

Opinion

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Banking needs urgent consolidation

In a stronger economic environment, lenders might have bounced back, but NPA risks are increasing in power, real estate, telecom

HOW MUCH ROT still remains in the banking system, and how little we know about it was evident last week, after the capital markets regulator directed all listed banks to disclose any divergence in provisioning for bad loans within 24 hours of receiving the Reserve Bank of India's (RBI's) risk assessment report. Three banks made disclosures. For Union Bank, the divergence was close to ₹1,000 crore, which meant its losses for 2018-19 were closer to ₹4,000 crore than the ₹3,000 crore reported. For Indian Bank too, the divergence was a chunky ₹820 crore. This is a reality check, and tells us that while the intensity of the non-performing assets (NPA) cycle may have ebbed, the cycle itself hasn't ended. The larger insolvencies have found their way to the NCLT. But, the continuous downgrades across the corporate and financial sectors seen over the last six months, as also the near-collapse of a co-operative bank, are all proof there could be a few more nasty surprises. A *Jef-feries* analysis showed that there are pockets of problems; the aggregate interest coverage ratio has fallen from 6.4 times in March to 5.6 times in June, and the debt/EBITDA for 'A' rated companies looks precipitous at 6.3x.

That calls for a real-time asset quality review (AQR) in which RBI continuously monitors the loan books and balance sheets—of banks, Non-Banking Financial Companies (NBFCs), and also, if possible, co-operative banks. The rigour has to be greater than ever before. And, if it doesn't look good, which is likely, we need to fast track consolidation.

In this context, reports of a foreign bank wanting to buy a stake in Yes Bank are heartening, and RBI should try and speed up the acquisition. The fact is that asset quality at the beleaguered private sector lender continues to deteriorate, as seen in the Q2FY20 results, and while it may manage to raise more capital, that is not good enough. RBI should have been monitoring the bank, and the transactions of the original promoters a lot more closely than it did, but there is no point crying over spilled milk. Right now, Yes Bank needs much more than just a financial investor; it should be handed over to a sound franchise. The new entity would be in a position to raise capital at a much lower cost. It may sound brutal, but the writing is on the wall. In a stronger economic environment, the lender may have bounced back, but the rapid pace at which credit profiles of companies and NBFCs are deteriorating, is worrying. In the past, the regulator has sometimes waited too long before asking a stronger lender to take over one that has collapsed, or is on the verge of a collapse. Those were better times, and the buyers could endure more pain; today, it will be harder.

It is not just Yes Bank, there are several other weak lenders—whether banks, HFCs or NBFCs—in the system, and this is a good time to facilitate mergers. Many of the smaller private sector banks are in serious trouble. To reiterate, had the environment been more supportive, one could have given them more time to recover, but the risks seem to be increasing, with more NPAs expected in sectors such as MSME, power, real estate, and telecom. With growth slowing and liquidity tight, MSMEs have been among the worst hit, and the stress could be exacerbated because they are not getting access to loans at affordable rates from banks and NBFCs.

NBFCs and HFCs are not able to access loans because of their worsening credit profiles; in fact, today access to liquidity is becoming a big problem. The rate of growth of deposits, too, has been slowing, and only those banks that inspire confidence will be able to attract retail savings.

It is possible RBI is working quietly behind the scenes to minimise the fall-out of the defaults in the NBFC sector, but some quick action would restore depositors' confidence. The DHFL issue, in particular, needs to be resolved quickly since banks have a big exposure of close to ₹40,000 crore. One more PMC will dent consumer confidence badly. The government did the right thing in initiating consolidation in the public sector banking space. A crisis is a good time to make big changes, and the consolidation of 27 PSU banks into 12 will help achieve scale, lower costs over a period of time, prevent any overlap in products and services, and, above all, strengthen the balance sheets. A big bang consolidation of this type for private sector banks, NBFCs, HFCs will help. The system has too many small lenders, making it inefficient and costly for borrowers. Most pertinently, not all of them may be safe.

