

Stressed assets in the Indian thermal power sector

Challenges and way forward



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Foreword from ASSOCHAM

The Insolvency and Bankruptcy Code 2016 (IBC) is a landmark legislation amongst a horde of path-breaking reforms brought in by the current government. This single piece of legislation has allowed us to jump several places in the world ranking on ease of resolving insolvencies. The IBC addresses most of the important failings of the past while offering a uniform and comprehensive legislation that allows creditors to assess the viability of a debtor as a business decision, and agree upon a plan for revival.

Recognising the importance of IBC in the financial architecture of the country, we are holding a conference in Jaipur under the National Council on IBC set up by ASSOCHAM in 2017. This knowledge paper aims to spur discussion on the issues and challenges being faced by various stakeholders and suggest measures that can be taken to optimise their contribution thereto.

We hope that this study will be useful for the regulators, market participants, government departments, and other research scholars.



Uday Kumar Varma
Secretary General
ASSOCHAM

Foreword from Grant Thornton

The Economic Survey 2016-17 highlighted that non-performing assets (NPAs) in the power sector, especially in thermal projects, have grown significantly. According to the Survey, the projects were not gaining enough returns to pay interest on loans from banks, thus leading to NPAs. As a result, companies were not willing to invest in new capacities and banks resisted in lending loans. This scenario will not only affect the banking sector, but also hinder future investment in the power sector.

The non-availability of regular fuel supply arrangements, lack of Power Purchase Agreements (PPAs), inability of promoters to invest equity and working capital, and regulatory and contractual issues are some of the major challenges faced by thermal power projects. Further, it is estimated that more than INR 2,50,000 crore of investments in thermal private sector projects (based on domestic coal, imported coal and gas) are facing stress, and immediate remedial measures need to be undertaken to ensure that they are revived in a time-bound manner.

The IBC has been around for two years now and it will not be an exaggeration to say that it has triggered a change in an economy saddled with NPAs with significant recoveries for all stakeholders in large cement and steel companies. The IBC has already been amended four times since its enactment in 2016, and the government is willing to amend it to make it stronger and effective. This is considered imperative to provide an effective solution to thermal power projects. It may be mentioned that the 12 February 2018 circular issued by RBI which mandates banks/ financial institutions (FIs) to refer the unresolved accounts having exposure greater than INR 2,000 crore under NCLT after a period of 180 days from 1 March 2018 (reference date) is currently sub judice in the Supreme Court. Further, an effective resolution in a time-bound manner is warranted by improving the macro environment governing the power sector. This would involve augmenting coal supplies under the Scheme for Harnessing and Allocating Koyala (coal) Transparently in India (SHAKTI) and medium-term/ short-term power procurement by DISCOMs to alleviate the sub-optimal plant load factors (PLFs). It would also require improvement in operations besides National Investment and Infrastructure Fund (NIIF)/NTPC led resolutions among others.

This paper provides an overview of the power sector, reasons for stress, resolution within the IBC framework and remedial measures.

I sincerely hope that this paper turns out to be a useful resource for the stakeholders in the power sector.



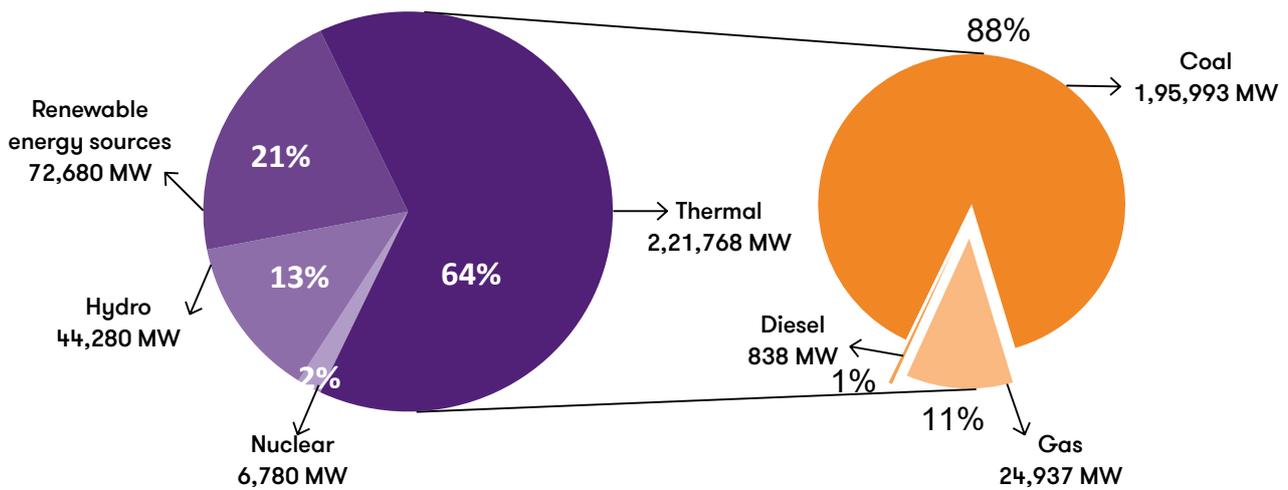
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Partner
GT Restructuring Services LLP

Power industry: An overview



1. The installed generating capacity of the Indian Power industry, as on 31 October, was about 3,46,000 Mega Watts (MW). With a consumption of 1,200 billion units in FY 2017-18, India stands third globally, behind China and the United States.

