor	OEMs	Service Providers	Law Firms
Role	<i>Funding</i>	<i>Revival Agent</i>	<i>Tech Solutions Support</i>	<i>Asset Preservation &/ Operator</i>	<i>Legal Catalyst</i>
Action Point	<ul style="list-style-type: none"> ➤ Prepare & execute value unlocking plan ➤ Penalizing mechanism for carrying stressed assets in books 	<ul style="list-style-type: none"> ➤ Strategy development & deployment of capital ➤ Commissioning & operating profitably 	<ul style="list-style-type: none"> ➤ Plan and develop solutions ➤ Develop mechanism to deal with past dues (if any) 	<ul style="list-style-type: none"> ➤ Develop a composite offering for preservation, construction, commissioning & operations ➤ Operate with given specs 	<ul style="list-style-type: none"> ➤ Address ownership feuds ➤ Protect legal rights of ARC/Investor

- Executive Summary
- Introduction
- Power Sector Trends
- Genesis Behind Stressed Power Assets
- How big is the issue of Stressed Power Assets?
- Stakeholder Views and Their Wish List
- Deesha Power Views

- **Annexure**

Annexure List

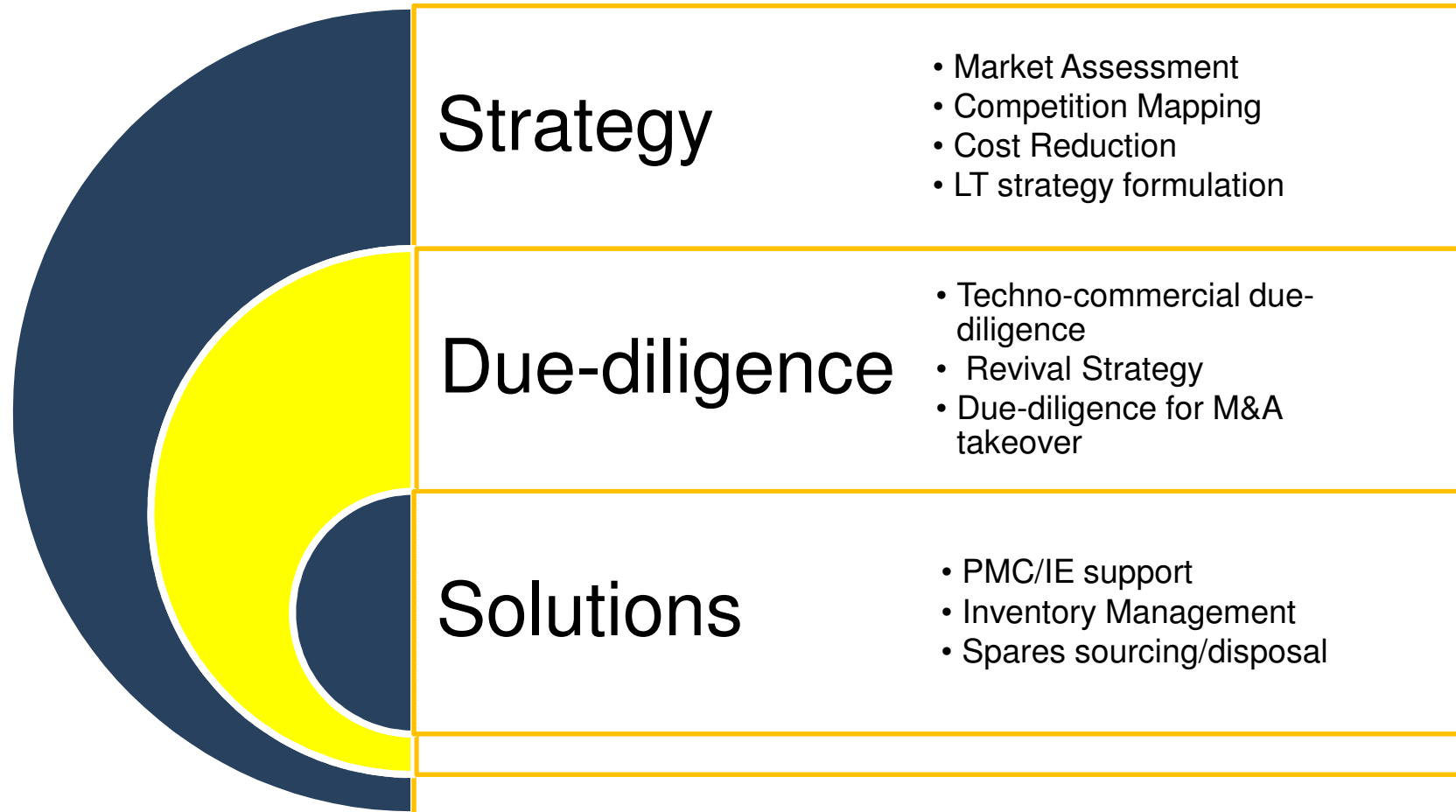
1. *About Deesha Power*

2. *Abbreviations*

3. *References*

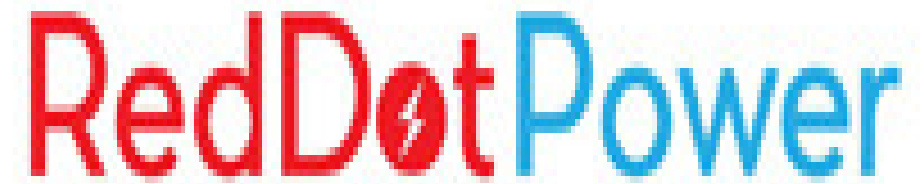
Deesha Power is niche infra consulting and solutions organisation

DEESHA POWER:INTRODUCTION



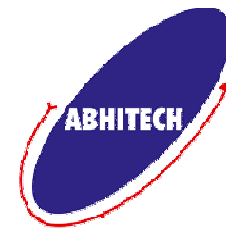
Deesha Power has worked with number of international clients

SELECT INTERNATIONAL CLIENTS



Deesha Power has worked with reputed domestic clients and list is growing

SELECT DOMESTIC CLIENTS



Annexure

Industry has been giving rating of 8.5+ on a scale of 10 for thought-leadership events organised by Deesha Power

SELECT PATRONS



The strength of Deesha Power is augmented by industry experts

DEESHA POWER : EXPERT NETWORK ADVANTAGE

INDICATIVE LIST

DOMAIN EXPERT NETWORK	Environment Expert	O&M Expert	W2E Expert
<ul style="list-style-type: none"> ▪ Industry veterans augment Deesha Power team with operational & technical expertise. ▪ Hands on industry experience ▪ Work in technical and/ or operational capacities ▪ Mix of functional and top management experience <ul style="list-style-type: none"> ➤ Access to industry specific expert networks 	Industry veteran with ~40 years of experience	Industry Professional with ~30 years of experience	Waste Management & W2E Expert, Empanelled with World Bank