Early SKILLING

Union minister Smriti Irani is right about the need for introduction of skill education early in schools

AKPMG REPORT last year highlighted that the number of Indian start-ups increased tenfold, to 50,000, between 2008 and 2018. India added 1,200 new start-ups in 2018 alone. That means 1,200 companies required web-developers and web-designers to create their websites and handle cloud and development services. The trend indicates that demand for people with computer-related skills has been growing, but the education system has not adapted to this reality. Union minister for women and child development Smriti Irani's statement that skilling needs to start from an early age (10 or 12), thus, seems to be a good idea. At the launch of skilling initiative YuWaah in conjunction with the government, Irani also said that women need to go from being consumers to makers of technology. A Deloitte report shows that female participation in the labour force has fallen to 26% in 2018 against 36.7% in 2005. This, despite the fact that women's enrollment in higher education has increased drastically—from 1.2 million in 2010-11, female enrollment increased 15-fold to 18.2 million in 2018-19. The situation is worse in the engineering and technical fields. As per AISHE 2018-19 data, while female enrollment in undergraduate courses was 49%, women's enrollment in BTech courses was just 28%.

The skill development programme has faced various issues in the country—CAG had come out with a report highlighting irregularities in operation and performance of the National Skill Development Council; but, one of the primary problems has been the late introduction of skilling. While most countries start focusing on vocational education from an early age, India's skill development starts after school completion. This needs to change. Although India introduced computer education in 1984-85, it is not counted as an integral part of the curriculum, not until higher secondary years. With software-making skills being taught at the middle school level in some countries, India needs to do the same. Last year, the World Economic Forum (WEF) released a report on the future of jobs. Besides the usual warning of increasing automation and falling employment, the report also highlighted that artificial intelligence specialist, blockchain specialist, and big-data analyst are some of the likely professions of the future. All of the nine new trades listed by WEF were associated with technology. As automation increases, WEF estimates 42% tasks will be automated in 2022, a sharp rise from 29% in 2018; India cannot ignore the importance of technology for gainful employment.



ROAD TO PARIS

French president Emmanuel Macron

If we want to be in compliance with the Paris agreement, we will need next year to enhance our commitments to reduce emissions, and we must confirm new commitments for 2030 and 2050.

THE REAL MAINSTREAM

CONTRARY TO THE CLAIMS MADE BY THE DELHI GOVERNMENT, AIR POLLUTION IN THE CITY HAS DETERIORATED SIGNIFICANTLY SINCE 2012

The truth about air pollution in Delhi

CHANDRA BHUSHAN

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monitors in 112 cities/towns. Manual monitors, therefore, are sentinel monitors as they have comparable data for the longest time-frame.

As one can see in the accompanying graphic, continuous monitoring is a recent phenomenon in Delhi. Twenty continuous monitors were installed in 2018, and seven were introduced in 2017. We have data from only four monitors for 2012 onwards. But, there are significant data gaps from these four monitors. For instance, the Dilshad Garden monitoring station had correct data

for only 32 days for 2013; the ITO station has data for less than 50% of the time for 2012, 2014, and 2016; and RK Puram has no data for 2013, and 2014. Most researchers have concluded that using data from the continuous monitors to estimate annual pollution levels for the years 2012 to 2016 is statistically wrong. Therefore, one has to rely on manual monitors to establish whether the pollution status has improved or deteriorated since 2012.

The data from manual monitors, published by CPCB, shows that the

amount of PM 2.5 has almost doubled between 2012 and 2018—from 63 µg/m³ in 2012 to 121 µg/m³ in 2018. The average PM 2.5 level during 2012-2014 was 72 µg/m³, and during 2016-18, it was 115 µg/m³—an increase of 59%. So, air pollution levels in Delhi have increased significantly, and not reduced. From where, then, has the Delhi government put together data to show a reduction of 25%? Interestingly, there is another set of data put out by DPCC, which is less publicised. This DPCC data shows that the average level of PM 2.5 was 154 µg/m³ during 2012-14, which reduced to 131 µg/m³ during 2016-2018—a reduction of 15%. DPCC data, however, comes with a disclaimer. It clearly states that for the period 2012-2017, the data is based on four continuous monitors, and the 2018 information is based on 26 monitors. As explained above, the data from the four continuous monitors are incomplete. They cannot be the basis for estimating pollution levels during the 2012-2017 period. Even if we had complete data from the four continuous monitors, comparing data of four monitors with that from 26 monitors is highly spurious. It will not stand even the basic statistical scrutiny.