Total installed capacity as on 31 October 2018



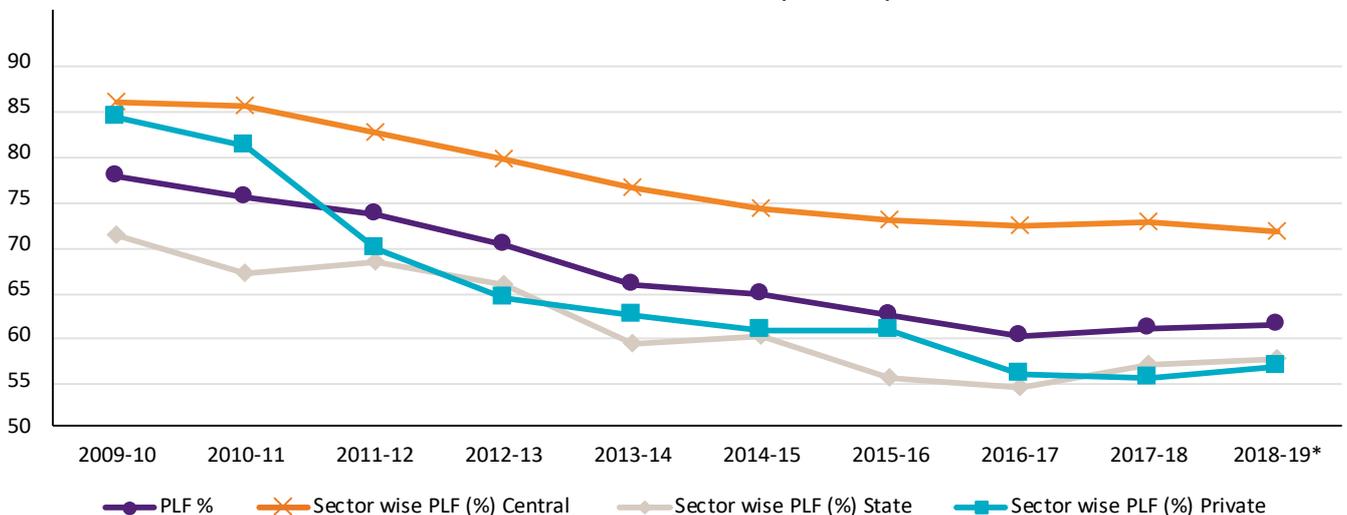
Segregation of thermal installed power generation capacity

Coal-based projects: 1,95,993 MW, presently operating at an average PLF of 60% (reduced considerably from 78% in FY 2009-10, pursuant to a rapid increase in the generation capacity in the 12th Five Year Plan, without a commensurate increase in demand).

Gas and diesel-based projects: 24,937 MW for gas and 838 MW for diesel, presently operating at an average PLF of 25%.

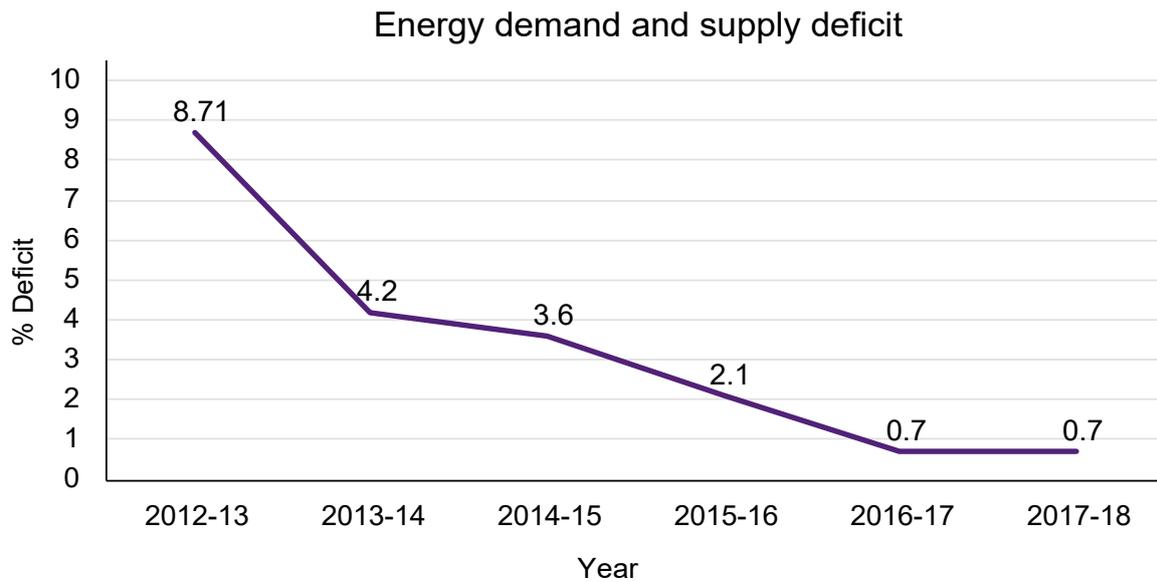
2. The share of private sector in the overall installed capacity has grown from 29% in November in 2012 to 46% in October 2018. During the last six years, the public sector (both central and state combined) contributed 73,000 MW, while the private sector alone contributed about 94,000 MW.

Plant load factor of thermal power plants

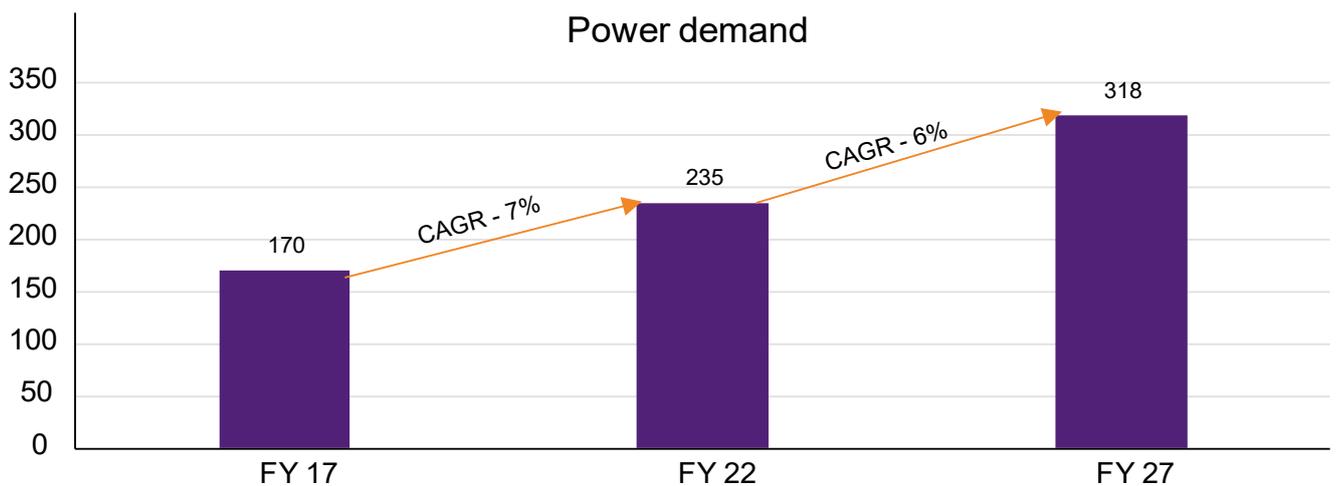


The plant load factor (private) has decreased significantly from 84% in 2009-10 to 54% in 2018-19.

