

THE WORLD BANK'S historic issue of green's historic in November 2008 was the result of a phone call to their Treasury by Swedish pension funds who were keen on investing in climate projects. It gave investors an opportunity to support climate solutions through investments guaranteeing financial returns. According to the multilateral agency, they have since then raised \$13 billion through 150 green bonds in 20 currencies. The Intergovernmental Panel on Climate Change (IPCC) 2007 report that prompted Swedish investors to take note of climate solution projects had linked the increase in global temperatures to the increase in anthropogenic greenhouse gas (GHG) concentrations, and had highlighted that the largest contributors to emissions during 1970 to 2004 were energy supply, industry and transport sectors. Ever since, emissions have gotten the attention of global policymakers like never before. Last month, reports of record levels of carbon emissions in 2018 made to the headlines of several dailies.

India accounts for around 7% of global GHG emissions. India's per capita emissions are one-fourth of the G20 average. Despite a low share and low per capita emissions, India seems to be on the forefront of reducing its emissions. The 2018 Brown to Green report mentions that none of the G20 Nationally Determined Contributions (NDC) targets for 2030 are in line with the Paris Agreement. India's NDC are the most ambitious, closest to the 1.5°C limit, and closest to the Paris Agreement. The central aim of the Paris Agreement is to keep the rise in global temperatures in this century well below 2°C above the pre-industrial levels, and to pursue efforts to limit the temperature increase even further to 1.5°C.

Estimates suggest that India's GHG emissions more than doubled between 1990 and 2015. This coincides with India emerging from the legacy economic policies to embracing open economic policies. In these 25 years, India's economy grew by an average of 6.5% per annum, versus sub-4% growth in the preceding 25 years. Many of today's developed nations reduced their GHG footprint by shifting their production base out of their national borders. Developing countries such as China, India and other South-east Asian nations were more than happy to take up production activities in a bid to promote economic growth.

Power generation has the highest share in GHG emissions. India has an ambitious plan for clean energy—to achieve a share of 20% in electricity generation by FY22 and 23% by FY27 for renewable energy. According to an IndiaSpend report, in 2016, India invested a record \$9.7 billion (₹64,990 crore)—the cost of building 11 new coal-fired plants of 1,000 MW capacity each—in renewable energy installations. The resulting installed renewable capacity is much less than the possible thermal capacity. Falling solar tariffs have made solar power competitive to coal-based thermal power, primarily due to a fall in prices of solar power modules. While the cost of generation of solar power has fallen, the cost of transmission has not fallen at the same pace. Various challenges of using solar and wind power for heavy industrial activity are well known.

The clean energy populism isn't really all clean. Setting up of solar capacities, too, leaves behind a large carbon footprint. Over 85% of the solar equipment used in India is imported. Extraction and production of quartz and silicon involves a huge amount of energy. China, the world's largest manufacturer of solar panels, is still heavily dependent on coal for its power needs. In fact, 65% of electricity generation in China comes from coal. Logistics and transportation to get these panels to their place of intended use further adds to the carbon footprint. While the life cycle emissions of solar power are still less than those of thermal power, there are other challenges. For example, production of panels involves use of hazardous chemicals, with many reports citing improper disposal—proper



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Walking the tightrope: emissions vs development

India will need much more energy as its people prosper. Therefore, given the dependence on coal-fired power and its indispensability to some sectors, steps should be taken to reduce emissions from existing fuels and make power generation more efficient through newer technologies, in addition to developing renewable sources of energy

disposal of solar panels at the end of their 25-30 year life remains a challenge. In addition, recycling of solar panels is expensive and hasn't really picked up in a big way as yet. Some studies have also shown that land-based solar parks alter the local climate and land characteristics.

Today, India proudly sits in the league of top renewable power-generating countries, along with China, the US, Japan, Germany and the UK—which are the leading economies of the world. However, India's GDP per capita is one-fourth that of China's GDP, one-30th that of the US's and about one-20th that of Germany, the UK and Japan. In addition, the country's per capita electricity consumption is one-third the global average.

An analysis by the United Nations Development Programme (UNDP) shows a high correlation between UNDP energy consumption and lower development; development increases as energy consumption increases. The analysis also shows a strong correlation between human development and per capita energy consumption till around 100 gigajoules (GJ), and 80% of the world's population is currently below this threshold. Per capita energy consumption in the US is over 300 GJ and that for India is around 30. India will need much more energy as its people prosper.

Thus, given the dependence on coal-fired power and its indispensability to some sectors, parallel steps should be taken to reduce emissions from existing fuels and make power generation more efficient through newer technologies. According to the World Coal Association, since 1970, US emissions from coal have reduced by 82%, even as coal consumption has risen 146%. Their estimates suggest that moving the current average global efficiency rate of coal-fired power plants from 33% to 40% could cut 2 gigatonnes of carbon dioxide emissions—equivalent to India's carbon dioxide emissions. Carbon capture, use and storage (CCUS) is the next step in further reducing emissions from coal and making it a sustainable source of cheap

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energy. Globally, more than 30 million tonnes of carbon dioxide is captured from large-scale CCUS facilities, and more than 70% of this occurs in North America. Leading energy-intensive industries in the UK have already come together to form a new government-backed advisory group, in a bid to accelerate the development of CCUS technology, even as the current pace of development and adoption of CCUS technology remains low.