Nevertheless, let's take the DPCC data with a pinch of salt, and put it together with the CPCB data. We can see, in the accompanying graphic, where the mistake has happened. The Delhi government has taken continuous monitoring data of DPCC for the period 2012-2014 and manual monitoring data of CPCB for the period 2016-2018 to claim that air pollution reduced by 25%. This is cherry-picking, and completely wrong. These types of analyses cannot be the basis for decision-making.

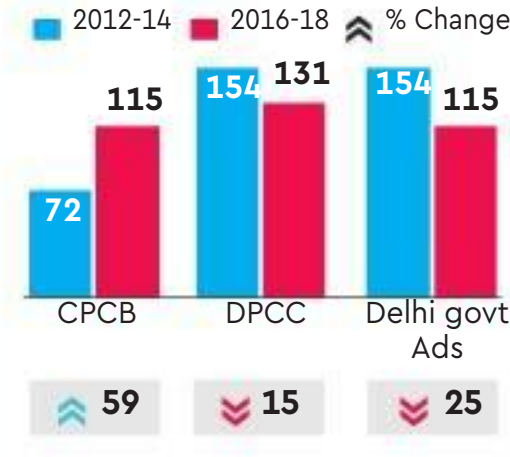
Let me end by saying that I support CM Arvind Kejriwal on stubble burning. He is absolutely right that the spike in pollution post-Diwali is because of stubble burning. One can smell biomass burning in the air, and we need to do something about this urgently. But, he is wrong to claim that his actions have led to a 25% reduction in pollution levels. Instead of putting out wrong information, it is important that his government goes back to the drawing board and develops a new blueprint for saving this historical city from Airpocalypse.

State of pollution monitoring in Delhi

	Manual monitors	Continuous monitors	Comments
Central Pollution Control Board (CPCB)	7	6	Manual monitors: Data for PM2.5 available from 2012 Continuous monitors: For 3 stations data available from 2016; for the remaining 3 stations data available from 2012, 2014 & 2017, respectively
National Environmental Engineering Research Institute (NEERI)	3		No data for PM2.5
India Meteorological Department (IMD)		7	For six stations, data available for 2017 onwards; for one station, data for only 2018
Delhi Pollution Control Committee (DPCC)		24	For 19 stations, data available from 2018 onwards; 2 stations data available for 2012 onwards and for 3 stations from 2015 onwards

Source: Analysed by the author from <https://app.cpcbcr.com/>

PM2.5 data by different agencies (µg/m³)



PM2.5 levels in Delhi



Source: CPCB

RCEP didn't make much sense for India

Experience of FTAs with 12 East Asian countries shows that participation in regional value chains without ensuring that the domestic entities are efficient is a non-starter

BISWAJIT DHAR

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AFTER MONTHS OF ambivalence over its position *vis-à-vis* the Regional Comprehensive Economic Partnership (RCEP), India finally made the decisive move to step away from the 16-Member economic grouping in East Asia. PM Modi had made it clear that India would not sign a deal that does not address its concerns. It became clear from the Leaders' statement issued in Bangkok, at the end of the 3rd RCEP Summit, that 15 countries were going ahead with an Agreement which had several elements that militated against India's interests.

For quite some time now, Indian farmers and a number of leading manufacturing companies have been consistently flagging the imminent dangers of joining RCEP. This grouping had agreed to undertake sweeping tariff liberalisation, and India was expected to eliminate tariffs on 90% of its imports from ASEAN, and on 80% of its imports from China. Such demands went completely against Indian core interests of protecting and promoting its vulnerable segments of agriculture and the manufacturing. In fact, in all the major free trade agreements (FTAs) India has negotiated thus far, especially with the 10-member ASEAN, Korea and Japan, the country was able to prevent the vulnerable segments from getting exposed to market competition. However, with RCEP demanding such deep tariff cuts, the possibilities of protecting the vulnerabilities became next to nothing.

