

## **Declaration:**

The contents of the forthcoming article are based on the facts, figures, projections and data as accounted for in the Economic Survey of 2018-19.

Source of the original statistics, facts, figures and projections is not known personally by the author. For more information, reference to the Economic Survey Report of 2018-19 maybe made.

All other necessary authorities and supporting material has been adequately footnoted and cited.

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# The Economic Survey, 2018-19; Takeaways for the Energy and Environment Sectors

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Going before the Budget Session every year, the Ministry of Finance, Government of India reveals the Economic Survey of India, which exemplifies the monetary and other financial states of the nation, which rules the development, and maps the improvement of the nation during that specific year. This Survey studies the development of every sector and tries to be suggestive of how the gaps within that sector may be filled so that development rate keeps rising and there is positive contribution of that particular sector to the Gross Development Product. The Survey gives a brief summary of the existing programmes and policies, the Survey analyses the performance of these plans and programmes as implemented and the profit or benefits that it reaped. The analysis is done for both, short and well as medium term programmes. The new Finance Minister, Ms. Nirmala Sitharaman, in her first ever address in the Parliament, reiterated and announced Prime Minister Modi's vision to make India a five trillion dollar economy by 2024<sup>1</sup> and the Economic Survey, keeping this figure in mind, has adjudged the GDP growth rate at 7 percent in the 2018-19 financial year. The Survey of this year aims to make a digest of this vision and as the undertone, point out the government's programmes, schemes and working, to give a fair idea of the status of various sectors and identify the scope for improvement. Unlike the other sectors, the energy sector still does not have any specific policy document, the study of which may give a sense of direction of the growth, so the only option remaining is to individually study the schemes and government orders within this sector and track the market forces which have shaped the growth of the energy sector.

The Survey brings up that it is the investment which turns into the 'key driver', catalysing the economy to continue itself into an ethical cycle when bolstered by the great statistic stage. While saving the emphasis on the Energy Sector in India, according to the examination led under this Survey, it has been discovered that India has fallen behind in vitality use regardless of the way that 18 percent of the total populace being Indian, the use is just around six percent of the world's essential vitality. With 53 percent of the populace couldn't access clean cooking in 2017 when contrasted with just 30 percent for China, four percent for Brazil and under two percent for Malaysia. The hidden explanation behind this is the absence of access to clean cooking fuel is the powerlessness of the provincial populace, living in remote pieces of the nation to get profits by the Central Government's plans and the supplementing failure of the State government to have the option to execute these plans in a reasonable and proportionate way. A lot of accountability and transparency is lacking in the enforcement and implementation of the schemes as rolled out for the benefit of the people in the rural areas. It

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<sup>1</sup> Budget Speech Summary – Part A; Press Information Bureau, Government of India (Ministry of Finance) on 5<sup>th</sup> July, 2019. Available on <http://pib.nic.in/newsite/PrintRelease.aspx?relid=191300> [Last Accessed on 28.07.2019]

was reported in Down To Earth's report of January 2019<sup>2</sup> that even though this Yojana has been "meeting targets", but is not really bringing about a positive change. It so turns out that despite having six crore beneficiaries of this scheme, about twenty six percent of them paid for this LPG connection from their own pockets and did not avail of the benefit, also, a staggering 1.2 crore people did not go for a refill of the cylinder as acquired. With the rising increase of per capita energy consumption by 2.5 times, the Survey states that India will be able to increase its real per capita GDP by \$ 5000 USD (in 2010 prices).

The one strength of India's energy industry has been recognized as the focus on energy efficiency over the centuries and has greatly helped to serve the energy requirements of the country. Energy efficiency programs have produced cost savings in excess of INR 50,000 crores and reduced carbon dioxide emissions by about 110 million tons in 2017-18 alone. The share of renewables has shown an increase from six percent to ten percent in the past five years. This however does not include hydropower plants exceeding 25MW capacity. The addition to the capacity can largely be credited to the influx of solar energy, since 2014. Ever since the International Solar Alliance has been established, this market for production of solar panels and apparatuses, along with the generation of solar energy from rooftop modules and solar parks has spiralled. The positive effect of the rising efficiency happens to be human development, which means more people having access to clean and efficient source of electricity in cities which now reel under the deteriorating air quality, such as New Delhi, Gurgaon, Bengaluru and even Gujarat. Many states such as in North-East, West Bengal, Madhya Pradesh etc. have uneven distribution of energy vis a vis urban areas and across the lower range of income groups. The old thermal power stations such as Singrauli, Talcher Ennaur Thermal Plant in Tamil Nadu etc. rely heavily on the energy being generated by these coal fired plants and continue to suffer from the resultant pollution. Recent news reports from Madhya Pradesh<sup>3</sup> highlight that during the wee hours of the night on August 9<sup>th</sup>, 2019 the Essar run thermal plant's fly ash pond dyke collapsed due to the excessive rains, and the environmentally polluting fly ash slurry flooded the nearby area taking away five sleeping children with it and destroying agricultural area of five hundred farmers collectively. This is the result of the dependence on the coal plants for the supply of electricity while the other parts of the country enjoy uninterrupted clean power from the solar plants.