3. India, once a power deficit country, became a net exporter of power, selling 5,798 million units to Nepal, Bangladesh and Myanmar. The electricity shortage went from 8.7% (of demand) in 2013 to 0.7% in 2018.



4. As per the Draft National Electricity Plan, India’s peak power demand is expected to reach 2,35,000 MW by FY 2022 and further 3,18,000 MW by FY 2027, from the present levels of 1,70,000 MW. Further, the per capita power consumption for FY 2017 was 1,122 units, as against the world’s per capita consumption of 3,110 units, which corroborates that the demand for power is expected to grow in the years to come.



5. Currently, a substantial portion of thermal-based capacity is stressed primarily in the private sector due to inadequacy of fuel, insufficient off-take of power, promoter-related and financing problems, among other issues. According to the report of the 40th Standing Committee on Energy, the total coal-based power capacity in the private sector is nearly 90,000 MW, out of which 75,000 MW is operational. It is estimated that about 60,000-65,000 MW of this capacity is under financial stress.

Key trends in the power sector

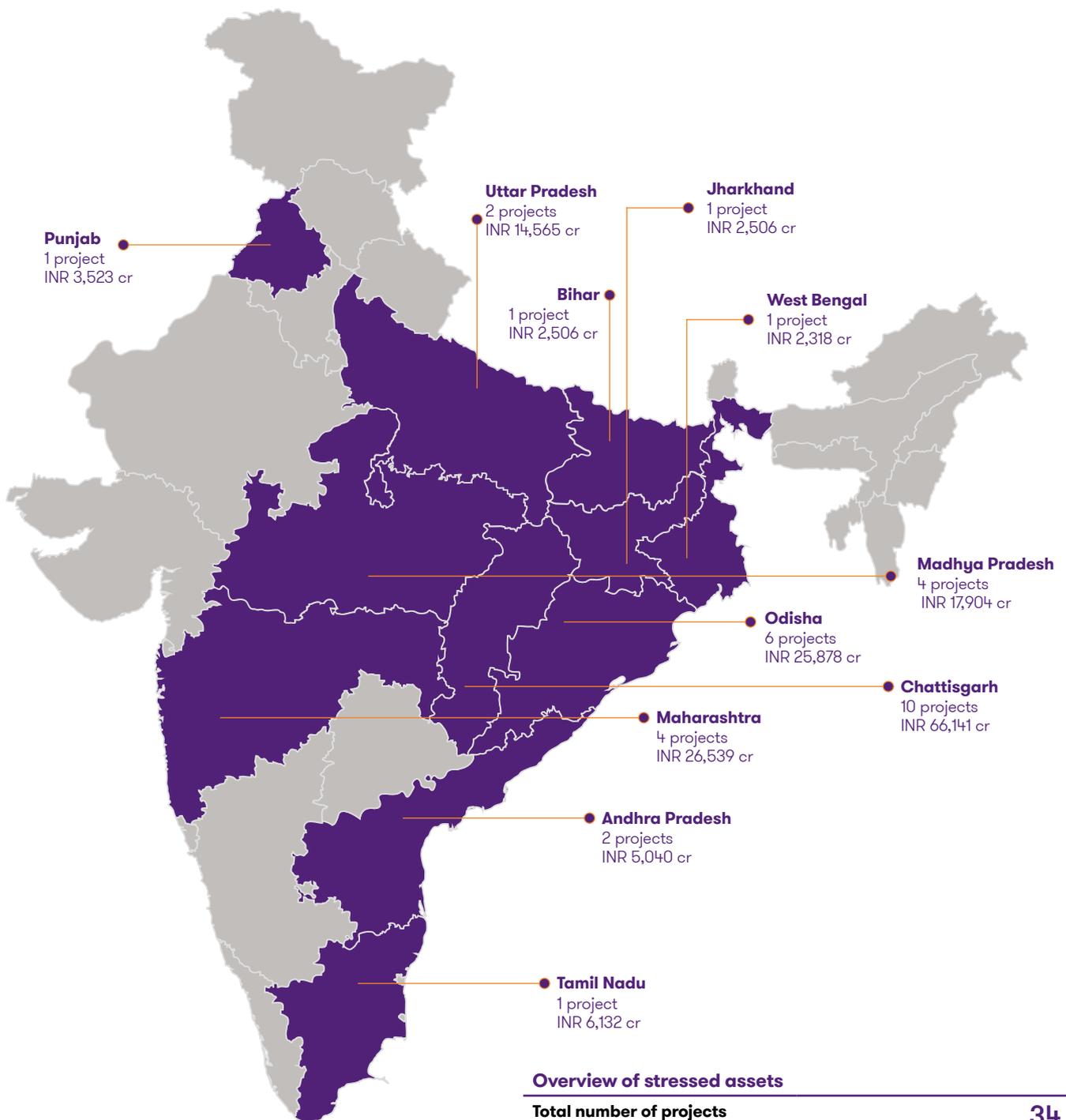


Present status

1. The thermal capacities added during the 12th Five-Year Plan period (2012-17) have been adversely impacted by inadequate off-take of power procurement (power purchase agreements [PPAs] by DISCOMs) and shortage of fuel availability.
2. Thermal capacity additions have outpaced the demand for power over the last five-six years, and the share of the private sector has increased from 29% in November 2012 to 46% in October 2018.
3. The PLFs for private thermal power plants have shown a declining trend in the past decade, from 84% in 2009 to 56% in 2018.
4. Even though the official statistics show a gap between the demand and supply of approximately 1% only, in reality, the gap is close to 6-8% owing to the load shedding by DISCOMs.
5. Increasing power trends at the power exchanges shall compel DISCOMs to enter into medium-term PPAs over the next two-three years, which shall alleviate the level of stress in thermal capacity.
6. With the reducing trend in the ACS-ARR gap, the viability of DISCOMs is slowly improving because of the Ujjwal DISCOM Assurance Yojna (UDAY) scheme.
7. To address the shortage in gas supply, the government, in consultation with the Ministry of Power (MoP) and Ministry of Power and Natural Gas (MoPNG), may consider re-commencing the supply of gas under the e-bid RLNG Scheme (supported by Power System Development Fund [PSDF]), which was discontinued after being operational only for two years.

