

What's Ailing Indian Energy Markets ?

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Indian energy markets are under distress. A decade after the Electricity Act - 2003 and wide ranging reforms across coal, gas, and renewable energy, the distress in the sector is leading to significant rethinking over the policy and approach in meeting the energy needs of a growing India.

The Electricity Act, 2003 was a watershed moment in the Indian power sector. The Act introduced deep reforms at several layers: it modernized the structural framework of the sector, created new institutions to support the sector's efficiency, offered new lines of business, and promoted private sector participation across the sector.

The Act also unbundled state electricity boards into separate generation, transmission and distribution companies. Until that point, Indian electricity boards had control over all of the three segments of the power business. The unbundling came with the expectation that the separate entities would subsequently operate in a more corporatized fashion and thus provide a level playing field for private companies in the power business.

The structural reforms were also accompanied by financial restructuring of the state electricity boards. The unbundled entities were granted clean balance sheets that erased existing debts. New measures for tariff rationalization, a multi-year tariff process, the ability of consumers to choose suppliers, and progressive reduction of cross subsidies were put in place to help these entities remain financially sustainable and profitable. At the same time, metered supply of electricity and provisions for preventing power theft were strengthened to curb aggregate technical and commercial losses that had taken a heavy financial toll on distribution utilities.

The Electricity Act also emphasized structural and regulatory reforms in transmission. It mandated non-discriminatory open access to transmission systems, introduced power trading as a separate line of business, allowed independent power transmission companies to form and compete, and established safeguards for open access by limiting transmission companies from participating in trading.

The Act opened up generation by allowing anyone to set up a power-plant (except for hydro) without the need for a license. It sought to promote the use of distributed and renewable energy generation. The Act also put in place an independent regulator at both the central and state levels to implement provisions of the Act and to oversee pricing determination.

Electricity in India is a dual subject within the federal Indian structure. Both the national and state governments share jurisdiction over electricity. Although the Electricity Act, 2003 was passed at the national level, it was meant to be implemented by the states. There

have been a few challenges. For example, most of the regulatory and structural reforms were implemented slowly after the Act's passage. Furthermore, despite all of these measures being in place across the states, performance and enforcement across the states is not uniform. And this uneven state of regulatory and structural reforms across the states has prevented a truly pan-India power market from emerging. Instead, the India power market is more a story about opportunities occurring in patches in some states while not in others.

The Electricity Act unleashed an exciting period for Indian power markets. The Act was quickly followed by several key regulatory measures: competitive bidding guidelines for power purchases by the distribution utilities; a national tariff policy; operation of power exchange; transmission access charges; enforceable grid codes; and broader synchronization of the regional grids.

With a stronger power regulatory environment, power capacity expanded rapidly. In the five year period between FY 2007 to FY 2011 (11th five year plan), India added approximately 54,000 MW of new capacity. Although it fell short of its revised goal of 62,000 MW for the five years, the performance against target was significantly better than of any previous five year plans. In FY 2011, the terminal year of the 11th five year plan, the country added nearly 20,000 MW – a record that was deemed almost impossible just a few years ago.

The 12th five year plan has set a target of 88,537 MW total capacity and current indications suggest that it will meet the target. For the first time in the country's history, it appears that the capacity addition target will be entirely met.

The private sector was a key beneficiary of the regulatory reforms of the Electricity Act, 2003 and a key driver of new capacity additions. The private sector not only moved in to build a large amount of the new capacity, they were also successful in raising the capital to support their expansion. In 2008 for instance, Reliance Power raised US \$ 3 billion in an initial public offering (IPO) – the largest ever IPO in Indian capital history to that point. The IPO was over subscribed within a minute of its opening. Several other companies followed suit raising domestic and international capital for expansion. At that point, the Indian power sector earned its credibility (at least in the eyes of investors) and capital became readily available to developers.

The euphoria did not last long, however. In January 2012, a dozen of India's leading industrialists, like Ratan Tata and Anil Ambani representing the Association of the Power Producers, met with the Prime Minister Singh to seek his intervention in preventing further deterioration in the power sector. The meeting focused on a large

number of problems that had been affecting the sector since the 2003 Electricity Act. In response, the Prime Minister convened a committee led by the Principal Secretary to review progress in the power sector. But, by this point it was already too late. It was clear that power companies were already in acute distress.

By 2012, several experts had estimated that close to \$30 billion of debt in the power sector was under risk of default. Banks had stopped lending to power companies. Investors, particularly private equity that fuelled the previous sky-high valuations, were retreating. Distribution companies, which had been given clean balance sheets only a decade ago at the time of the Electricity Act, were back again in the red with close to \$45 billion in accumulated debt. Experts forecasted up to 20,000 MW of stranded capacity.

The crisis was brought on by the confluence of several factors, most of them from outside of the power sector such as constraints in fuel supply and pricing, delays in environment and forest clearances, and the declining financial health of power distribution companies.

Within a decade of the Electricity Act, the power crisis provided one clear insight: the power sector could not be transformed with reforms only in the power sector. In order to flourish, the power sector also needed commensurate reforms along the full length of the electricity value chain, from fuel to distribution.