Nearly 70% of the incremental global energy demand in 2018 was met by fossil fuels—of which coal accounted for 8%. Coal accounts for nearly 40% of global power generation; in India, it accounts for around 74%. While Europe and the US are decreasing their reliance on coal, for India and most of the emerging economies of the world, coal will remain a critical source of energy in the foreseeable future. India's coal demand is expected to rise 120% through 2040. As India tries to follow an export-led growth model and promote manufacturing to create jobs for its people, reducing GHG emissions will be all the more challenging. Debates and discussions around climate change and emissions have become far too common. While populism in this regard is not unwarranted, discussions around energy needs and energy security to promote development need to be strengthened. Prosperity of a major chunk of global population, including India, depends on the availability of cheap and reliable energy.

We're not even close to the next great recession

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Bloomberg



The global economy may not feel great. That doesn't mean it's terrible

WHAT'S ALL THE FUSS about? Maybe the world economy isn't in such terrible shape, after all. New projections from the International Monetary Fund, published Tuesday, show that expansion still has some legs. Growth will be a not-too-shabby 3.3% this year.

That's down from a previous forecast of 3.5%. So, yes, it's a cut. But not a dramatic one. These numbers are a ways from one IMF definition of recession, 2.5%, and miles from the contraction recorded in 2009. Superlatives about the lowest growth since the Great Recession are misleading.

These updates from the IMF also make you wonder where all the drama—so prevalent in headlines—is coming from. A bounce in US job growth last month, signs of a partial recovery in China and a dovish pivot from big central banks give some comfort.

Let's not get too giddy, though. A recession in, say, the US is inevitable at some point. The current expansion will this year become the longest ever. Germany is flirting with recession and China is on a long-term trajectory of slower growth.

On the surface, the IMF numbers don't say anything dire. Their direction does make an impression—this was the third time the lender has marked down its numbers in six months. You have to give them credit for staying current. Is the IMF's track record perfect? Far from it. (I'm writing this column from Indonesia, scene of one of the IMF's most contentious programmes).

Private sector doomsayers deserve equal scrutiny. Next time you see a survey showing recession odds, question why and how far it deviates from consensus. Same with the hagiographies accorded some individual investors whose prognostications just glide by without review. I'm all for putting the IMF under the microscope; let's do the same for others.

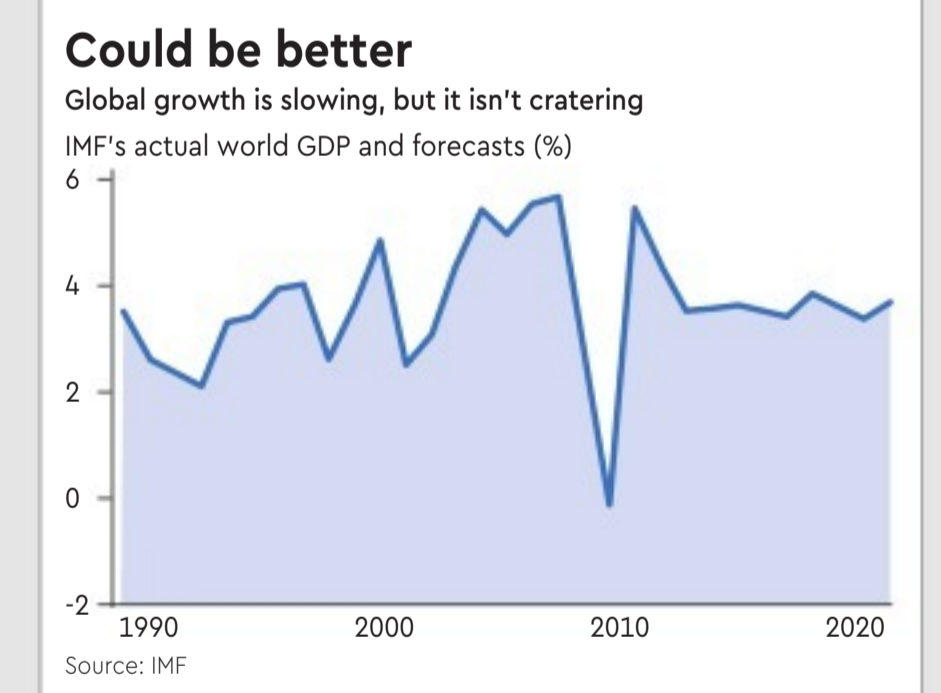
The list of risks outlined by the IMF in its World Economic Outlook could use a little refreshing. Trade wars? Check. Brexit? Sigh. What else you got?

IMF chief Christine Lagarde calls this a "delicate moment" for the world economy. Central banks have a role to play as well, in the US, Europe and Asia.