Overview of the stress in the power sector





Overview of stressed assets

Total number of projects	34
Total stressed capacity	40,130 MW
Commissioned capacity	24,405 MW
Under construction capacity	15,725 MW
PPAs tied up	18,516 MW
PPAs not tied up	21,614 MW

Reasons for stress in the power sector



1. Issues related to inadequate supply of fuel (coal and gas)

- Coal India, in view of the substantial private sector capacity addition, was constrained to reduce the contracted supplies under the coal linkages for maintaining a PLF of 80%. This has resulted in lower PLFs. Further, no coal linkages were provided for power capacity having no firm PPAs leading to lower PLFs, which impacted the debt servicing ability.
- The production of gas from KG-6 Basin has reduced from 56.0 mmscmd (million metric standard cubic meter per day) in FY2011 to 5.5 mmscmd in FY 2018 impacting approximately 15,000 MW of gas-based capacity.

2. Inability of the promoters to complete the large complex power projects within the stipulated costs and timelines

- Almost all the capacity additions undertaken by private sector power producers from FY 2010 onwards have faced significant cost overruns, which were close to 70-80% of the originally appraised project cost. This happened due to time delays exceeding three years.
- Even after the increase in the project cost overruns by banks/financial institutions (FIs), the promoters have not been able to arrange for the additional equity required due to macro environments, including reduction in free cash flows from their existing operational plants.
- This has resulted in further delays, making the completed costs of such projects unviable for capital cost recovery.

3. Absence of creditable off-take under long-term/medium-term PPAs (negligible power procurement by DISCOMs)

- Power being on the concurrent list, the power off-take is the prerogative of the states that come under the competitive bidding route.
- There has been no major off-take of long-term/medium-term power by DISCOMs rendering the viability of substantial private sector capacity, which in the absence of PPAs, could not procure coal linkages.
- The banks were also reluctant to provide continued financing to power projects having no PPA tie-up, as high capital costs were making the projects unviable at projected lower PLFs.

4. Muted power demand especially from industrial and manufacturing sector

- Low growth in power sector demand in both industrial and domestic sectors coupled with significant thermal capacity addition by the private sector, and effective demand side management led to a power surplus scenario.
- In accordance with the above, DISCOMs due to their deteriorating financial position not only shied away from power procurement on long-term basis, which led to significant under-utilisation of thermal power capacity, but also delayed payments, which created liquidity mismatch for the project companies.

5. Aggressive initial tariff bid by project companies without an adequate mechanism to understand the associated risks

- In the initial phases of capacity addition (FY 2008-10), many private power sector producers quoted aggressive tariffs to tie up long-term PPAs so as to secure financing from banks/FIs etc.
- These tariffs bid during the project construction stage were not sustainable in the long run, after the completion of the project, due to change in assumptions in variable and capital costs, and caused equity erosion and inability of the projects to service its debt obligations.

6. Summary cancellation of all the allocated captive coal mines to the power projects

- Summary cancellation of all the 214 coal blocks, which were allocated by the Inter-Ministerial Group from 1993 onwards and by the Supreme Court in September 2014, has put approximately 24,000 MW of captive coal-based thermal capacity under stress.
- These mines were not re-allocated to these project companies in a time-bound manner, and the PPAs executed with DISCOMs based on captive coal was also jeopardised and led to litigations. In fact, many of the bidders bid for the limited captive mines auction quite aggressively (negative bidding) further adding to their existing stress.

7. Delayed payments by DISCOMs coupled with litigations in tariff approvals by regulators

- The delay in the realisation of receivables from DISCOMs not only created liquidity mismatches, but also led to exhaustion of working capital and debt servicing defaults.
- As of June 2018, an amount of approximately INR 25,000 crore was the outstanding receivables from DISCOMs for all power sector companies, out of which approximately INR 18,000 crore was the outstanding amount for the private sector power producers. This was more than 70% of the total outstanding amount, which has added to the stress.

8. Issues related to financing by banks/FIs with inadequate project monitoring and end use utilisation of funds

- In an attempt by banks/FIs to expand their balance sheets, financing for power projects has been done without proper project monitoring, especially in cases where the sponsor was also the engineering, procurement and construction (EPC) contractor for project completion.
- Interest rates for most of the loans sanctioned in FY2008 went up significantly from 11% to about 14% in FY 2011-12. Together, the foreign exchange differential on the buyers' credit, letters of credit and foreign currency loans led to a significant increase in the project costs and resulted in stress.
- Stringent provisioning stipulations by RBI for any change in repayment period/interest rates also acted as dampener for the banks to take any timely action to check on the cost over runs, thereby impacting project viability in the long run.

9. Regulatory delays in procurement of regulatory clearances and contractual disputes

- In certain cases, due to a delay in the approval of tariff petitions and of additional tariff under change in law provisions in PPA, the projects are unable to recover the cost of generation, which adversely impacted financial viability.
- Approximately 10,000 MW of imported coal-based capacity in Gujarat entailing capital investment of about INR 47,000 crore is under stress, due to short recovery of the tariff resulting from the change in Indonesian coal prices.

10. Overall competence of the promoters in undertaking/completing large power projects, especially where they also acted as EPC contractor

- According to the report released by the High Level Empowered Committee constituted under the MOP, Government of India, the promoters currently under stress have made significant capacity additions without monitoring the macro environment and cash flows from their existing operational projects.
- The report states that the required equity for power projects was also not raised in a timely manner commensurate with equity requirements, which later proved to be one of the reasons for stress in the power projects.

