

Energy Conservation Bill 2022: Implications and next steps

By Dhruv Rajeev

India has set ambitious climate targets as part of its Nationally Determined Contributions (NDCs) to tackle the climate crisis. These include short- and long-term measures such as reducing the emissions intensity by 45%, installing 500 GW of non-fossil fuel capacity, and achieving a net-zero economy by 2070.

An important step in this direction is the Energy Conservation (Amendment) Bill 2022, which was passed in the Rajya Sabha recently. The Bill addresses several energy efficiency and decarbonisation measures across the economy. These include a non-fossil-fuel mandate for designated consumers (the largest consumers of energy), the setting up of a carbon credit trading scheme, the inclusion of residential buildings in the new Energy Conservation and Sustainable Building Code, and increasing the purview of energy consumption standards to include vehicles and industrial units. Another important enabling measure in the Bill is the decision to expand the Bureau of Energy Efficiency (BEE) governing council, with representatives from greater parts of the economy.

Implications of the Bill

If one takes a closer look at some of the measures in the Bill, it is interesting to observe the dual focus on deepening existing decarbonisation measures in India's energy-intensive sectors and bringing greater parts of the Indian economy under energy efficiency actions.

Industries are the biggest consumers of energy in India, with almost 40% share of the final energy consumption primarily consisting of fossil fuels. The Government has taken steps in the past to reduce fossil fuel consumption, including the Perform Achieve Trade (PAT) scheme. The PAT scheme focuses on designated consumers from industrial subsectors (e.g., steel, aluminium, textiles) and other energy-intensive sectors such as distribution utilities and thermal power plants. It mandates energy savings targets for these designated consumers and uses a cap-and-trade scheme of Energy Saving Certificates (ESCerts). The second PAT cycle (from 2016 to 2019) had 621 such designated consumers, covering 30% of India's energy consumption, which resulted in emissions savings of over 60 million tonnes of CO₂.

Mandating non-fossil fuel usage for designated consumers is an important measure in the Bill that increases the depth of decarbonisation measures. The total energy consumption of this category in the second PAT cycle was 244 million tonnes of oil equivalent. Approximately, 15% of this energy use is in the

form of electricity, around 430 terawatt-hours. Assuming that the renewable electricity mandates in the Bill are similar to the Renewable Power Obligations prescribed to DISCOMs for 2022–23, this would translate to a demand for almost 70 GW of solar capacity. Beyond the direct effect on decarbonisation, this high quantum of demand can drive the growth of the renewables market and bring down costs further.

The second important measure is the introduction of a carbon credit scheme. The Government (or an agency authorised by it) is now allowed to issue carbon credit certificates to units that comply with the scheme. Importantly, energy savings or carbon credits can now be bought on a voluntary basis, opening additional financing for clean technologies. The export of excess carbon credits will be allowed, but the Government's primary focus will be on using the carbon market to meet the country's NDCs.

The Bill has also made additions to Energy Consumption Standards (motors, vessels, industrial units) and the Energy Conservation and Sustainable Building Code (residential buildings). These are important additions as residential buildings are among the fastest-growing sources of energy consumption, fuelled by the growing usage of appliances and increased space-cooling requirements. In 2030, an estimated 70% of the building sector's electricity consumption is set to come from residential buildings. Bringing it under the fold of energy efficiency schemes immediately is a crucial step in preventing the overall energy demand from skyrocketing.

Questions remain

While focusing on non-fossil fuel mandates, it is important to reiterate that the average electricity consumption in industries is still a fraction (15%) of the total energy consumption, the rest being in the form of thermal energy. The energy demand cannot directly be substituted through renewables alone. Electrification of heating processes and the use of cleaner fuels (biomass, biogas, green ammonia, green hydrogen, etc.) exist, and their growth is expected with market mechanisms such as the carbon credit scheme. More supply-side interventions are required to disseminate these technologies at scale and meet the non-fossil fuel mandates.

More details are also required on the carbon credit scheme. A 2021 draft blueprint by BEE on Voluntary Carbon Markets is expected to act as a framework, but further decisions are required on market regulators, governance structures, monitoring and verification protocols, and so on. Much also depends on the emissions savings targets and the penalties imposed on participating units; the market design is key in adequately incentivising polluters to invest in clean technology.

In the long term, the carbon credit scheme should also look beyond the energy sector. Processes such as land-use change and forestry can help maximise the decarbonisation potential of these market-based measures. While the inclusion of residential buildings is a welcome step towards energy efficiency in buildings, the Bill alone cannot change the sector or be uniformly applied across the country. State governments have the flexibility to modify building codes to better fit their local requirements and climatic conditions. This flexibility must be utilised to make building codes more implementable. Power is also a concurrent subject; enforcing the Energy Conservation and Sustainable Buildings Code requires clear implementation strategies from state and local governments.

Overall, the Bill takes a promising step forward by creating a legislative basis to decarbonise increasing parts of the Indian economy. With clarity on the strategy towards effective implementation, central and state governments can help transform the country's energy future.

[The author works in the area of energy and power at the Center for Study of Science, Technology and Policy (CSTEP), a research-based think tank.]