This brings our attention to the number of government schemes such as the 'Pradhan Mantri Ujjwala Yojana' to provide LNG connections to the rural people who still largely use firewood and unclean fuel for cooking purposes in their houses. The scheme not only aimed to provide clean cooking fuel but also stressed on the health of the women and children who have ever since inhaled the noxious fumes and deteriorated their health. The 'Direct Benefit Transfer for LPG' consumer (DBTL) scheme, namely 'Pahal' in 54 districts. According to the Economic Survey statistics, around 24.39 crore LPG consumers have joined the scheme till March 2019.

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<sup>2</sup> See at <https://www.downtoearth.org.in/news/energy/1-5-crore-people-didn-t-avail-ujjwala-loan-benefit-1-2-crore-didn-t-go-for-refill-62660> (accessed on 29/07/2019)

<sup>3</sup> News Report Available at <https://timesofindia.indiatimes.com/city/bhopal/fly-ash-dyke-collapses-in-rain-500-farmers-claim-loss-5-kids-rescued/articleshow/70595673.cms>

The Guinness Book of World Records, recorded and recognised this scheme, 'Pahal' as the world's largest direct benefit scheme.<sup>4</sup>

Coming to the next important issue concerning Energy Efficiency, the primary energy intensity of India's GDP has followed a falling trend over the years<sup>5</sup>. It continues to state that india's primary energy intensity of GDP has fallen from 0.0004toE<sup>6</sup> in 1990 to 0.0002toE in 2017. In the past three decades, many measures have been adopted to increase energy efficiency. Introduction of the LED light bulbs was one such accorded measure. A study of all previous schemes to ensure energy efficiency has led to the lowering of greenhouse gas emissions and cost savings worth a whopping 53,000 crores in 2017-18 and contributed to the reduction of 108.28 million tonnes of potential carbon emissions. Much potential is yet to be realised in terms of energy efficiency in various demand sectors such as thermal power plants as the biggest example. The figures from a recent report from the Institute of International Sustainable Development,<sup>7</sup> in the most recent release of figures has shown that only in order to fulfil the guidelines as laid out by the Ministry of Environment Forest and Climate Change in 2015, which mandated the lowering of emissions from the existing thermal plants, the current thermal plants, to be able to implement them, would require an overall investment of 10 billion USD and a one-tenth increase in the electricity tariffs.<sup>8</sup> The coal plants in India have been battling efficiency as most of the fleet of these plants are now decades old. The Ultra Critical and Mega Plants which are now being put online, are the only ones which claim to be efficient in their energy generation as they use imported coal, which has a high calorific value. In order to achieve the commitments on climate change targets and the sustainable development goals (SDGs) it is necessary to prepare and plan strategies to unlock the potential to achieve energy efficiency. The important take-away here is that the institutional framework for the law and policy drafters must cull out a way to strengthen the existing structure for affordable financing, including innovative financing solutions and increase the use of stakeholder engagement in terms to technology. Especially if coal remains to be the largest source of electricity generation, with a global market share of 38 percent in 2018 (IEA, 2019), the implementation of risk assessment and legislative impact assessment must be done at plan, policy and programme level. To factually contribute, in 2018, global renewable generation capacity amounted to 2351 GW which means, one-third total installed capacity for the last decade. It clearly tells that coal and thermal sources play an extremely important role in meeting India's electricity needs.

The sporadic or the very unreliable nature of the renewable energy supply remains the biggest challenge for it not becoming the baseload electricity supplier. Be it the investment reasons, the supply and storage reasons or the lack of capacity building for clean coal technologies, conventional energy shall reign over the majority supply for the coming decades. One continues to stress on the available government and institutional reports on the success of

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<sup>4</sup> Press Information Bureau Report at <http://pib.nic.in/newsite/PrintRelease.aspx?relid=125024>

<sup>5</sup> Economic Survey 2018-19, Chapter 9, (page 169).

<sup>6</sup> toe is a unit which translates to Tonnes of Oil Equivalent. It is a measurement used to express the energy efficiency of systems.