Introduction to IBC

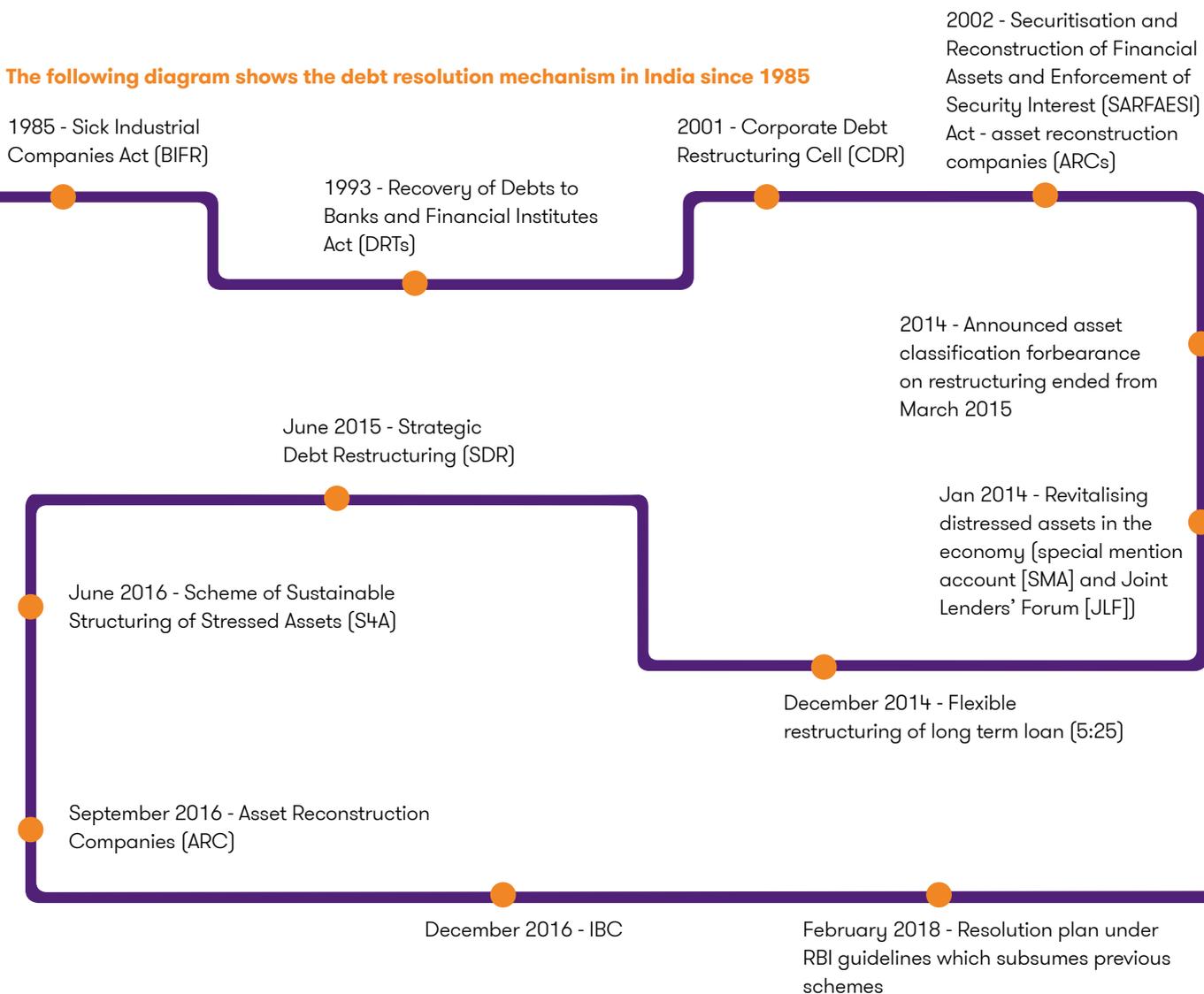


IBC's impact on power projects

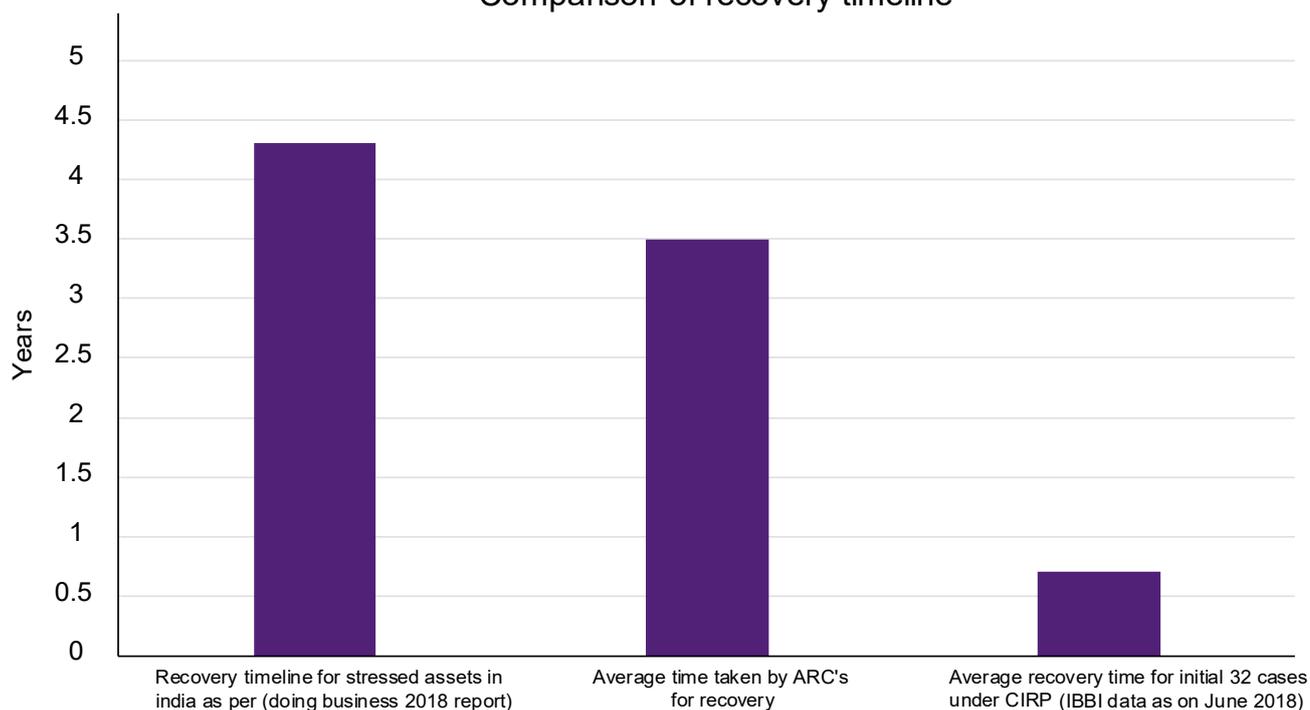
1. Implementation and impact

- IBC is one of the most important legislative reforms of recent times (next only to the Goods and Services Tax [GST]), as it is expected to resolve the prevailing NPA crisis in the banking sector, the resultant logjam in the availability of credit and the consequential impact on GDP growth.
- IBC consolidated and amended various laws related to insolvency resolution of companies, limited liability entities, partnerships and individuals, which were contained in various enactments into a single legislation by an enactment of the parliament. IBC received praises from multilateral institutions like the World Bank and IMF, and was considered one of the major reasons of India's sudden jump in the ease of doing business index.

The following diagram shows the debt resolution mechanism in India since 1985



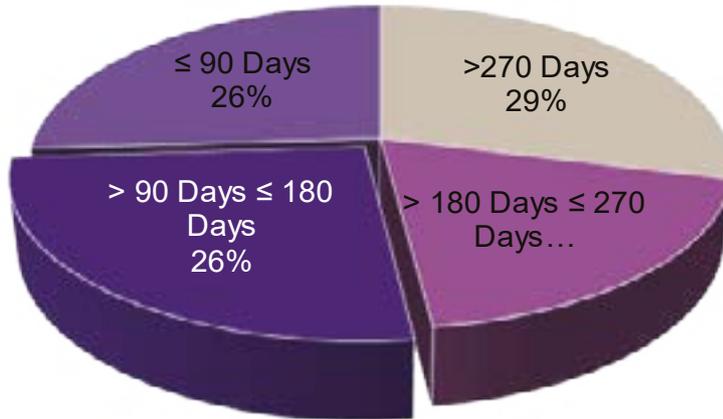
Comparison of recovery timeline



- RBI came up with an initial list of 12 companies in June 2017 and followed up with another 26 companies in August 2017, which cumulatively accounted for about 50% of total NPAs. As at the end of September 2018, 1,198 corporates were undergoing insolvency resolution process as indicated in the table below:

Quarter	No. of cases undergoing resolution at the beginning of the quarter	Admitted	Closure by			No. of cases undergoing resolution at quarter end
