

## **Energy transition and climate action – Budget 2022**

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The year 2021 saw Prime Minister Shri Narendra Modi pledge at the COP26 summit for a low carbon development strategy. This is to be achieved through Panchamrit, a five-fold strategy (DTE, 2021) that insists on shifting to renewable resources and reduction of carbon emissions. To follow through on the promises of Panchamrit, Budget 2022 constituted Energy Transition and Climate Action as one of its main pillars and thus proposed several near-term and long-term actions. These actions aim to expedite growth in the green energy space by ensuring that investments in this space see an impetus and that execution is in place. While adopting the PM's Panchamrit narrative, the Budget 2022-23 emphasises energy transition as part of the Amrit Kaal vision and an instrument for Atmanirbhar Bharat. This study seeks to analyse whether the budget allocation, focus and incentives therein support this narrative.

### **India's response to climate change**

Over the years, India has committed herself to the fight against climate change and to the goal of a clean environment through various policies and actions promoting sustainable development. The National Environment Policy (NEP, 2006) is an improvement on India's climate change policy framework. NEP builds on the existing policies like the National Forest Policy (1988), National Conservation Strategy and Policy Statement on Environment and Development (1992), National Agriculture Policy (2000), National Population Policy (2000) and National Water Policy (2002). In 2008, the National Action Plan on Climate Change (NAPCC) was released to mitigate and adapt to climate change. This was the most

comprehensive policy response to climate change from India. The same year, the then Prime Minister Dr Manmohan Singh appointed a Council on Climate Change to coordinate and oversee the country's climate response. NAPCC directed the ministries to submit details regarding plans of implementation to the council. (Pandve, 2009). Emphasising on the importance of Climate Finance, the Ministry of Finance constituted the Climate Change Financing Unit (CCFU) under the Department of Economic Affairs in the year 2016, to serve as the nodal point for all climate change financing activities in the Ministry. (Department of Economic Affairs, 2016). India's participation in the global climate meet, the UN Climate Change Conference (COP26) held in Glasgow last year put forth a list to amplify the response to climate change. Achieving net-zero emissions by 2070, non-zero energy capacity of 500 GW by 2030, 50% of energy requirements to be met from renewable resources, and reducing projected carbon emissions by 1 billion tonnes and the intensity to less than 45%, was also announced.

### **Economic survey 2021-22**

A chapter in Economic Survey 2021-22 examines and reports India's contribution for a better environment and could be categorised into three main agendas of i) sustainable development and climate change, ii) nation's forest area and iii) reduction of pollution. A main highlight of the sustainable development and climate change agenda is the improvement in India's overall score on the NITI Aayog SDG India Index and Dashboard improved from 60 in 2019-20 to 66 in 2020-21. The next agenda discussed was that of the nation's forest area. In 2020, India ranked third globally in increasing its forest area during 2010 to 2020. Last, India's contribution towards reduction of pollution included the Plastic Waste Management Amendment Rules (2021) which aimed at phasing out single use plastics by 2022. An improvement in the compliance status of Grossly Polluting Industries (GPIs) was also reported. Another highlight of pollution reduction was the campaign called Lifestyle for Environment (LIFE) presented at COP26 in Glasgow, 2021. Prime Minister Narendra Modi at the conference emphasised moving away from mindless and destructive consumption and towards a mindful and deliberate utilisation (WION, 2022) Apart from the above, it must be noted that climate finance remains important for the success of climate action. Although it is known that the government is not bound by the recommendations mentioned in the Economic Survey, the document would prove to be useful in providing a detailed account of India's true position on climate change, future prospects and effective policy changes.

## **Budget allocations**

The Union Ministry of Environment, Forests and Climate Change (MOEFCC) received a total allocation of Rs 3,030 crore as compared with last year's Rs 2869.93 crore, resulting in a 5.6% increase. Out of this, Rs 460 crore are allotted towards control of pollution, which, however, is Rs 10 crore less than last year's Budget. The estimated expenditure for the Union Ministry of New and Renewable Energy has decreased marginally from Rs 7681.80 crore to Rs 6900.68 crore - the highest allocation is for grid-based solar power of around Rs 3300 crore. The Centre's electric vehicle policy 'Scheme for Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicle in India' has seen a big boost from Rs 800 crore last year to Rs 2908 crore. The allocation under the heading of Climate Change Action Plan under the MoEFCC remained the same as the previous year (2021-22), at Rs 30 crore having been reduced from Rs 40 crore in 2020-21. The budget has allocated Rs 60 crore towards National Adaptation Fund, with no increase from last year.

