GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO.2145
TO BE ANSWERED ON 16.12.2021

Roadmap for achieving NDCs

2145. SHRI VIJAY PAL SINGH TOMAR:
SHRI HARNATH SINGH YADAV:
LT. GEN. (DR.) D. P. VATS (RETD.):

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether Government plans to prepare a year-wise roadmap for achieving targets of Nationally Determined Contributions (NDCs);
(b) if so, the details thereof;
(c) whether Government has plans to integrate low carbon technologies and emission reduction measures in various Government schemes and programmes;
(d) if so, the details thereof;
(e) whether Government has estimated the annual investments required to achieve 40 per cent of non fossil fuels installed capacity by 2030; and
(f) if so, the details thereof?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a) to (f) The Paris Agreement is for post 2020 period and the implementation of India's NDC effectively began on 1st January 2021. The Government has decided to execute its commitments as action in various sectors by the Departments/Ministries concerned through the normal budgeting process and with the participatory support from all the stakeholders including State Governments.

The Government is implementing National Action Plan on Climate Change (NAPCC) which is the overarching policy framework for climate action in the country. It comprises of eight Missions in specific areas of solar energy, enhanced energy efficiency, sustainable habitat, water, sustaining the Himalayan ecosystem, Green India, sustainable agriculture and strategic knowledge for climate change.33 States and Union Territories (UTs) have prepared State Action Plan on Climate Change (SAPCC) consistent with the objectives of NAPCC. In addition, the Government has launched many schemes and programs to scale up India's action on both, the adaptation and mitigation. Appropriate measures are being taken under these schemes and programs across many sectors including water, agriculture, forest, energy and enterprise, sustainable mobility and housing, waste management, circular economy and resource efficiency, etc

The Government is taking various initiatives to integrate low carbon technologies and emission reduction measures in various Government schemes and programmes across sectors. It has adopted various clean coal technologies such as Supercritical technology, Coal Gasification, Ultra Supercritical Plants, Advanced Ultra Supercritical (ASUC) Technology in coal based power sector with the objective of enhancing the efficiency of power generation along with reducing emissions. As per the National Electricity Plan 2018, as of 31 March 2017, around 60 units based on supercritical technology have been commissioned in the country. The plan also indicates that 23 GW of coal-fired capacity is set to retire during 2017-22 and another 26 GW during 2022-27.

In the last few years, technological advancements in lighting have led to development of energy-efficient lighting systems that consist of one or more components such as low loss ballasts; constant wattage high-intensity electronic ballasts; Energy-efficient luminaires; and better monitoring and control mechanisms.

In the urban sector, the updated version of Energy conservation Building Code (ECBC) provides current as well as futuristic advancements in building technology to reduce building energy consumption further and promote low-carbon growth. In transport sector, Auto Fuel Policy, 2003 aims at addressing issues of vehicular emissions and vehicular technologies by cost-effectively applying fuel quality standards, ensuring efficient fuel supply measures. Bharat Stage-VI standards have come into effect for all vehicles manufactured on or after 1 April 2020.

The Government is also taking effective measures to increase the share of cleaner and renewable energy in total energy mix by replacing fossil fuels across sectors and across all States and UTs by providing them with targets for capacity addition of renewable energy technologies in a set timeframe. Non-fossil fuel sources such as solar, wind, nuclear and modern energy technology-based sources such as waste to energy and biofuels have already been deployed at a steadily increasing rate and have contributed to the reduction in emissions intensity.

In addition, Department of Science and Technology (DST) along with Department of Biotechnology (DBT) has supported jointly 19 projects under multilateral Mission Innovation platform (MI). Through this platform, DST intended to undertake joint Research & Development with MI member countries to identify and prioritize breakthrough low carbon technologies and emission reduction measures through Carbon Capture, Utilization and Storage (CCUS) technologies. It was also envisaged to conduct research, development and demonstration to foster technology innovations that are technically feasible, robust and cost-effective for CCUS. DST has also participated in a multilateral ACT (Accelerating CCUS Technologies) collaboration programme for adapting the global practices and transnational research for the transfer of CCUS technologies from low to high TRL levels. Further, DST has recently joined the Carbon Dioxide Removal (CDR) Mission 2.0 (Mission Innovation 2.0) as a Supporting Member.

In the agriculture sector, Ministry of Agriculture and Farmers Welfare has launched National Innovations in Climate Resilient Agriculture (NICRA) in 2011, under which, several climate resilient technologies that can minimize the emissions of carbon/ greenhouse gases are being demonstrated and promoted without impacting agricultural production.

In the Micro, Small and Medium Enterprises (MSME) Sector, Government has been employing several measures aimed at fostering a regime that could remove barriers for accelerated technology upgrades focusing on energy efficiency and innovation in the MSME sector with the objective of, *inter alia,* improving energy efficiency of MSME sector through accelerating adoption of energy efficiency technologies.

As per the report of the Central Electricity Authority for November 2021, India has already achieved 40% of the country's total installed capacity through non-fossil fuel energy sources.

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