There were at least two reasons why Indian entities were worried about their

future if the government had signed on to RCEP. The first is that the three FTAs, with ASEAN, Japan and Korea, implemented from the beginning of the current decade, have not served India well. In every case, the trade deficit with the FTA partners has ballooned, owing to a double whammy, namely, increasing imports, but more importantly, the lack of momentum in exports. In fact, the trade deficit with ASEAN had seen a spike recently, rising from about \$13 billion in 2017-18 to nearly \$22 billion in 2018-19. No wonder then that the prime minister has called for a review of the India-ASEAN FTA.

The second factor is the large footprint of Chinese products in the Indian economy. But more significant than the sheer size of the trade deficit, once again caused by India's inability to penetrate China's market, is the fact that India exports raw materials and intermediates to its northern neighbour and imports finished products, not to speak of critical electronic items. This almost resembles the colonial pattern of trade, which we thought was behind us seven decades ago.

Over the past two years, the lack of competitiveness of Indian entities and their constant agitations, made the government take an unprecedented step towards reversing the tariff liberalisation policy. Between 2017 and 2018, tariff increases effected by the government hiked the average tariffs on manufacturing products from below 11% to nearly 14%, while average tariffs on agricultural products increased from below

33% to nearly 39%. This trend in tariff increases was also followed in 2019, with the finance minister hiking tariffs on several product categories.

There is no doubt that the decision to exit from RCEP was also taken because the manufacturing sector is going through its worst phase in decades. Exposing the manufacturing sector to competition from some of the most efficient producers would have accentuated the existing vulnerabilities and worsened the unemployment situation.

Finally, there is also a need to address an oft-heard position that not joining RCEP would deprive India of important markets and participation in value chains in the East Asian region. It seems that this position is taken without making the necessary fact-check. The reality is that India has existing FTAs with 12 of the 15 RCEP participating countries. These markets are available to us, but, as mentioned earlier, domestic vulnerabilities are preventing India from exploiting them. Moreover, imports from these countries have registered steep increase in the past few years; RCEP would have reinforced this trend. The second reality is that RCEP would have provided preferential market access to Chinese products, which, even without these lower tariffs, have had a dominating influence on the India market. Third, participation in regional value chains without ensuring that the domestic entities are efficient is a non-starter; the decade long experience of implementing FTAs with 12 East Asian countries has proved this beyond any doubt.

