

Legislative Brief

The Energy Conservation (Amendment) Bill, 2022

The Energy Conservation (Amendment) Bill, 2022 was introduced in Lok Sabha on August 3, 2022. It was passed by Lok Sabha on August 8, 2022, and is pending before Rajya Sabha for consideration and passing.

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Highlights of the Bill

- ◆ The Bill amends the Energy Conservation Act, 2001 to empower the central government to specify a carbon credit trading scheme.
- ◆ Designated consumers may be required to meet a proportion of their energy needs from non-fossil sources.
- ◆ The Energy Conservation Code for buildings will also apply to office and residential buildings with a connected load of 100 kilowatt or above.
- ◆ Energy consumption standards may be specified for vehicles and ships.

Key Issues and Analysis

- ◆ Carbon credit trading aims to reduce carbon emissions, and hence, address climate change. The question is whether the Ministry of Power is the appropriate Ministry to regulate this scheme. A further question is whether the market regulator for carbon credit trading should be specified in the Act.
- ◆ Same activity may be eligible for renewable energy, energy savings, and carbon credit certificates. The Bill does not specify whether these certificates will be interchangeable.
- ◆ Designated consumers must meet certain non-fossil energy use obligation. Given the limited competition among discoms in any area, consumers may not have a choice in the energy mix.

PART A: HIGHLIGHTS OF THE BILL

Context

The Energy Conservation Act, 2001 provides a framework for regulating energy consumption and promoting energy efficiency and energy conservation.¹ Energy efficiency means using less energy to perform the same task. The Act has set up the Bureau of Energy Efficiency to recommend regulations and standards for energy consumption. These apply to appliances, vehicles, industrial and commercial establishments and buildings. Efforts towards energy conservation and efficiency gains are among the key instruments envisaged for climate change mitigation. Efforts on these fronts lower the energy generation requirement, and thereby reduce greenhouse gas emissions. These also have positive implications for energy security in a country like India, which relies on imports to meet some of its energy needs.² As per an estimate by the Bureau, programs for efficient energy use have helped India save about 28 million tonnes of oil equivalent energy in 2019-20 (this amount of energy could light about 185 crore 20W LED bulbs 24X7 for a year).³

During the COP-26 summit in 2021, India made the following commitments which may be relevant for energy efficiency efforts: (i) reducing total projected carbon emissions by one billion tonnes by 2030, and (ii) reducing the carbon intensity of the economy by 45% by 2030 over 2005 levels.⁴ Carbon intensity is defined as the volume of carbon emissions per unit of GDP. In addition, India aims to have 500 GW of non-fossil energy capacity and meet 50% of its energy requirements from renewable energy by 2030.³ Against this backdrop, the Energy Conservation (Amendment) Bill, 2022 was introduced in Lok Sabha in August 2022.⁵ The Bill was passed by Lok Sabha and is currently pending before Rajya Sabha. The Bill seeks to amend the 2001 Act to: (i) facilitate the achievement of COP-26 goals, and (ii) introduce concepts such as mandated use of non-fossil sources and carbon credit trading to ensure faster decarbonisation of the Indian economy.