## **Relevant climate related announcements**

Recently, the topic of Energy Transition and Climate Action has made its appearance in the news. Some of the major announcements are mentioned here. Energy efficiency and savings have been promoted for large commercial buildings through the energy service company model, via capacity-building and awareness about energy audits. Four pilot projects have been considered for coal gasification and conversion of coal into chemicals. Also initiated is a focus on agroforestry and private forestry supporting farmers belonging to Scheduled Castes/Scheduled Tribes who want to take up agroforestry. Sovereign green bonds are to be issued in public sector projects to reduce carbon intensity of the economy. Blended finance (with the government's share limited to 20 per cent) is proposed to be promoted for climate action, agriculture and other clean technology. This will be managed by private fund managers. Inclusion of energy storage in the harmonised list of infrastructure and promotion of transit-oriented development for cities will be taken up. A battery swapping policy will be brought out and interoperability standards will be formulated for the electric vehicles sector. Additionally, the Budget Session continues to discuss a new bill - The Energy Conservation (Amendment) Bill, 2022 - which aims to provide regulatory framework for carbon Trading in India, encouraging penetration of renewable in energy mix, and effective implementation and enforcement of the Energy Conservation Act, 2001.

These indicate that the country has been increasingly attempting to improve and innovate its response against climate change. Ultimately, it is proper budgetary allocations that would provide the necessary push leading to the incorporation of these activities.

### **Performance of the key schemes**

While achieving net-zero emissions by 2070 may be a long way off, India may struggle to reach the other four ambitious targets like achieving non-zero energy capacity of 500 GW with a much closer deadline of 2030. India just reached 156.83 GW of installed electricity capacity from non-fossil fuel sources, putting it on track to reach 500 GW by 2030. This represents 40.1 percent of the country's total installed energy capacity of 390.8 GW and 31 per cent of the 500 GW goal. Renewable energy (RE) sources currently account for 26.5 percent of total power generation capacity, compared to a target of 50 percent. Solar (12.4 percent) and wind (10.2 percent) account for the majority of India's renewable energy, and these capacities will need to be considerably expanded in the next eight years to meet the PM's pledge.

#### **Solar energy schemes:**

Solar energy capacity in India increased from 2.63 GW in March 2014 to more than 42 GW in October 2021, according to the government. With programmes like the National Solar Mission, the government hopes to scale-up the capacity of grid-connected solar power projects from 20 GW to 100 GW by 2022, with 40 GW coming from rooftop solar projects (Table 1). Even though the government set a goal of building 4 GW of rooftop solar capacity in the residential sector by 2019-20, only roughly 1.07 GW (27%) of that capacity was installed by December 5, 2021. According to the Ministry of New and Renewable Energy (MNRE), central financial assistance was supposed to build about 2.09 GW capacity by 2019-20, but only 1.31 GW (63 per cent of the objective) was achieved till December 5, 2021.

**Table 1:** Targets and Achievements under National Solar Mission

(i) Rooftop Solar Capacity in the residential sector	
Capacity Target	4 GW
Achieved	1.07GW
Percentage	27%
(ii) Solar capacity addition through central financial assistance	
Capacity Target	2.09 GW
Achieved	1.31 GW
Percentage	63%

*Source: Ministry of New and Renewable Energy, Government of India*

By 2022, the PM-KUSUM Scheme (launched in 2019) aims to contribute 30.8 GW of solar power capacity to agriculture by installing 2 million standalone off-grid solar water pumps and solarising 1.5 million current grid-connected agriculture pumps (Table 2). It is being implemented in three stages. Solar power plants with a total capacity of 4.91 GW have been sanctioned as part of the first component, but just 20 MW plants (0.4 percent) had been installed by November 30, 2021, as informed by the Ministry to the Lok Sabha on December 9. Only 75,098 pumps (21%) have been installed out of a total of 359,000 standalone solar pumps approved. Although solarization of 1.5 million existing grid-connected agriculture pumps was sanctioned, only 1,026 pumps were solarized.

**Table 2:** Targets and Achievements under PM- KUSUM Scheme

(i) Solar power plants	
Capacity Target	4.91 GW
Achieved	0.027GW
Percentage	0.40%
(ii) Standalone solar pumps	
Sanctioned	3,59,000
Installed	75,098
Percentage	21%
(iii) Solarization of agricultural pumps	
Sanctioned	10,00,000
Installed	1,026
Percentage	0.10%

*Source: Ministry of New and Renewable Energy, Government of India*

The MNRE budget contains Rs 2,369 crore (\$315 million) for grid interactive solar power development, with a capacity growth of 7.5 GW solar power in 2021-22. However, between 2019-20 and 2021-22, the Centre's allocation for off-grid solar power dropped by more than half, from Rs 525 crore to Rs 237 crore. Installing 300,000 solar street lights, distributing 2.5 million solar study lamps, and installing solar power packs are all part of the off-grid solar power initiative. Also, the PM-KUSUM scheme's budget was cut from Rs 300 crore in 2020-21 to Rs 221 crore in 2021-22. However, in 2021-22, the allocation for this scheme was increased from Rs 700 crore to Rs 776 crore under the off-grid electricity category.

