

# Dynamics of Green economy and sustainable development in India

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## ABSTRACT

**In the present scenario where the large chunk of the population suffering from major diseases because their dietary system which is infected with perilous chemicals and with contaminated environment in their surroundings, people prefer to have a green economy's pattern of development. The concept of green economy was first coined by British Government in its sustainable development report of development. After experiencing the global economic crises during 2000, many countries of the World have begun to follow the green economy in their strategy of economic development. India has been experiencing remarkable economic growth and soaring up the economic level of millions of people since the adoption of new economic policy in 1991, however, the environment of it correspondingly kept vitiating and natural resources also kept perishing. The economic condition of the country forces it to bear the threat of the dilapidated environment as the developmental strategy of the state remains focused on raising the living standard of the people generally and bring them up below the poverty level.**

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## INTRODUCTION

A green economy is defined as low carbon, resource-efficient and socially inclusive economy which aims at reducing environmental risks, managing ecological scarcities and aims for sustainable development without harming the environment. Basically, a green economy is driven by the desire to achieve growth in employment and income through investment which ensures that the infrastructure and assets allow reduced carbon emission and pollution, energy and resource efficiency is enhanced, and biodiversity is conserved. Virtually, a green economy is one whose growth in income and employment is driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. These investments need to be catalysed and supported by targeted public expenditure, policy reforms and regulation changes. This development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits, especially for poor people whose livelihoods and security depend strongly on nature.

Although the past decade of rapid economic growth has brought many benefits to India, the environment has suffered, exposing the population serious air and water pollution. A new report finds that environmental degradation costs India \$80 billion per year or 5.7% of its economy. Green growth strategies are needed promote sustainable growth and to break the pattern of environmental degradation and natural resource depletion. Emission reductions can be achieved with minimal cost to GDPAs a member of the G-20, Indians' decision to promote the concept of a green economy is linked to its overall aim to foster prosperity and sustainability in development as elaborated in the country's recent five-year plan. In embracing green growth, India envisages poverty alleviation and the lowering of economic inequalities as a key benefit that could be derived from implementing the green economy concept. Before embracing green growth, India, in its quest to reduce poverty and spur economic activity, regarded the controls on carbon emissions from fossil fuel-generated energy as unfair. Recently, India's economic development objectives provided a different perspective in which opportunities for growth could be realised from developing a green economy. In understanding the Indians' approach to developing a green economy, a dominant and a counter-discourse is observed. The main premise of the dominant discourse is that no trade-off exists between economic growth and environmental sustainability. Proponents of the counter discourse agree that developing a green economy will impact the country's economy positively. Hence, India can pursue both discourses, applying both market and scientific strategies in developing its economy without compromising the environment. Conversely, using historical economic data, proponents of the counter-discourse highlight deficiencies of economic growth in addressing poverty reduction in India; contesting claims that green growth will drastically change India's current economic paradigm, and subsequently lead to prosperity and sustainability for all Indians. In a recent survey

of 178 countries whose environments were surveyed, India ranked 155th overall and almost last in air pollution exposure. The survey also concluded that India's environmental quality is far below all BRIC countries [China (118), Brazil (77), Russia (73), and South Africa (72)]. Also, according to another recent WHO survey, across the G-20 economies, 13 of the 20 most polluted cities are in India. Simultaneously, poverty remains both a cause and consequence of resource degradation: agricultural yields are lower on degraded lands, and forests and grasslands are depleted as livelihood resources decline. To subsist, the poor are compelled to mine and overuse the limited resources available to them, creating a downward spiral of impoverishment and environmental degradation.

### **Green economy and employment**

Industrial policies are commonly understood as government policies that attempt to strategically strengthen the development and growth of certain economic activities that are not necessarily concern parts of the manufacturing sector. If industrial policies achieve their goals, they lead to a structural transformation of the economy and accentuate the acceleration of already ongoing transformation. During this process, inevitably, new jobs and occupations emerge while others disappear. The net employment effect of such a transformation is the difference between new jobs created and old jobs lost. Green industrial policies, specifically, target the improvement of environmental quality and contribute to environmental sustainability (Altenburg and Rodrik 2017, this volume). Most environmental policies contain features of industrial policies, as they provide incentives to accelerate the development of certain sectors, sub-sectors and technologies and to phase out others. As a result, sectors with strong effects on the environment, as well as workers and enterprises operating in these sectors, will be more affected than others. The first step in understanding the effects of green industrial policies on labour markets and incomes is to identify the sectors that strongly affect the environment. These include sectors with activities directly aimed at the preservation or restoration of the environment such as for recycling, renewable energy, or eco-tourism; sectors strongly relying on the utilisation of natural resources such as heavy industries or fisheries and sectors with heavy polluters such as fossil fuel-based energy production. These sectors will see the largest adjustments in employment, while effects in other parts of the economy may not be as intense. Affected sectors will not necessarily be identical across countries. Improving or preserving environmental quality covers a whole range of potential issues, ranging from pollution of air and water, global climate change, ocean degradation, waste production, depletion of non-renewable resources, unsustainable use of renewable resources, loss of biodiversity, to degradation of soil (ILO and UNEP 2012; ILC 2013). As countries face different environmental challenges, the requirements of structural transformation vary, as do related employment challenges and outcomes. For example, greenhouse gas (GHG) emissions in Brazil arise largely from agriculture and forestry, whereas in Germany they mostly stem from electricity generation, manufacturing and the transport sector. The German energy sector has traditionally used more non-renewable resources such as coal, oil and gas than Brazil, which traditionally relied on hydropower; and per capita water consumption for agricultural purposes is much higher in Brazil than in Germany. These brief examples show that countries face very different challenges on their paths towards an environmentally sustainable future. Accordingly, workers and enterprises will be affected differently.