			Appeal/ review	Resolution plan approved	Commencement of liquidation	
4QFY17	-	37	1	-	-	36
1QFY18	36	129	8	-	-	157
2QFY18	157	231	15	2	8	363
3QFY18	363	147	33	8	24	445
4QFY18	445	194	14	13	57	555
1QFY19	555	244	18	11	47	723
2QFY19	723	216	29	18	76	816
Total	NA	1,198	118	52	212	816

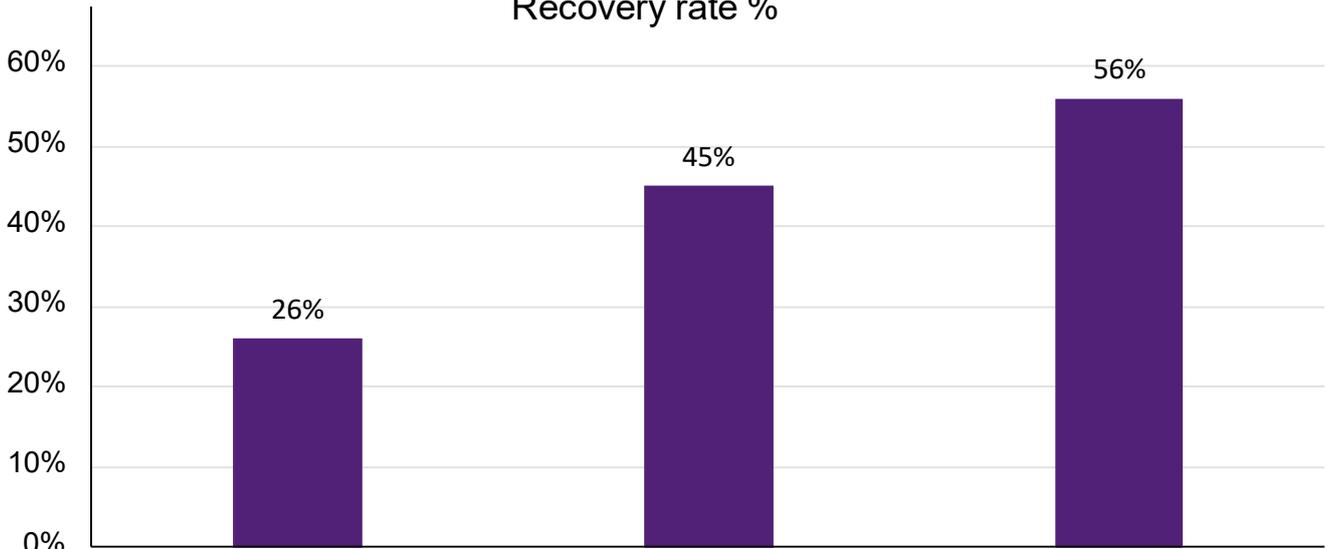
Current status of undergoing cases



■ >270 Days ■ > 180 Days ≤ 270 Days ■ > 90 Days ≤ 180 Days ■ ≤ 90 Days

- Till June, 2018, a total of 34 Corporate Insolvency Resolution Processes (CIRPs) had yielded resolution with the average recovery being 56%

Recovery rate %



Recover rate for stressed assets in India (as per Doing Business Report 2018)

Recovery rate for ARCs (upto June 2017)

Average recovery rate for 32 cases under CIRP (IBBI data as on June 2018)

■ Recovery rate %

- Out of the total 212 liquidated cases, only 30 cases saw a resolution value higher than the liquidation value. This poses a concern going forward wherein companies are getting liquidated even in the presence of optimal resolution. Further, these present set of companies being referred to NCLT have already gone through multiple restructurings in the past with substantial erosion in value over the last three-four years in the absence of an optimal viable solution.
- Creditors have recovered INR 49,783 crore, or almost 56% of their admitted claims, from 32 stressed companies where insolvency resolution plans were approved by the National Company Law Tribunal (NCLT) by the end of June 2018.