### **Wind energy schemes:**

Wind power is a similar story: India has a gross potential of at least 302 GW, but has only been able to capture 40 GW so far. To boost the sector, the government has implemented policies such as reduced customs duties on some components used in the manufacture of wind electric generators, a generation-based incentive for wind power projects, and technical assistance, such as wind resource assessment and site identification, provided by the National Institute of Wind Energy in Chennai. Despite this, IndiaSpend stated in November 2021 that huge offshore wind energy potential remains untapped.<sup>1</sup>

According to the International Energy Agency's Coal 2021 report, although India strives to boost its share of non-fossil fuel sources for power, coal usage is likely to rise even more. Stronger economic growth and rising electrification are expected to fuel a 4% annual increase in coal demand in India, with the country adding 130 million tonnes of coal demand between 2021 and 2024, according to the report.

### **Missing budgetary support to tackle air pollution**

The budgetary allocation for the Commission on Air Quality Management (CAQM), which works in the National Capital Region and surrounding areas, has been reduced marginally (Rs 3 crore), while the budgetary allocation for the National Clean Air Programme has remained unchanged. Surprisingly, the budget threatens to undercut one of India's recent successes in the fight against air pollution: the rapid expansion of LPG for cooking through the Pradhan Mantri Ujjwala Yojana (PMUY). The budget barely sets aside Rs 4000 crore for LPG

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<sup>1</sup> <https://www.indiaspend.com/explainers/explained-why-indias-offshore-wind-energy-potential-remains-untapped-789380>. Accessed 9 February 2022).

subsidies, compared with Rs 12000 crore the previous year. Given the magnitude of the environmental crisis, nodal organisations such as the Central Pollution Control Board (CPCB) are underfunded and understaffed. Thus this budget may be said to have paid less attention to India's recurring air pollution crisis.

### **Nature-Based Solutions to Reduce Emissions**

The budget contains only a passing reference to green hydrogen, which was hotly debated in the run-up to the budget. In his Independence Day speech in August 2021, the Prime Minister announced a National Hydrogen Mission with the goal of scaling up green hydrogen production, which has the ability to decarbonize significant greenhouse gas emitting sectors. Furthermore, the budget's claimed climate gains are squandered due to environmentally destructive measures such as river connection and highway development. It should have been a top priority to protect our natural capital, which provides us with priceless ecological services. A missed opportunity in the aftermath of COVID-19 recovery is the failure to devote appropriate resources for biodiversity protection and pollution abatement.

### **Un-greening through reduction in social security**

Mahatma Gandhi National Rural Employment Guarantee Program (MGNREGP) is not merely a social security programme, but one with significant climate resilience and carbon sequestration potential. Through greater forest and tree cover, the Scheme can also assist India in meeting its goal of creating an additional carbon sink of 2.5 to 3 billion tonnes equivalent of carbon dioxide (CO<sub>2</sub>) by 2030. A study undertaken by the Indian Institute of Science (IISc) in Bengaluru and Imperial College, London (Estimation of Carbon Sequestration under MGNREGA: Achievement and Potential in India, 2018) demonstrated this. According to this assessment, the scheme may have helped capture 102 million tonnes of carbon equivalent in 2017-18 through plants and soil quality enhancement projects. As per the calculation, annual carbon sequestration capacity could steadily climb to almost 249 million tonnes of carbon dioxide equivalent by 2030. However, surprisingly, the MGNREGP budget estimate has been lowered downwards to Rs 73,000 crore, down 34.52 percent from last year's revised estimate of Rs 111,500 crore. Given the pandemic period, when the majority of people are still jobless or without income, this demonstrates a clear lack of dedication. More significantly, it goes without saying that reducing the government's role jeopardises the scheme's enormous potential for climate resilience and carbon sequestration.

## Conclusion

While the budget has addressed certain critical issues of climate change, given India's previous attitude on climate funding, more was expected. Also, by putting climate action and a clean energy transition narrative into the Union budget 2022, it may strike a few right chords; but the devil is in the details. Finally, while a budget document cannot specify the path of a green transformation, it should ideally allocate monies for its implementation and send signals about its importance and necessity, even though the Union Budget 2022 has delivered an important signal to markets, financial institutions, and the workforce by referring to climate action as a sunrise sector and job creator.

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