While the Electricity Act has opened up the power sector to a wide range set of structural and regulatory reforms, Indian fuel markets continued to lag behind dramatically. When electricity prices soared with deregulation, particularly in short term power trading markets, fuel prices (i.e., coal) continued to remain regulated and laggard. This created significant opportunities for arbitrage between fuel and power. The race to build power plants through much of the last decade following the Electricity Act turned out to be no more than the race to secure access to fuel.

The exuberance in the power sector seemed to be motivated in part by the arbitrage opportunity in the space between fuels and power. That aspect of the power sector seemed to come alive when one of the forerunners of the Indian power sector, Jindal Steel and Power Limited (JSPL), was targeted for investigation by the Central Bureau of Investigation (CBI). The investigating agency suspected that JSPL had lied and misrepresented facts on its application for coal blocks. CBI believed that JSPL colluded with the then Union Minister of State for Coal at the time, Dasari Narayan Rao, for allocation of a coal block in Jharkhand in 2007.

JSPL was one of the first companies in the spotlight when the coal scandal first broke in 2012. The scandal, labelled 'Coalgate' by the media, erupted after a report by the Comptroller and Auditor General of India that found the government may have caused a loss of \$35 billion by giving away coal blocks to private companies for free between 2004 and 2009.

When the scandal first broke, JSPL was not accused

of influencing the coal block allocation process and there was no direct hint of fraud or bribery. JPSL was merely accused of generating excessive profits by using its freely-awarded captive coal block to generate cheap electricity, which it subsequently sold into the lucrative short-term merchant market.

For example, JPSL has a 1,000 MW power plant in Chhattisgarh that was commissioned over 2007 and 2008. The captive coal blocks that JPSL had been granted for the plant provided access to 280 million tons of reserves. At that time, the mining costs were low, which by the company's own admission, amounted to approximately \$12/t, ex-coliery. JPSL sells almost all of its electricity into the short term market.

In the nine years between 2003 and 2012, JSPL's revenues grew twenty fold and its net revenues by a factor of twenty-eight, resulting in an annual average growth rate of 40% and 45%, respectively. Its power plants were the biggest margin drivers within the group: in fiscal year 2011, JPSL's power business accounted for a quarter of its combined iron, steel, and power business, and 35% of its consolidated profits before tax.

The coal scandal was, in part, an expression of the fact that India's power and coal markets were exceedingly out of sync. Since the coal scandal, the Indian government has moved toward auctioning coal blocks rather than awarding them to private parties for free. But that process has dragged on and implementation is already a full year and half delayed. In the meantime, acute coal shortages resulting from faltering production from Coal India Limited (CIL), the near monopoly coal producer and marketer, is compounding problems within an already distressed power sector.

Although the Electricity Act did bring about significant changes within the sector, the exuberance that followed has been short lived. There is already a growing chorus for revisions to the Electricity Act with the intent of breaking up the distribution business into a wires and retail component. These complaints beckon the question: why is India's power sector back at the power table calling for another overhaul less than a decade after the revolutionary Electricity Act, 2003?

The answer: the severe disconnect between fuel and electricity markets. Coal is the primary source of electricity in India accounting for close to 70% of power generation. Although electricity markets have liberalized, coal prices and markets continue to be regulated. CIL is the largest producer, accounting for approximately 80% of the supply to the power sector. Although CIL technically has full control over coal prices, in practice the government keeps coal prices artificially suppressed. As a result, there is a tremendous mismatch between the demand for domestic coal and the supply from CIL. To put this another way, you can't have one energy sector liberalized and free-market while another is state regulated?

Introduced in the 70s, the Coal Nationalization Act prevents private companies from marketing coal.

For over two decades, successive Indian governments have attempted to modify the long standing Act that nationalized coal marketing. None of the reform efforts have succeeded. As a result, there has been an attempt to introduce competition in the coal sector through back door regulations, such as by allowing private parties to own coal blocks for captive use. Such regulations have multiplied over the years to the point where it has become unsustainable to have a coal sector without fundamentally reforming the Coal Nationalization Act.

But why doesn't India reform the Coal Nationalization Act? Why have successive governments failed to do so even when the case for reforms is so glaringly self-evident? Of course, entrenched interests have blocked such reforms. But such a simplistic answer misses the most fundamental point about the Indian power and energy sector today.

The Indian energy sector is at a cross road, caught in a soul-searching question about who should be the beneficiaries of its domestic energy sources?

Over the last few years, India has put in place several policy measures specifically designed to prevent the fuel-to-power arbitrage. These measures are specifically designed to prevent power plants from capturing any of the value from cheap domestic coal by passing on higher-priced electricity.

Politically, these measures are designed to ensure that the benefits of cheap domestic coal trickle down to power consumers. In other words, such mechanisms are an effort to keep electricity prices low by artificially suppressing domestic coal prices. The fear, of course, is that if coal were correctly priced for shortage or if power plants were allowed to extract the value of cheap coal, it would increase electricity prices to a point where it would be out of reach to millions of poor Indians.

The current sense of crisis in the Indian power sector may be nothing more than two competing goals playing out simultaneously: an effort to improve the efficiency of the Indian coal sector is pulling the sector in one direction while the desire to ensure that India's poor remain the primary beneficiaries of her coal is pulling in the other direction.

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