

Make in India for sustainable green growth

India is one of the fastest growing economies in the world and is moving ahead with development process. Sustaining a fast-paced growth rate and driving a comprehensive development requires addition of major infrastructure like power, road, communication, and transportation. To ensure inclusive growth infrastructure should also grow side by side but to ensure sustainability those growth shall be in the green way. Sustainable agricultural development has to be given topmost priority of Developing Nation as the climate change has affected the ecological security through dropping of crop production. The rapid growth of the population together with increased vehicle exhaust, GHGs emitted from coal-based combustions and irresponsible use of pesticides is causing a significant damage in the quality of atmosphere. The rapid industrialisation and anthropogenic activities have vitiated the atmosphere such that the ailments like COPD, cancer, and other vector-borne diseases like eengue are omnipresent. The “Right to inhale fresh air” and the “Right for safe living on the Earth” shall be new demand of humanity. As a responsible leadership, while being dedicated to “Make in India” movement for an inclusive growth Government of India voluntarily targeted to cut emissions intensity, by 2030, of its GDP by 33-35% from the 2005 level and to achieve around 40% cumulative electric power installed capacity from non-fossil-fuel-based energy resources. The increased demand for energy shall be sourced through renewables and advanced technology applications such as solar, wind, hydro and AUSCT, along with proper pollution control measures, to provide energy security and to ensure safe-living on earth not only for today but for our future generations. The paper intends to discuss and highlight the technological solutions available and mandatory use of those will not only ensure green growth but also open up new vistas of business opportunity to self-propel the success of Make-in-India movement.

Keywords: *Make in India, safe-living, green growth*

1.0 Introduction

‘Make in India’, a major national initiative which focuses on making India a global manufacturing hub through various

corrective and innovative measures like cutting down the time for statutory clearances, developing key infrastructure and use of digital platform to answer queries of investors within 48 hours. The objective of the mega programme is to ensure increase, up to 25%, contribution of manufacturing sector in the country’s gross domestic products (GDP). ‘Make in India’ initiative being an unique step to facilitate increased manufacturing in the country, which will ultimately generate more employment opportunities for the youth and professionals and result greater purchasing power of people which further drives the demand wheel to continue expansion. Though currently, India being ranked low on World Bank’s the ‘ease of doing business’ ranking but by bringing transparency in the system we have already moved up in the rank and expected to move further up. In the words of our Honourable prime minister, India is the only country in the world which offers the unique combination of democracy, demography, and demand from a rising middle class and is poised to reap rich dividend for being one of the youngest nations in the world. According to reports by 2020, India is set to become the world’s youngest country with 64% of its population in the working age group while the countries like Japan and China will be aging. This demographic potential would create an additional 2% growth of GDP. Experts anticipate India to soon become the preferred manufacturing destination of most investors across the globe.

India has the potential to significantly increase its energy security to support the expected continued rapid growth, while securing sustainability that exceeds current expectations. The conscious decision to become the signatory of COPE-21 has created many new dimension of business.

2.0 Make in india – the vision

The manufacturing industry contribution to the national GDP is around 15%. The aim of Make-in-India mission is to convert this to a 25%, as compared to other developing nations of Asia. The methodology of achieving the desired goal will be multipronged and targeted to be pursued as matter of faith. In the process of emerging India as new manufacturing hub, globally, innovation and use of technology is expected to play a key role and attract a lot of entrepreneurial talent, including foreign direct investment

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(FDI) in various fields along with creation of innumerable job opportunities. The showcasing of a technology-savvy Digital India along with make in India has opened up additional dimensions leading to more and more transparency and ease-of-doing business. The initial target areas of the initiative confirms the long term vision of the government for skill enhancement, employment generation, poverty alleviation, widening tax-net, high quality standards, attract capital, technology absorption and minimizing the impact on the environment.

3.0 Opportunities & challenges

As a result of these initiatives, the estimated growth rate of India is around 7-8 % till 2030. Accordingly, during the same period a lot of physical assets including power plants, factories, commercial and residential estates, vehicles, roads, bridges, railways, logistic parks and many more associated infrastructure will come-up. Obviously, organic growths will also be many challenging criteria to the environment and economy. The demand for more resources will increase the import leading to increased economic activity in the port but dramatically increasing the pollution level. Enhanced life-style related expenditure will bring positive economic activities but may lead to increase in crude import causing a strain on the foreign currency exchequer.

Per capita electricity consumption is often used to indicate the state of human development. In order to serve the increased economic activities power generation capacities will also be increased at the same pace which will impel a corresponding increase in greenhouse-gas (GHG) emissions unless proper and planned measures are initiated.

4.0 Mitigation discussion

India has already taken steps to curb expected increases in GHG emissions, including launching efforts to increase the efficiency through various monitoring measures, including PAT (Perform Achieve and Trade), with which it ensures proper use of resources, reduce consumption, and accelerate the adoption of clean technologies. However, even after implementation of such measures India's GHG emissions is expected to increase by 3.5 times, from 1.6 billion to 5.7 billion metric tonnes of carbon dioxide equivalent (CO₂e), by 2030 compared to 2005 levels [1].