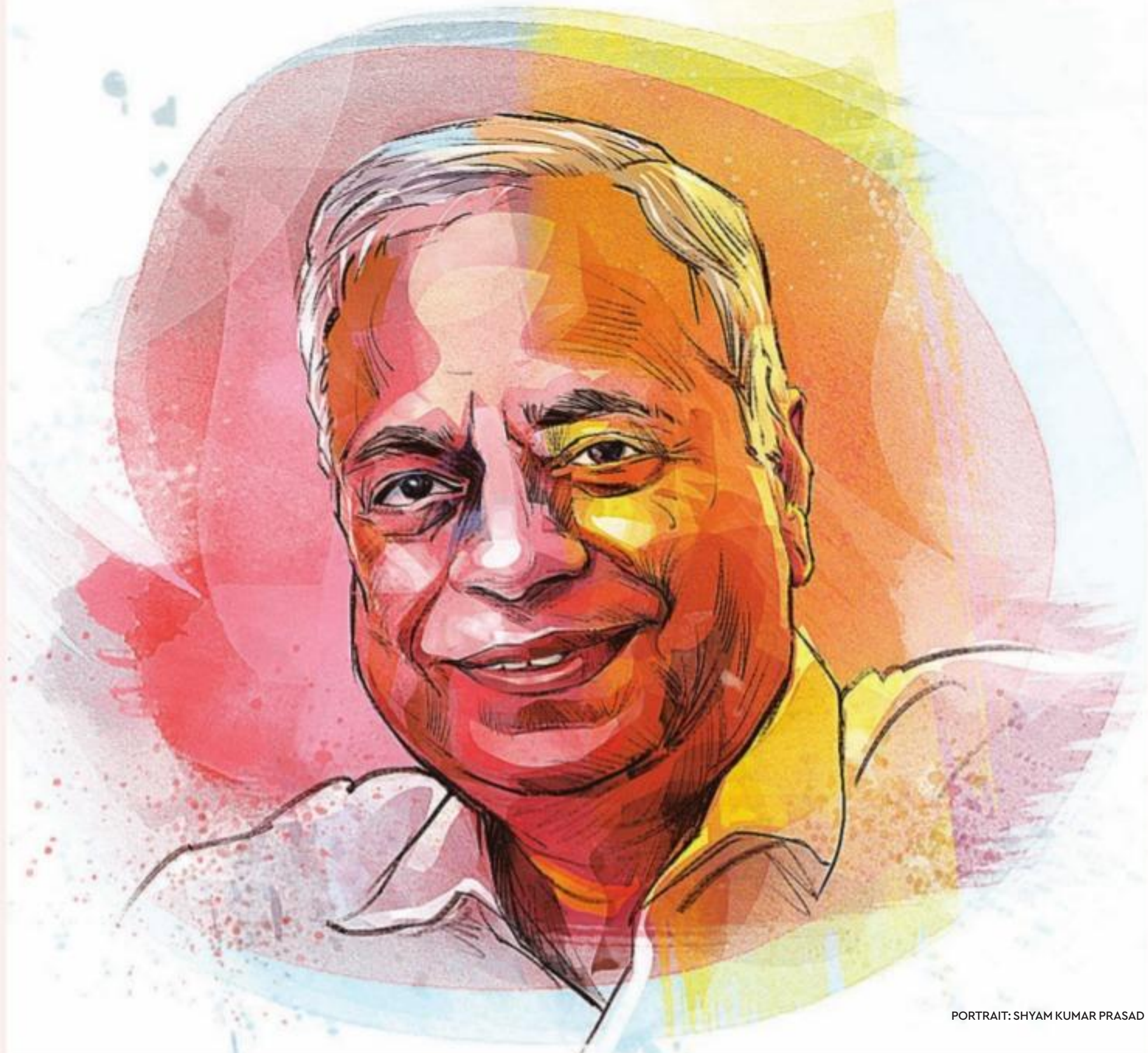
LETTERS TO THE EDITOR

Delhi police and lawyers violent clash

This refers to the one-sided action of suspending two police-persons and transferring two senior police officers, following the violent clash between lawyers and the Delhi Police on November 2 at Tis Hazari court premises in Delhi without any action against any lawyer, including the one who initiated the ugly clash by wrongly parking his car in front of the police lock-up in the court premises. Impartiality demanded that licence of the lawyers involved in the clash also be suspended till completion of enquiry. It is usual for no action to be taken against any lawyer in incidents of clash between lawyers and the police, while some police-persons are targeted with immediate suspension and transfer, as was done in an incident in the year 1988, when Kiran Bedi was Deputy Commissioner of Delhi Police (North). One-sided action against police-persons following the clash of November 2 resulted in them being totally helpless in defending citizens, media-persons, and themselves in violent scenes created in and outside the court premises of Saket and Karkardooma in Delhi on November 4. Such beating of police-persons will only encourage hard-core criminals, including those in prison, to be violent against police personnel. It should be ensured that licences of lawyers found guilty are permanently cancelled after enquiry is over to prevent lawyers from taking the law in their own hands in the future.

— SC Agarwal, Delhi

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PORTRAIT: SHYAM KUMAR PRASAD

● **FOOD caFE:**
ASHOK JHUNJHUNWALA

Working on solutions for 'very' Indian problems

Jhunjhunwala, a professor at IIT Madras Research Park, tells **Sushila Ravindranath** that the Park brings together faculty with their wealth of knowledge, industry with its capacity to monetise innovation, and students with their entrepreneurial zeal to make the Park a nest for start-ups

THE IIT MADRAS Research Park, established about 10 years ago, is the first university-based research park in the country. And it's a huge success. The then UK minister for Universities, Science, Research and Innovation, Sam Gyimah, came to spend half an hour at the Park last year, but ended up staying almost the entire day there. He is supposed to have wondered why this treasure had been kept in hiding. When prime minister Narendra Modi came to the IIT Madras convocation a few weeks ago, he took a brief tour of the Research

Park infrastructure and interacted with the start-ups incubated by the Incubation Cell and the scientists at the R&D Centres of Excellence, and even visited the stalls set up by them.