<sup>7</sup> India's Energy Transition: The Cost of Meeting Air Pollution Standards in the Coal-fired Electricity Sector, Issue Brief, 2019

<sup>8</sup> Ibid, at Page 1.

renewable energy capacity and the environment of confidence that it generates that how renewable energy in the form of solar and wind is continuing to increase in the installed capacity, that the news reports from the states, do not receive the required impetus which highlight the shortcomings of the sector. The state of Andhra Pradesh has been the one generating the most amount of news from the Wind Power Sector. More than 21 wind power projects are set to get cancelled in the state due to contractual discrepancies. The new state government had passed a governmental order, to unilaterally change and renegotiate the power purchase agreements which regulate the tariff which had been negotiated and fixed at an earlier point of time. The private players who concluded the contracts and won the respective tenders have moved the High Court, against this Government Order, citing breach of law and unlawful nature of this move. This puts a question mark on the concept of investor protection and puts the idea of investor confidence in a pickle. If the private investor is not confident about his investment into the development of renewable energy projects, it would mar the growth and development in this sector, something similar to what happened to the Small Hydro Plants (SHPs) where the State government's incapacities to handle these issues, led to the growth chart for hydropower to run into negative. A critical clause in the PPAs is the maintaining of the power capacity being supplied to the grid, as stable and at a certain quantity. There are many other such clauses which can harm the growth of this sector, if breached, as breach of the contracts, causes not only loss in revenue, but extended periods of time, when the project can no longer function. It also leads to loss of revenue and losses at very high rates, which make the entire project uneconomical. An example here again would be that of the Wind Energy Generating Company Suzlon, which defaulted on its payment of INR 1,182 crores<sup>9</sup> to its shareholders in bonds, which makes the position of this company in the market, very non-credible. The company's director, in a statement<sup>10</sup> has mentioned that the company is suffering tremendous losses due to the extreme shortage of demand for its wind turbines. With India now shifting to a fixed-tariff programme to auctions for wind projects, the competition in this sector has increased. The government, by easing the entry of vendors into this market, has enabled many stakeholders and vendors to now do business, and Suzlon which was earlier the pioneer in this technology, now faces very stiff competition. With most think tanks and policy makers discussing about the current state of affairs in the Indian Energy Sector, the conclusion is that despite being world's number one in terms of installed capacity for wind, India's wind energy sector is amidst chaos. There not being a comprehensive energy policy, is one of the major reasons. There are many pointers such as too many or too little regulators, comprehending the tariffs, addressing consumer grievances, government capping tariffs without assessing the economy and market factors et cetera. A suggestion also lies that all these issues are dealt with, in isolation. Energy Security, Energy Poverty, climate change, an enhanced renewable energy sector, drafting of an energy policy, creating a strengthened legal regulatory mechanism, even air pollution are issues which must be integrated while being addressed.

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<sup>9</sup> Available at <https://www.businesstoday.in/current/corporate/suzlon-defaults-rs-1169-crore-bond-payment-working-cut-debt/story/364988.html>

<sup>10</sup> Available at <https://www.moneycontrol.com/news/business/markets/dilip-shanghvi-hasnt-given-up-on-suzlon-yet-says-he-will-keep-the-stake-3946991.html>

Towards the end, the reflection over the Energy Sector is that the increasing trend for achieving access to energy and energy security is good, but the impetus must also be on achieving these with a minimal environmental cost. According to India's Vision, to achieve social security with reference to energy security and access to clean energy, the harnessing of strategic natural resources is most important. To understand this bit, a correct illustration would be considering the Government of India's latest move to remove import duties from parts for solar photovoltaic modules. In order to help the Indian manufacturers, now there is no import duty on components required to make solar panels. The thing which is not thought about is, that despite having a solar policy delving into the expansion of solar energy in India, this policy and the government moves, do not mention the handling and management of the millions of tonnes of hazardous e-waste being generated from the solar panel industry. Similarly, in Uttarakhand, more than 21 hydroelectricity power projects are stalled, most of which were stopped while in construction, citing by the public that they shall disrupt the riverine ecosystem. The reality however is that those under-construction projects which are stalled, have tunnelled the river, which means that is more environmentally polluting and degrading than the actual project. The harm being caused is more than the harm which is suspected to take place. These practices are not environmentally benign and sustainable.

Therefore, to learn from one more coherent document, released by the government of India, the policy makers and the law makers must take some coercive action in giving attention to the finer details of the energy sector and issues and challenges which are economical and market oriented in nature, would be given priority as well. As, in today's times, sustainable development does not mean only in the environmental way, it also includes the economic sustainability of the projects which determine, whether or not the energy sector, be it renewable or non-renewable, shall solve the problem, or even rise up to the challenge of achieving freedom from energy poverty in the country.

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