We believe that India can do much more to reduce energy consumption and GHG emissions without compromising its prospects for growth and use of modern technology will facilitate reduction of energy consumption by about 22% and corresponding reduction of GHG by 30-50%. A significant step has already been initiated by the Ministry of Environment, Forest and Climate Change (MoEF & CC) through its notification mandating compliance of new SO_x, NO_x, Hg and water consumption norms. A lot of investments is in offing to comply with the new norms. Some of the

existing units (nearly 55000 MW) will be techno-economically unviable for such upgrades and eventually they will be retiring to pave way for new, less polluting advanced ultra-super critical units.

India needs to find out an easy way of financing, regulation, skill development, and technology adoption and business-model certainty. Some solutions could be costlier at present but would create a sustainable environment for our next generation. India is likely to maintain its expected rate of growth over the next 20 years as the need for reducing its GHG emissions and increasing its energy security has been well accepted by both government and the business community. By accelerating large-scale adoption of new technologies, enabling sustainable process, working on efficiency improvement and lowering resource demand India could decrease operating costs for many businesses. All these will benefit the end consumers leading to greater consumption and enlarged market. To set a new standard for sustainability, all minds should focus on the following:

1. Increase in energy efficiency in industry, vehicles, and appliances;
2. Accelerating the transformation of its power sector to adopt clean technology;
3. Building green infrastructure for urban habitats and transportation; and
4. Establishing sustainable agriculture and forestry practices.

5.0 Green growth – Indian context

Green growth involves rethinking growth strategies with regard to their impact(s) on environmental sustainability and the environmental resources available to poor and vulnerable groups [2]. The Ministry of Environment, Forests, and Climate Change recognizes green growth and poverty eradication to contribute to the vision of sustainable development.

The Constitution of India contains specific provisions for the protection and improvement of environmental quality. Article 48-A of the Constitution says that “the state shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.” Article 51-A (g) says that “It shall be duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wild life and to have compassion for living creatures.” These provisions highlight the national conscience on the importance of environment protection. The National Environment Policy of the Ministry of Environment, Forests, and Climate Change highlights important principles around sustainable development such as social justice, polluter pays, and entities of incomparable value.

The National Action Plan on Climate Change (NAPCC) along with the State Action Plan on Climate Change is important milestones for mainstreaming climate in

development processes at the national and state levels. The current eight missions are on the areas of solar energy, energy efficiency, sustainable habitat, sustainable agriculture, Green India, water, Himalayan ecosystem, and strategic knowledge. The government is proposing to set up new missions on wind energy, health, waste-to-energy, coastal areas, and also redesigning the National Water Mission and National Mission on Sustainable Agriculture.

6.0 INDC - India's eight-point

To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation.

1. To adopt a climate friendly and a cleaner path than the one followed hitherto by others at corresponding level of economic development.
2. To reduce the emissions intensity of its GDP by 33–35 per cent by 2030 from 2005 level.
3. To achieve about 40 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030 with the help of transfer of technology and low cost international finance including from Green Climate Fund (GCF).
4. To create an additional carbon sink of 2.5–3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030.
5. To better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, Himalayan region, coastal regions, health, and disaster management.
6. To mobilize domestic and new and additional funds from developed countries to implement the above mitigation and adaptation actions in view of the resource required and the resource gap.
7. To build capacities, create domestic framework and international architecture for quick diffusion of cutting edge climate technology in India and for joint collaborative research and development for such future technologies.

7.0 Green growth challenges

India is emerging as the one of the fastest growing economies in the world and is currently Asia's third largest economy by GDP.

1. Annual growth rate of India's gross national income is 7.4%.
2. The share of services sector in GDP is largest
3. In 2014, India's total population stood at 1.29 billion.

8.0 Conclusion

For India to achieve development objectives, its economy should continue to grow. But for a country like India, where development is an imperative, environmental consequences can be substantial as it will place serious constraints on natural resources such as land, water, minerals, and fossil fuels, driving up energy and commodity prices. The extent to which its economy will "grow green" will depend on its ability to reduce the quantity of resources required over time to support economic growth that leads to enhancement of social equity and job creation. Green growth could play an important role in balancing these priorities. However, managing fiscal deficits and public debts are two key challenges for national policy making, which could make technological change required for green growth more difficult. Fiscal considerations and trade balance will also continue to be important drivers for shaping India's macro-economic policy. Hence, it becomes essential to understand and maximize the development benefits, such as income, energy access, and trade, of green growth interventions across all key sectors.

9.0 Acknowledgment

We sincerely acknowledge encouragement received from our family members.

10.0 References

- [1] McKinsey & Company report available on internet.
- [2] Para 3.15 of Thirteenth Finance Commission Report.
- [3] TERI report available on internet

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