The stalls showcased innovative products and solutions developed by the start-ups working across diverse sectors such as AI, robotics, agritech, biotech, edtech, electric mobility, healthcare, skill development and water treatment. These start-ups have been focusing on deep-tech areas, developing innovative and indigenous solutions that can help meet the challenges of national importance.

The prime minister expressed his admiration for the Research Park in his convocation address, and wished for more such industry-academy collaborations across the country.

I drop in at the Research Park that now houses over 100 R&D companies, and 200 start-ups, in its 1.2-million square feet built-up area, to meet the legendary Dr Ashok Jhunjhunwala. He is a professor in the Department of Electrical Engineering at IIT Madras, teaching there since 1981, and now faculty professor at the Research Park, which is his brainchild. He has been at the forefront of promoting industry-academia interaction in the country for R&D, innovation and product development for years. The IIT Madras Research Park has been conceived and built by him. In fact, this is one among his many other achievements, including his pioneering work on wireless technology. Earlier, he was an adviser to the central government on its electric vehicle programme—a project he is passionate about.

He invites me to go around the Research Park and take a look at some of the incubation projects, before I meet him for a snack at the Cafe Puriology, at the food court, which serves street food with a twist. We order panipuri with Chinese and Italian fillings, sprouts, bread pizza sandwiches and some regular *chaat*, to keep us going. We also get some hot *masala chai*, as it is an unusually cool and rainy day in Chennai.

Jhunjhunwala has believed in encouraging entrepreneurship amongst his students even in those days when young people wanted to either migrate to the US or find a safe and steady job in India. He has incubated and nurtured over 100 companies at IIT Madras. He also set up the ITM Incubation Cell and Rural Technology and Business Incubator (RTBI).

Jhunjhunwala laid the foundation for industry-academia interaction when he established the Telecommunications and Computer Networks group (TeNeT), with the current IIT Madras director, Dr Bhaskar Ramamurthi, 20 years ago. The faculty raised money from companies that could potentially be users of products developed by the start-ups emerging from TeNeT.

Jhunjhunwala has always believed in industry and academy working together to make research commercially viable. "Faculty has the breadth of knowledge. Industry can convert innovation into

money. Youngsters are fearless and do not know that something cannot happen. We have tried to bring them all together," he says.

By 2010, the IIT Madras Research Park had become a reality. "I had to work with IIT directors, to convince them about this partnership. We also had to get the land adjacent to the IIT. You can't have a research park that is miles away from the campus. The Tamil Nadu government managed to offer the project the required land close to the campus," he says.

The Research Park is modelled on the lines of research parks at Stanford University, MIT and Harvard University. It now houses the IIT Madras Incubation Cell, which was established in 2013.

"The Research Park is a board-run independent company. Nobody can influence us. We have invested ₹500 crore, of which early-stage funding came from government grants and industry-alumni donations. Corporate social responsibility has become a big contributor in the recent years. We borrowed ₹380 crore from the banks. The board was initially worried about this. We have, however, managed to pay back ₹360 crore. We make an income of ₹30 crore per year from rent," says Jhunjhunwala.

When companies come to the Research Park, there is a grading system. Companies have to maintain 1,500 credit points. When a company offers internships to students or hires them, they earn points. Every R&D interaction with an IIT gets a credit. "We make it a part of the rental contract, which ensures the purpose of the facility is met. In some cases, the firms have linked a part of the variable pay for their key executives to their engagement with the Research Park. These are the things you need to do to get the initiative going," he adds.

Jhunjhunwala further says that 10 years ago only 8% of the IIT faculty worked with industry. "Today, the number has increased to more than 50%. More than 50 faculty members have incubated companies here. The entering process for incubation is not easy. The start-ups pay very low rents for world-class facilities. We hand-hold them; they can't waste resources," he says.

Ather Energy, which is preparing to roll-out its first smart scooter, the S340, is a product from the incubation cell. The company is backed by Hero MotoCorp. Jhunjhunwala says that many of the ideas are not pies in the sky, but are translating into IP-backed products and services.