As I wrote late last month, the idea of interest rate cuts from the Federal Reserve was a fringe theory that's now come into the mainstream, even if it's not quite consensus. If cuts do come to pass, it won't be because the Oval Office wants it. It will be because of reasoned analysis that inflation is too low, or at risk of being so, and that risk management requires the Fed to take out some insurance.

It's entirely possible the world economy muddles through this year. It might be messy and there will be regional divergences aplenty.

The economy may not feel great, particularly depending on where you are. That doesn't mean it's terrible.



INSIDER TRADING IS trading on the basis of unpublished price sensitive information (UPSI) that is not generally available to everyone. Insider trading is prohibited since it allows certain individuals with access to UPSI to profit from information asymmetry. In recent times, SEBI has stepped up the regulation of insider trading. In 2015, SEBI had put in place a new framework for prohibition of insider trading based on the report of an expert committee. Subsequently, SEBI set up another committee in 2017 under the chairmanship of TK Viswanathan to review the 2015 regulations. Based on the recommendation of this committee, SEBI made significant amendments to the 2015 regulations on the last day of 2018. To allow market participants to realign their internal procedures, SEBI has made these amendments effective from April 1, 2019.

Widening the ambit

The recent amendments have broadened the applicability of the regulations. The requirement for reporting trades and seeking pre-clearance before trading in the company's shares has been extended to senior employees of material subsidiaries and promoters of listed companies. The new requirements mandate that listed companies have to maintain records of personal information (including PAN, mobile number) of their directors, employees and their immediate relatives, and persons with whom such employees

SEBI's insider trading ruling gets new teeth

Listed firms should now be more careful in designing internal controls for UPSI

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share a material financial relationship. The inclusion of persons with whom employees have material financial relationship is a much-needed inclusion. However, SEBI has decided to drop the requirement of disclosures about persons staying at the same address, as was recommended by the committee, based on public comments.

These records, especially mobile number, will make it easier for SEBI to establish a connection between the company and the person who trades, and provide valuable inputs during the investigation of leakages of UPSI. While SEBI already has access to call data records, it has now decided to send a proposal to seek power to intercept calls and electronic communication to the government. SEBI has also used Facebook to establish connections between insiders in certain

cases. With the use of these records, technology and SEBI's sophisticated surveillance systems, we can expect a much higher possibility of insider trading complaints being more effectively investigated.

Crackdown on leaks

These amendments come on the heels of several directions passed by SEBI against listed companies (including Axis Bank, Tata Motors, HDFC Bank) to ascertain leakage of confidential financial results in private WhatsApp groups ahead of their official announcements to the respective stock exchanges. The recent amendments make it clear that the regulator is rightly concerned about leakage of sensitive information and difficulty in identifying the origin of such leaks.



To assist in identifying the source of leaks, listed companies are now required to have internal controls for identifying inside information and maintain lists of employees and other persons with whom such information is shared. They are also required to periodically review their internal processes to evaluate effectiveness of internal controls. Listed companies are required to intimate the persons receiving UPSI of their obligations towards preventing misuse of such information for insider trading, by way of an advance notice.

The latest amendments require boards of listed companies to put additional policies in place, including a policy for determining what constitutes legitimate purpose, whistle-blower policy for reporting leaks of UPSI and inquiry policy for deter-

mining the source of leaks. These policies are aimed at monitoring the flow of UPSI and encouraging employees to inform the company about any suspected leaks of UPSI. It will be interesting to see how effective the whistle-blower policy for reporting leaks turns out to be and whether internal investigations by listed companies are able to identify the source of leaks.

Additional defences

In the 2015 regulations, SEBI included a provision that in case of connected persons, the onus of establishing that they were not in possession of UPSI will be on such connected persons, whereas in all other cases it will be on the regulator. SEBI has now inserted an explanation clarifying that when a person who has traded is

in possession of UPSI, his trades will be presumed to be motivated by such UPSI.

In its efforts to increase ease of doing business, SEBI has added certain defences to the charge of insider trading such as any transaction that is carried out in pursuance of a statutory or regulatory requirement. SEBI has also included exercise of stock options at a predetermined price as an exception. The defence available for off-market inter se transfers between promoters, who were in possession of the same UPSI, has been extended to all insiders. A similar defence has been included for trades carried out through the block deal window mechanism.

These amendments have far-reaching consequences for everyone who deals with UPSI of listed companies. SEBI has signalled its intent to clamp down on leakage of UPSI, and is clearly trying to change the social culture of casually discussing UPSI. While the unauthorised communication of UPSI has always been illegal, these new amendments are likely to make it easier to identify the source of leakages. In the future, we can expect orders penalising insiders for leaking UPSI, even if they do not trade on it themselves. Incidentally, the charge against Rajat Gupta in the US was one of unauthorised communication of UPSI, not trading. In view of these recent amendments, listed companies should be far more careful in designing internal controls for handling UPSI and conduct regular training of their employees to ensure UPSI is handled in a responsible manner.