Key Features

- **Carbon credit trading:** The Bill empowers the central government to specify a carbon credit trading scheme. Carbon credit implies a tradeable permit to produce a specified amount of carbon dioxide or other greenhouse emissions. The central government or any authorised agency may issue carbon credit certificates to entities registered and compliant with the scheme. The entities will be entitled to trade the certificates. Any other person may also purchase a carbon credit certificate on a voluntary basis.
- **Obligation to use non-fossil sources of energy:** The Act empowers the central government to specify energy consumption standards. The Bill adds that the government may require designated consumers to meet a minimum share of energy consumption from non-fossil sources. Different consumption thresholds may be specified for different non-fossil sources and consumer categories. Designated consumers include: (i) industries such as mining, steel, cement, textile, chemicals, and petrochemicals, (ii) transport sector including Railways, and (iii) commercial buildings, as specified in the schedule. Failure to meet this obligation will be punishable with a penalty of up to Rs 10 lakh. It will also attract an additional penalty of up to twice the price of oil equivalent of energy consumed above the prescribed norm.
- **Energy conservation code for buildings:** The Act empowers the central government to specify Energy Conservation Code for buildings. The code prescribes energy consumption standards in terms of area. The Bill amends this to provide for an 'Energy Conservation and Sustainable Building Code'. This new code will provide norms for energy efficiency and conservation, use of renewable energy, and other requirements for green buildings. Under the Act, the energy conservation code applies to commercial buildings: (i) erected after the notification of the Code, and (ii) having a minimum connected load of 100 kilowatt (kW) or contract load of 120 kilo volt ampere (kVA). Under the Bill, the new Energy Conservation and Sustainable Building Code will also apply to the office and residential buildings meeting the above criteria. The Bill empowers the state governments to lower the load thresholds.
- **Standards for vehicles and vessels:** Under the Act, the energy consumption standards may be specified for equipment and appliances which consume, generate, transmit, or supply energy. The Bill expands the scope to include vehicles (as defined under the Motor Vehicles Act, 1988), and vessels (includes ships and boats). The failure to comply with standards will be punishable with a penalty of up to Rs 10 lakh. Non-compliance in case of vessels will attract an additional penalty of up to twice the price of oil equivalent of energy consumed above the prescribed norm. Vehicle manufacturers in violation of fuel consumption norms will be liable to pay a penalty of up to Rs 50,000 per unit of vehicles sold.
- **Composition of the governing council of BEE:** The Act provides for the setting up of the Bureau of Energy Efficiency (BEE). The Bureau has a governing council with members between 20 and 26 in number. These include: (i) secretaries of six departments, (ii) representatives of regulatory authorities such as the Central Electricity Authority, and the Bureau of Indian Standards, and (iii) up to four members representing industries and consumers. The Bill amends this to provide that the number of members will be between 31 and 37. It increases the number of secretaries to 12. It also provides for up to seven members representing industries and consumers.

PART B: KEY ISSUES AND ANALYSIS

Regulation of carbon credit trading

Bill: Clause 2 (ii), 2 (vi), 6 (viii), 8

The Bill empowers the central government to specify a carbon credit trading scheme. Carbon credit refers to a tradeable permit allowing the holder to emit a specified amount of carbon dioxide or other greenhouse gases such as methane and nitrous oxide. These may be earned by reducing emissions for a given activity or creating sinks for carbon absorption such as forestry. Carbon credits may be purchased by an entity that emits above its specified amount. A carbon credit trading scheme is aimed at reducing greenhouse gas emissions, and hence, addressing climate change. We discuss certain issues with the provisions of the Bill below.

The question is which is the appropriate Ministry to regulate the carbon credit trading scheme

As per the Act, the Ministry of Power will be the nodal Ministry for the regulation of the scheme, and the Bureau of Energy Efficiency under the Ministry of Power will be the implementing agency. As per the Government of India (Allocation of Business) Rules, 1961, the Ministry of Power is responsible for: (i) general policy in the power sector, and issues related to energy policy and coordination, and (ii) energy conservation and energy efficiency pertaining to the power sector.⁶ The energy sector is the major contributor to greenhouse gas emissions in India (about 75% in 2016).⁷ However, the ambit of carbon credit trading could be wider than the energy sector. Activities such as agriculture (14%) and industrial processes (8%) also make sizeable contributions to greenhouse gas emissions (see Table 1 on next page).⁷ In addition, the land use, land-use

change, and forestry sector is the main sector providing a net carbon sink, i.e., it absorbs greenhouse gases.⁷ In 2016, this sector absorbed about 11% of the greenhouse gases emitted by other sectors on a net basis.⁷