2. IBC code: Significant recovery in large cement and steel cases

- In 2017, some of India's biggest steel companies were responsible for major bad loans in the banking system. But as soon as IBC kicked-in, these non-performing assets became potential gold mines for big names such as Tata, Vedanta and Arcelor Mittal owing to the sector exhibiting strong domestic growth pursuant to levy of Minimum Import Price (MIP) to curb dumping by China.
- Since IBC came into effect, 30 million tonnes (MT) of idle steel production capacity (about a fourth of India's total capacity) has been ripe for the picking. As of January 2018, out of the 525 cases with total underlying default of INR 1,28,810 crore admitted under IBC, the steel sector was the single biggest defaulter in terms of both number of defaulting corporates (45) and total underlying default which amounted to INR 57,001 crore
- Success in large cement and steel cases
 - Binani Cement (100% recovery for financial creditor [FC]): The SC has recently approved UltraTech's revised bid of INR 7,950 crore for Binani Cement with a 100% recovery claims settled for all class of creditors, let alone FCs.
 - Essar Steel (100% recovery for FC): Arcelor Mittal, in its resolution plan, has offered INR 42,000 crore against 100% claims of FCs and recovery of approximately 90% against total creditors' claims of about INR 49,000 crore. However, Essar has challenged and has offered 100% recovery to all the creditors (secured/unsecured and operational), and the matter is in Supreme Court.
 - Bhushan Steel and Power (63% recovery for FC): Tata Steel limited bought the insolvent Bhushan Steel Limited for INR 35,500 crore with the recovery being about 63% of the total claim of INR 56,000 crore of total claims filed by financial creditors.
 - Bhushan Power and Steel (expected recovery of approximately 43% for FC): JSW Steel has offered INR 19,700 crore for Bhushan Power & Steel with a majority of 90% of lenders voting for JSW Steel's resolution plan. The company is competing with Tata Steel and UK's Liberty House for this asset that owes INR 47,000 crore to lenders.

3. IBC and power sector

- The country's power sector has been one of the highly stressed sectors in recent times, with loans worth approximately INR 1,00,000 crore having turned bad or been recast. Further, as per the recent estimates, around 66,000 MW capacity is facing various degrees of financial stress, including 54,800 MW of coal-based power, 6,830 MW of gas-based power and 4,570 MW of hydropower with the lenders having an exposure of around INR 3,00,000 crore to these assets, which is alarming, to say the least. According to the RBI, the total outstanding loans of scheduled commercial banks to the power sector, including renewables, stood at INR 5,65,000 crore as of March 2018.
- The matter has its roots in the controversial circular released by the RBI on 12 February 2018, where it mandated that loan accounts above INR 2,000 crore, that remained unresolved for more than 180 days (the period ended on 27 August 2018) be brought under the IBC and taken to the NCLT for resolution. The Allahabad High Court in a challenge refused to stay the RBI circular and accordingly, lenders in most of the stressed power accounts have filed recovery proceedings against these assets in NCLT.
- However, the Power Sector Association along with many of the sponsors have challenged the applicability of the RBI circular without any relief in the Supreme Court, as these projects have structural problems, like lack of long-term power purchase agreement, fuel supply agreement, under-utilisation, lack of equity funding including delayed or no clearances. The Supreme Court was scheduled to hear a challenge by power generation companies to the RBI's circular on November 28, 2018, laying down the norms for resolving bad loans, which provides temporary relief to power companies.
- It may be mentioned that there is no universal solution for these ailing power assets and a mixed multi-pronged strategy needs to be adopted instead of a straight jacketed approach. This has to be done as there are not enough takers for all of these stressed assets and any unthoughtful action may result in huge credit recovery losses for the banks/FIs.

Remedial measures necessary for the power sector



1. Feedstock availability (coal and gas)

- It may be mentioned here that the New Coal Distribution Policy, 2007 provided for supply of 100% of coal requirement at a normative requirement of 85% PLF by Coal India Limited (CIL), and based on that, substantial investments have been made in power generation. However, substantial stress in the power sector is primarily due to the unavailability of coal coupled with the absence of long-term PPAs.
 - The Scheme to Harness and Allocate Koyla Transparently in India (SHAKTI) has although partly addressed the coal linkages for projects having PPAs, it has not specifically addressed projects based on captive mines which were summarily cancelled by the Supreme Court, and projects having no PPAs with the increased price of coal as a pass through in tariff.
 - Coal linkages rationalisation shall save on the transportation and other associated costs, and could be way forward for lower variable costs for the power sector.
 - Augmentation in existing domestic production of coal is required (expeditious approvals under single window) and incremental coal thereby made available under forward e-auction to stressed power projects without being subjected to premium bidding to enable them to operate to even cater short term PPAs and/or through Discovery of Efficient Electricity Price (DEEP) portal.
- The MoP, in consultation with MoPNG, may jointly frame a scheme for revival of gas-based power plants on the lines of earlier e-bid RLNG (supported by PSDF), which worked satisfactorily well for two years before it was withdrawn.

2. Off-take related measures

- The National Thermal Power Corporation (NTPC) had executed a substantial number of long-term PPAs with state utilities prior to the applicability of compulsory competitive bidding power procurement for all DISCOMs even from its projects which were yet to be commissioned. To alleviate this stress of the existing operational projects having no PPAs, the NTPC can act as an aggregator to procure power under transparent bidding process, till the time its capacity is commissioned.
- Procurement of power by Power Trading Corporation (PTC) under medium term PPAs (about 5,000 MW to start with) from the power projects having inadequate PPAs shall address the issues related to the absence of power procurement by DISCOMs over the last four-five years.
- The existing PPAs contracted by stressed projects which is yet to be commissioned should not be cancelled and a grace period of two-three years is allowed. Further, the promoter should be given the flexibility to supply power under the mentioned PPAs from any of its alternate operational plant as long as the power procurement cost is not altered for a period of five years. This shall reduce the level of stress at the group company level.
- Under the new policy for allocation of coal linkage (SHAKTI), a nodal agency designated by the MoP, the Power Finance Corporation (PFC), can become the procurement of bulk power against pre-declared linkages to facilitate DISCOMs to procure power for medium term (three-five years) at competitive prices, assuring coal supply to generators.
- Improving DISCOM finances (UDAY), portal for auction for short term PPAs through DEEP and augmenting transmission capacity are some of the other measures to improve power markets.