The incubatees can't compromise. They have to focus on the customers. Most start-ups are deep-tech companies. "We take a small share in the companies we have incubated. Today, the current share value is ₹700 crore. The valuation is much higher," he says, adding, "there is Detect that has developed robotics to check oil pipelines; FIB-SOL that is working on nano-fibres for agri-inputs; Stellapps for end-to-end dairy management gathering data on the cloud. They are all working on solutions for very Indian problems."

About the Centre of Battery Engineering and Electric Vehicles (C-BEEV)—headed by Dr Prabhjot Kaur—which is working with Tata Motors, M&M, Ashok Leyland, Ampere, Kinetic and battery manufacturers Exide and Amara Raja Batteries, he adds that work is happening on new solutions to make battery costs cheaper and to make EVs a viable option in the country, again with very Indian solutions.

As he shares all this information with me over food, I notice that many people want the professor's attention. Soon, I take leave, and as we are leaving the food court, he tells me that almost 70 global companies have set up their R&D centres at the Research Park. Interestingly, Saint-Gobain Glass, the French multinational, has got 5% of its global patents from its centre at the Research Park.

"We have to make equipment in India for Indians. We must make India independent. I want India to succeed," says Jhunjhunwala.

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● COLD WAR

Split spreads from tech to global trade

DAVID
FICKLING

Bloomberg

The government of prime minister Modi no longer needs to make difficult concessions on agricultural trade

FROM A POLITICAL perspective, India's decision overnight to walk away from immediate involvement in a trade zone encompassing half the world's population and a third of its economy is good for almost everyone.

The government of prime minister Narendra Modi no longer needs to make difficult concessions on agricultural trade. Other members of the Regional Comprehensive Economic Partnership group, or RCEP, won't need to open their home markets to India's thriving, and low-cost, services sector. China, the linchpin of a zone that also includes the Association of Southeast Asian Nations, Japan, South Korea, Australia and New Zealand, will be able to move forward faster with an agreement that was at risk of being jeopardised by India's foot-dragging.

The US, meanwhile, can take satisfaction from the fact that its key regional ally in New Delhi is remaining outside of Beijing's orbit. A stronger RCEP that included India would almost certainly have revived politically fraught question of whether Washington should rejoin the rival Trans-Pacific Partnership agreement or TPP, which died in Congress under the Obama administration and was formally killed off by President Donald Trump.

That's precisely the problem, though. Trade agreements are hard precisely because deals that are worthwhile economically tend to be politically hazardous, and vice versa. India's pause on the RCEP isn't the cause of the parlous state

of international commerce in 2017, but it's another telling symptom of a global trading system where volumes are now falling at the fastest pace since the 2009 financial crisis.

Trade is moving in a similar direction to tech, with the world bifurcating into separate zones as tensions between China and the US force nations to take sides

Both the RCEP and the pared-down, US-free version of the TPP are better understood as attempts to harmonise trading standards than reduce tariff barriers.

In part this is a result of the success of previous trade agreements, which have lowered border levies to the point where the more potent restraint on commerce is often non-tariff barriers.

governing areas such as food safety, licensing, and rules of origin. Even within the more protectionist RCEP zone, the median trade-weighted tariff had fallen in 2017 to about 5.15%, a lower average rate than Australia or Canada imposed in the mid-1990s.

Still, the effect of harmonising standards at the regional-agreement rather than global level is the opposite of an opening of trade. The objection to the original TPP—that it resulted in the US imposing its standards on other economies within the bloc—comes with the territory in such deals. The standards that are established across the zone inevitably resemble those of its largest member. That would be fine in a global agreement, but in a regional deal the effect is to raise barriers to nations outside the bloc with different rules.

In the case of RCEP, that means smaller and lower-income countries in Southeast Asia are likely to become more closely entwined with China, while their links with potential partners outside the zone will fall behind. The reformed TPP, likewise, will bind those nations closer to each other than to the rest of the world. Only the handful of countries in both blocs—Japan, Australia, New Zealand and Singapore—stand a chance of benefiting as much as China.

The result suggests that trade is moving in a similar direction to tech, with the world bifurcating into separate zones as tensions between China and the US force nations to take sides. It's a path that's grimly reminiscent of the aftermath of World War II, when the US-led Marshall Plan and Soviet-centered Comcon developed into rival trading blocs. That division split the global economy for the duration of the Cold War. We shouldn't welcome its revival.