### **Effects of Green Industrial Policy on employment**

When trying to measure the employment effects, various dimensions need to be taken into account. On the one hand, there are jobs that are newly created in greener sectors, industries or enterprises as well as those that emerge due to spill over effects in non-green sectors. Spillover jobs in other sectors may emerge through supply chains into green sectors as indirect jobs, through increased capacity of non-green sectors as improved competitiveness through higher resource productivity, or through additional consumer demand resulting from newly created incomes as induced effects. On the other hand, environmental policies may negatively affect labour absorption in polluting industries. For example, successful development of a competitive renewable energy sector would most likely reduce the number of jobs in the coal mining industry and along its supply chain. Estimating the overall impact of green industrial policies on the total number of jobs in the economy is therefore difficult and poses some methodological challenges. While net employment effects of a transition are important and of high interest to policymakers, the gross effect which is termed as the total numbers of jobs created and lost in different segments of the economy are also essential from an employment policy perspective. The shift of jobs across enterprises, industries, and sectors may entail adjustment costs for enterprises and workers. Additional government policies may become necessary to support or even trigger these transitions. Shifting employment patterns can also affect occupations, defined as a category of jobs with main tasks and duties that are characterized by a high degree of similarity, and therefore have ramifications for the development of skills and re-training as well as adjustments of the education system (ILO 2012). Moreover, employment considerations should not only concern the number of jobs created or lost, but also their quality, including governance and coordination mechanisms. This comprises a whole range of themes relating to the world of work. The International Labour Organization (ILO) has developed a Decent Work Agenda that distinguishes four objectives that also address quality of employment (ILO 2017): promoting jobs by boosting investments, skills development, new job creation and sustainable livelihood; guaranteeing rights at work; extending social protection by ensuring equal and safe working conditions for men and women, ensuring a balance between working hours and rest and access to healthcare; and promoting social dialogue between employees and employers. The promotion of "sustained, inclusive and sustainable economic growth, full and

productive employment and decent work for all” has been included into Sustainable Development Goal 8 as part of the United Nations’ 2030 Agenda for Sustainable Development that aims to achieve economic, social and environmental sustainability by 2030 (UN 2015). Many aspects of the world of work are regulated by International Labour Standards issued by the ILO. The adherence to International Labour Standards can help improve employment outcomes. A green transformation is successful, from the perspective of green industrial policies and the ILO’s Decent Work Agenda, if the transition leads to less environmental damage by the economy, for example lower total GHG emissions per unit of gross domestic product, and to better employment outcomes, in terms of more jobs, better job quality and better compliance with International Labour Standards.

### **Effect of green economy in the development of India**

The relevance of green economy for India will be seen from the angle of its strategic investment in different sectors to satisfy the basic needs of its citizens.

The strategist must emphasize upon the environmental protection at the time of drafting developmental plans for the country. The government must put their own national social and economic objectives on top priority; however, it should not delay the process of transition to a green economy. The environmental degradation undermines the ecological foundations for economic growth and human well-being, most obviously in countries that depend on economic activities in agriculture, forestry or fisheries. Furthermore, pollution and waste typically reflect inefficiencies in production, and resource-saving techniques tend to amortize very quickly even without consideration of positive externalities. Third, sticking to traditional. The countries which have shifted to the production of greener goods will create a wedge between the traditional production of the countries which have not yet taken step to shift to green system of the production.