	Power Generation Expert Retired GM from leading Power equipment company	Steel Expert ~40 years experience, Ex- GM of SAIL	Chemical Expert Retired MD of Consulting Engineer Company
	Captive Power Expert Retired Chief Electrical Operations at leading Cement Company	Power Distribution Expert Professor and Area Chairperson – Leading Management institute	RE/CDM Expert Head, CDM consulting firm, empanelled with UNFCCC

“AAA” is USP of Deesha Power Solutions

USP OF SOLUTION



Deesha Power has unparalleled understanding of power business

POWER EXPERTISE

~**Multifaceted** Power Sector Experience

Across **multiple segments**

Diverse client base

MULTIFACETED TEAM

From **premier** institutes

Diverse industry backgrounds

Panel of **Industry Experts**



KNOWLEDGE BASE

Comprehensive database

End to end solutions

International footprint

CREDENTIALS

Only company with strategy experience in O&M

India related Insights

➤ **Articles & Industry Studies**

Abbreviations

A-I		M-Z	
ARC	Asset Reconstruction Company	MoC	Ministry of Coal
AQC	Air Quality Compliance	MoEF	Ministry of Environment & Forest
AUX	Auxiliary Consumption	MoP	Ministry of Power
BN	Billion	MT	Metric Tonne
BOD	Biological Oxygen Demand	MW	Mega Watt
BTG	Boiler Turbine Generator	MWh	Mega Watt Hour
BU	Billion Unit	NCEF	National Clean Energy Fund
CAPEX	Capital Expenditure	NPA	Non Performing Asset
CERC	Central Electricity Regulatory Commission	OEM	Original Equipment Manufacturer
COD	Commercial Operation Date	PFC	Power Finance Corporation
CoPP	Cost of Power Purchase	PLF	Plant Load Factor
CPP	Captive Power Plant	PP	Power Purchase
DD	Demand	PPA	Power Purchase Agreement
DSM	Demand Side Management	SS	Supply
DRT	Debt Recovery Tribunal	SSF	Special Situation Fund
EE	Energy Efficiency	TPA	Tonnes Per Annum
FSA	Fuel Supply Agreement	TPP	Thermal Power Plant
FY	Financial Year	UB	USD Billion
GDP	Gross Domestic Product	UDAY	Ujjwal Discom Assurance Yojana
GHG	Green House Gases	YoY	Year on Year
GoI	Government of India	YTD	Year To Date
GW	Giga Watt		
IPP	Independent Power Producers		

References

1. CEA website
2. PFC website
3. MoC website
4. CPCB website
5. MoP website
6. MoEF website
7. RBI website
8. CERC website
9. MoPNG website
10. IEA website
11. World bank website

Thank You !



Shardul Kulkarni

MD & Chief Executive Officer

Deesha Power Solutions Pvt Ltd

Mobile: +91 99308 50279

E-mail: shardul.kulkarni@deeshapowersolutions.com