3. Remedial measures for bringing stressed power capacity back on stream

- Old, inefficient and environmentally non-compliant capacity may be retired on priority to create space for the stressed power assets presently lying under-utilised to be brought back on stream.
 - It is estimated that approximately 30,000 MW of coal-based capacity primarily of the centre/state sector has surpassed its operational life of 25 years and can be replaced in a phased manner with efficient super critical plants of unit size of 500 MW plus capacity.
- National Investment Infra Fund (NIIF) along with the NTPC could take decisive steps for resolution of stressed capacity particularly for stressed projects, which are more than 90% complete, but are stuck up due to shortage of funds.
 - NIIF noted in December 2015 that progress has been slow due to the absence of any major funding commitments from foreign sovereign wealth funds or investors till Q1FY18 (Temasek and Abu Dhabi) coupled with its over cautious approach in making investments. However, they, along with expertise from NTPC, can provide a pivotal role in bringing the stressed assets back on stream.

- An asset-specific strategy by identifying low hanging fruits needs to be adopted especially where projects are fully commissioned but are stuck due to the absence of creditable long-term PPAs, working capital funding issues etc.
 - Differential strategy for stressed assets which are commissioned and are under different stages of construction. It is suggested that for projects which are less than 50% complete, it would make more economic sense to temporarily maintain status quo and utilise their long term contracted PPAs, if any at the group level by appropriate policy changes.
- No greenfield capacity to be undertaken by the NTPC/State Gencos and in the aliter, takeover of stressed power assets in a graded manner through competitive bidding.
 - It is estimated that more than 20,000 MW capacity by state/NTPC is at an initial stage wherein insignificant investments have been made and it would be more practical for them to acquire the stranded capacity under transparent bidding mechanism instead of any fresh investments in greenfield projects.

4. Financing suggestions

- RBI Circular dated February 12, 2018 has mandated banks/FIs to compulsorily approach the NCLT in case of a non-satisfactory resolution within 180 days from the reference date of 01 March 2018 (for exposures greater than INR 2,000 crore).
 - The matter is in the Supreme Court and the hearing was to take place on 28 November 2018 by power producers challenging this decision. As mentioned before, to address the huge stressed capacity, a multi-pronged strategy with differentiation of projects (completed versus under construction, PPAs and fuel availability etc.) is required with the strategic involvement of all stakeholders.
- Lenders need to proactively take steps for resolving the stressed power assets by a combination of following:
 - Asset-specific strategy consensus need to be crystallised among banks which may include sale to ARC on as is where basis, sale to financial/strategic investor under the Swiss Challenge route to select the best bidder, creation of an Asset Management Company (AMC) for funding by alternate investment fund (AIF), NIIF driven revivals, etc.
 - It is reported that Sashakt India Asset Management (AMC) has been formed to work towards stressed power resolution. Further, two of the power cases have also seen change in ownership viz. SKS Ispat and Prayagraj power.

5. Regulatory remedial measures under IBC and NCLT

- Quick disposal of tariff petitions including capital cost approvals with prompt release of compensatory tariffs, compensation of various levies/surcharges etc. is a pre-requisite for the revival of power plants already saddled with working capital issues pursuant to large receivables from DISCOMs.
- Increased emphasis on medium-term/short-term power procurement by DISCOMs aided through DEEP portal for a minimum of 5,000 MW is required to provide a much-needed impetus to the already operational projects avenues to operate.
- Securitisation of receivables from DISCOMs as a product shall alleviate the issues of delayed payments and its consequential impact on debt servicing and working capital requirement of the power generators.
- Introduction of pre-packaged bankruptcy schemes (known as pre-packs) is prevalent in the US, and the UK shall allow the creditors and shareholders to approach a pre-negotiated corporate reorganisation plan under a transparent mechanism shall go a long way to ensure that unnecessary litigations are done away with and timely resolutions are created.
- Capacity building at NCLT/NCLAT level to reduce the present timelines for getting admittance, time gap between hearings, etc. is required to be further streamlined to ensure that time value of the asset is preserved.
- Formulation of cross-border insolvency and notification of individual bankruptcy and insolvency laws shall provide an additional mechanism for getting effective resolutions under the IBC framework. It is already reported that pursuant to IBC, a recovery of more than INR 3,00,000 crore has been effected by the banks over the last two years.

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Vishesh C Chandio,
Chief Executive Officer, Grant Thornton India LLP

Glossary

ACS	Average Cost of Supply
ARC	Asset Reconstuction Companies
ARR	Aggregate Revenue Realized
CAGR	Compound Annual Growth Rate
CIRP	Corporate Insolvency Resolution Process
DEEP	Discovery of Efficient Electricity Price
DISCOM	Distribution Companies
EPC	Engineering, Procurement and Construction
FC	Financial Creditor
FI	Financial Institutions
GDP	Gross Domestic Product
GST	Goods and Service Tax
GW	Gigawatts
IBBI	Insolvency and Bankruptcy Board of India
IMF	International Monetary Fund
JLF	Joint Lenders Forum
KG basin	Krishna Godavari Basin
MIP	Minimum Import Price
MMSCMD	Million Metric Standard Cubic Meter per Day
MoP	Ministry of Power
MoPNG	Ministry of Power and Natural Gas
MT	Metric Tonnes
MW	Megawatts
NPA	Non Performing Assets
NTPC	National Thermal Power Corporation
PFC	Power Finance Corporation
PLF	Plant Load Factor
PPA	Power Purchase Agreement
PSDF	Power System Development Fund
PTC	Power Trading Corporation
R-LNG	Re-gasified Liquefied Natural Gas
SARFAESI	Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest
SMA	Special Mention Accounts
UDAY	Ujwal Discom Assurance Yojna

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Sources

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- Ministry of Power website
- World Bank (Ease of Doing Business) report
- Central Electricity Authority website
- Insolvency & Bankruptcy Board of India website



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