It will make the trade more difficult to compete in future as the trade and investment treaties increasingly regulate environmental issues and that lead firms in global value chains impose progressively higher environmental standards. India must not concentrate upon the unsustainable infrastructure and traditional business practices because the swapping cost from the current traditional methods of production to the green production would be exorbitantly high. Therefore, today’s investments in high-carbon energy infrastructure may turn into financial burdens soon, as renewable energy becomes cheaper and commitments to decarbonise become binding and costly. India is in an advantageous position because most of its energy and urban infrastructure is yet to be built, so it can avoid costly misdirected investments in unsustainable infrastructure. Sophisticated new green technologies come with co-benefits. For example, investing in clean air greatly improves health conditions and reduces health-related expenditures, and communities can be electrified at lower cost when new technologies make it easier to use local sources of renewable energy at small scales.

### **Clean growth system and depletion of carbon emission**

Indian business houses and public sector undertakings have benefited from various technological transfers from industrialized countries under the ambient of Kyoto Protocol of Clean Development Mechanism. The Kyoto Protocol enables developing countries like India to replace the traditional technology of production with the emission reducing projects with hi-tech techniques. The Clean Development Mechanism can be used by electricity producers, cement and glass manufacturers by involving in the European Union Emission Trading Scheme to obtain new allowances. The Clean Development Mechanism creates a carbon credits-based projects certified by the UN Framework Convention on Climate. It helps to reduce emission in addition to the benefits that would have occurred in the most plausible alternative. According to Schmid (2012), higher tariffs on environmental goods and services impede the likelihood of technological transfer in CDM projects. Reducing tariffs on those environmental products might make technological transfer easier. One key ingredient that might matter at the country level seems to be its technological absorptive capability.

Technological absorptive capability refers to a country’s ability to conduct research and to understand, implement, and adapt imported technologies (Popp 2011). It has to do with the workforce’s technological literacy and skills, which are influenced by many factors that are controlled by public authorities, such as education and infrastructure.

### **Strategical policy for industrial development**

The formal constructions and relating initiatives determine the need for a comprehensive national strategy for the development of the renewable energy sector in India. There is a need of a strategy that targets both the creation of a sizable market for renewables and the development of a local industry. The green industrial policy is not receiving the necessary signals to invest and engage in the emerging sector. The integrated strategy for industrial development is needed in realm of renewable energy. The development of the renewable energy sector requires the intervention of multiple government agencies. The green industrial policy requires coordinating industrial development objectives through a multi-stakeholder governance process and ensuring a certain level of development directionality. The development focus is important for India to succeed in using renewable energy as a trigger for industrial development. Such a strategy would need to select renewable energy technologies that can deliver a higher value

added for the local economy and a high number of jobs, to attract investment and support the establishment of partnerships and joint ventures with local firms and to orient and adjust the education and research sector towards the needs of the new sector. Finally, green industrial policy should prepare local small and medium enterprises to engage in the value chain of renewable energy technologies, aiming to strengthen their capabilities through industrial upgrading programmes, setting up a national system of quality management and other targeted areas of intervention. As the Indian market is an immense market compared to other countries, domestic business houses should have the opportunity to gain sufficient experience at home to then be able to seek business opportunities abroad and thus positioning India as a global market leader. Weak coordination of green industrial policy measures is a reality in India, but it can be addressed. Various new agencies have been created to enable the attainment of the renewable energy targets, agencies that start collaborating with established agencies previously engaged with other industrial development goals. Bringing together and agreeing on a new vision, new objectives, and new ways of thinking about how to integrate traditional industrial and energy policy tools into a transformational agenda is not an easy task. Nevertheless, proactively seeking to streamline and harmonise these initiatives and to coordinate across stakeholders can contribute to convergence towards a national vision. Other aspects to consider are the integration of learning mechanisms in policy-making and strengthening of implementation capacity of the state bureaucracy.

### CONCLUSION

The developmental policy of India has undergone a remarkable change over a period of time. Its strategy of economic growth has been gradually changing as government is focussing on to keep the environment clean simultaneously with the speed of development. Many Indians are suffering of negative effects of climate change and dilapidated environmental conditions than any other nationality. India is putting all out efforts to reduce the carbon-dioxide emission which is a catalyst of vitiating the environment, however, the economic condition of the Indian cannot permit the government to bring immediate shift in its strategy of development to make it purely green. The public policies that have been successful in the past in bringing green growth might not be effective in the future. The policies implemented for enhancing profitable green growth should suit a country's respective level of development. India should prioritise improving their technological absorptive capacity, simplifying and standardising the accreditation process for carbon offsetting projects and building up a reliable supply of green, certified products for export. As India is an emerging economy, it can afford to subsidise investment in green technologies to support their own industry. It should also strengthen its intellectual property rights to attract technological knowledge from foreign investors and encourage its transfer. At least but not the least, it is worth mentioning that protecting natural resources and reducing pollution enhances societal well-being through several channels that can be indirectly beneficial to firms. The economic activities rely on ecosystem services which are provided by forests, soils, rivers, lakes and oceans. Therefore, the strategic development policies must be eco-friendly to protect our pristine environment make people healthy and prosperous.

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