Under the Business Allocation Rules, it is the Ministry of Environment, Forest, and Climate Change, which is responsible for the regulation of: (i) ‘**climate change and related matters**’, (ii) environmental norms, and (iii) forestry.⁶ In jurisdictions such as USA, UK, and Switzerland, the Environment Ministry or Environment Regulator implement schemes similar to the one proposed by the Bill (referred to as emission trading or cap-and-trade schemes).^{8,9,10}

Table 1: India's Total Emissions by Sector in 2016 (in Million Tonnes CO₂ Equivalent)

Sector	Amount	% Share
Energy	2,129	75%
<i>of which</i>		
Energy Industries	1,207	43%
Manufacturing Industries and Construction	398	14%
Transport	274	10%
Agriculture	408	14%
Industrial Processes and Product Use	226	8%
Waste	75	3%
Total	2,839	100%
Land Use, Land-Use Change, and Forestry	-308	
Net Total	2,531	

Source: Table 2.35, India's Total Emissions 2011-2016, Third Biennial Update Report to The United Nations Framework Convention on Climate Change 2021, Ministry of Environment, Forest and Climate Change; PRS.

No clarity on who will regulate the carbon credit market

Typically, trading platforms are regulated by respective sectoral regulators. For example, share and commodity trading is regulated by the Securities and Exchange Board of India (SEBI).¹¹ Electricity trading is regulated by Central Electricity Regulatory Commission (CERC).¹² The regulating entities for trading have been specified in respective Acts. The Bill does not give clarity on how carbon credit certificates will be traded, or who will regulate such trading. The question is if there were to be a regulator, should it be specified in the Act itself.

Note that the Energy Conservation Act provides for energy savings certificates.¹³ The Act does not specify the regulator for the trading of these certificates. These certificates are traded on power exchanges, which are in turn regulated by CERC.^{14,15}

Same activity may be eligible under renewable energy, energy savings, and carbon credit trading schemes

Currently, there are two key trading schemes operational in the energy sector in India: (i) Renewable Energy Certificate under the Electricity Act, 2003 for promoting renewable energy, and (ii) Energy Savings Certificate under the Energy Conservation Act, 2001 for promoting energy efficiency.^{15,16} The Bill adds a tradeable carbon credit certificate for reducing carbon emissions. The same activity may get covered under these schemes separately. For example, if a power generation company produces renewable energy, it earns a renewable energy certificate. By producing renewable energy, it may also be reducing carbon emissions, and hence, could be entitled to get carbon credits. Similarly, all energy saving measures could qualify as carbon emission reduction measures, as they reduce the amount of energy generation needed and hence, reduce carbon emissions. The Bill does not specify whether these certificates will be interchangeable or not.

Challenges in meeting non-fossil energy use obligation

The Bill adds that the government may require certain designated consumers to meet a minimum share of energy consumption from non-fossil sources. Different consumption thresholds may be specified for different non-fossil sources and consumer categories. Designated consumers include: (i) industries such as mining, steel, cement, textile, chemicals, and petrochemicals, (ii) transport sector including Railways, and (iii) commercial buildings, as specified in the schedule. Failure to comply will be punishable with a penalty of up to Rs 10 lakh. Electricity is a key form of energy used across consumer categories. Currently, most consumers may not have an option to buy electricity produced from a specific source. Possible sources for a consumer to meet electricity needs could be: (i) supply from a power distribution company (discom), (ii) direct procurement from a generator, or (iii) captive generation (generating on their own).

Choice in the energy mix of supply from discom: Typically, commercial establishments like a hotel in Delhi will be procuring energy from the discom of the area. Under the Bill, an obligation may be cast upon it to procure electricity from non-fossil sources. Power supply in an area is often a monopoly, that is, only one discom supplies electricity to all consumers in an area. The hotel may not have control or choice over the mix of electricity it is buying, since the energy mix is decided by the discom.