THE AVERAGE PLANT load factor of thermal power stations have come down from over 75% to 60%. Quite a few new thermal power plants are not being able to sell enough electricity and are, therefore, having difficulty in repaying their loans. The common inference, therefore, has been that India has surplus power generating capacity. The reality, however, is a bit more complex. Electricity is unlike other industrial goods. It is supplied through the grid, and at every moment supply needs to match demand to maintain grid stability. If demand falls, generation has to be reduced. If demand rises, generation has to rise. If it cannot be raised to meet the full demand, load shedding has to take place; this was, fairly common across the country earlier. Demand varies throughout the day as also across seasons. In Delhi, the peak demand is 70% higher than the minimum demand on an average day. At the height of the summer the peak is 10% higher. The decline in the plant load factor of the thermal plants in the country is a consequence of peak demand being met. 80% plant load factor was possible only due to substantial load shedding. The latest report of the Central Electricity Authority says that India still has a peaking power shortage of 2%.

The question that arises is what is the most cost effective way of meeting daily as well as seasonal peaks in demand; running

Redesigning power purchase

Peak-load pricing is the way forward. India also needs to push renewables

AJAY
SHANKAR

Distinguished fellow, TERI and former secretary, DIPP



thermal power stations at lower plant load factors as is the case at present, or, are there better options. The best way of discovering this is for the Power Distribution Companies to invite bids separately for their base load, that is, minimum demand through the day, and for their peaking power needs separately. This is not how power is presently procured. As power shortages had persisted till a few years back, the issue of meeting peaking demand at least cost did need attention. Now, time has come to start price discovery for peaking power by inviting bids. For price discovery, these bids should be for supply from a prospective date, giving enough time for new investments. Bidding for supply from a future

date would also suit most distribution companies as they have a portfolio of long-term contracts with thermal plants with the capacity to meet peaking demand. If repeated bids are invited by the distribution companies, over the next few years, then a competitive market structure for supply of peaking power would emerge.

Potential bidders would have to consider a range of possibilities. Whether peaking power generation from gas-based plants using imported LNG at market prices can be the winning option or if coal will still work out to be cheaper for peaking power? Consequently, can existing hydro projects, which are with the state governments and central undertakings, and have



the potential for pump storage, or, some re-engineering, to get greater flexibility for peaking power supply be a cheaper option? Can diesel be an option or will solar with battery storage have a chance? Solar thermal with storage may also emerge as an option. A few years of invitation of a large number of bids in an open globalised economy should lead to movement down the cost curve for competing technologies given the size of the Indian market and its potential growth in the coming years.

Bidding for peaking power separately for the day and for the evening/night peaks would become necessary as the share of renewables rises. This should increase from around 10% at present to

over 40%, something that Germany has already achieved. The Electricity Regulators have been discharging their responsibility for promoting renewables by gradually increasing the mandatory share of renewable energy that distribution companies are required to buy. When the sun shines, solar power is the cheapest source of electricity. The critical challenge is to begin getting electricity from renewable sources at night so as to be able to get all electricity from renewables. Some bids for small capacities for solar thermal with storage and battery storage for supply at night should be invited knowing that these would be quite expensive. There would then be discovery of the price dif-

ference in peaking power at night, between supply from fossil fuel and renewables. This would also start the learning process for movement down the cost curve for storage. Based on the experience of solar power over the last ten years, prices have come down from over ₹16 to less than ₹3 per unit, expectation is that the price of storage should also come down substantially with large scale deployment. As prices are expected to decline, contracts should be for a shorter duration, most likely equal to the period for which term loans are given, and not for 25 years as is the case with thermal plants. The security of power purchase agreement for the duration of the loan would make financing possible.

This could place India as a global leader in moving towards fully fossil fuel-free electricity. And, could well happen within a decade if we start now.

The distribution companies need to individually assess demand growth in terms of time of the day as well as seasons. Bid documents for procurement of peaking power need to be designed. The regulators need to mandate this. Then the central government would need to change policy to ask the regulators to begin mandating some supply of electricity at night from renewables, and gradually increase the quantum. Leadership from the center would be critical in getting the states on board.