Difficulties with open access: Amendments to Electricity Rules notified in June 2022 have allowed consumers with a minimum load of 100 kW to procure green energy from a generator of their choice (called open access).¹⁷

The earlier threshold was 1 MW. As per these Rules, green energy includes renewable energy such as solar, wind, and hydro, and green hydrogen and green ammonia. However, the Ministry of Power had informed the Standing Committee on Energy (2022) that in most states, open access is not really a possibility for consumers as Regulatory Commissions have stipulated high open access charges.¹⁸

Implications of obligation for nascent technologies: Through the non-fossil energy use obligation, the Bill seeks to increase the demand for new sources of non-fossil energy and thereby their adoption. The term non-fossil sources has not been defined in the Bill, the Act, or the Electricity Act, 2003. The Bill defines energy as “any form of energy derived from fossil fuels or non-fossil sources or renewable sources”. Hence, it distinguishes between non-fossil sources and renewable sources (which would include sources such as solar, wind, and hydro). As per the Statement of Objects and Reasons of the Bill, examples of non-fossil sources include biomass, green hydrogen, green ammonia, biomass, and ethanol.

There may not be a widespread generation of power from some of these sources that the consumer can access. For instance, the share of biomass in India’s total installed electricity generation capacity was 2.5%, as of August 2022.¹⁹ Technologies such as green hydrogen and green ammonia are still at a nascent stage.³ Currently, it may not be feasible to produce energy from them affordably. Also, energy is a key input to industrial activity, and such an obligation may then adversely impact the competitiveness of the industry.

The Electricity Act, 2003 uses a different approach to promote the use of renewable energy. It mandates discoms, who are bulk-procurers from generators and suppliers to end-consumers, to procure a certain percentage of energy from renewable sources.

1. [The Energy Conservation Act, 2001](#).
2. [Energy Statistics India 2022](#), Ministry of Statistics and Programme Implementation.
3. One Tonne of Oil Equivalent Energy means the amount of energy released from burning one tonne of crude oil. One Million Tonne of Oil Equivalent Energy is equal to 11.63 billion kWh (Units).
[Draft National Electricity Plan](#), Central Electricity Authority, September 2022.
4. “[India’s Stand at COP-26](#)”, Press Information Bureau, Ministry of Environment, Forest, and Climate Change, February 3, 2022.
5. [The Energy Conservation \(Amendment\) Bill, 2022](#) as passed by Lok Sabha.
6. [The Government of India \(Allocation of Business\) Rules, 1961](#).
7. [Third Biennial Update Report to The United Nations Framework Convention on Climate Change 2021](#), Ministry of Environment, Forest and Climate Change.
8. [Website](#) of Environment Protection Agency, USA, as accessed on September 23, 2022.
9. Section 9, [The Greenhouse Gas Emissions Trading Scheme Order 2020](#), United Kingdom; Guidance - Participating in the UK ETS, [Website](#) of Government of United Kingdom as accessed on September 23, 2022.
10. “Measures CO2 Act”, [Website](#) of Federal Office for Environment, Switzerland, as accessed on September 23, 2022.
11. [The Securities and Exchanges Board of India Act, 1992](#).
12. Section 66, [Electricity Act, 2003](#).
13. Section 14 A, [The Energy Conservation Act, 2001](#).
14. [The CERC \(Terms & Conditions for Dealing in Energy Savings Certificates\) Regulations, 2016](#).
15. [PAT Scheme](#), Website of Bureau of Energy Efficiency as accessed on August 4, 2022.
16. [The CERC \(Terms & Conditions for Renewable Energy Certificates for Renewable Energy Generation\) Regulations, 2022](#).
17. [G.S.R. 418 \(E\)](#), The Gazette of India, Ministry of New and Renewable Energy, June 3, 2022.
18. [26th Report: Review of Power Tariff Policy](#), Standing Committee on Energy, August 2022.
19. [Monthly Report on Installed Capacity-August 2022](#), Central Electricity Authority.

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