IEA’s Methane Global Tracker report

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Why in News: According to the International Energy Agency’s (IEA) annual Methane Global Tracker report, fossil fuel companies emitted 120 million metric tonnes of methane into the atmosphere in 2022, only slightly below the record highs seen in 2019.

Role of methane in driving Climate change

Methane is a greenhouse gas, which is responsible for 30 per cent of the warming since preindustrial times, second only to carbon dioxide.

A report by the United Nations Environment Programme observed that over a 20-year period, methane is 80 times more potent at warming than carbon dioxide.

In recent years, scientists have repeatedly sounded the alarm regarding the increasing amount of methane in the atmosphere. Last year, the US National Oceanic and Atmospheric Administration (NOAA) said that the atmospheric levels of methane jumped 17 parts per billion in 2021, beating the previous record set in 2020.

While carbon dioxide remains in the atmosphere for much longer than methane, methane is roughly 25 times more powerful at trapping heat in the atmosphere, and has an important short-term influence on the rate of climate change

Sources of Methane emission

Methane is emitted from a variety of anthropogenic (human-influenced) and natural sources.

Anthropogenic emission sources include landfills, oil and natural gas systems, agricultural activities, coal mining, stationary and mobile combustion, wastewater treatment, and certain industrial processes.

A Brief about the Report

The IEA’s estimates of methane emissions are produced within the framework of the World Energy Model (WEM).

Since 1993, the International Energy Agency (IEA) has provided medium- to long-term energy projections using this large-scale simulation model designed to replicate how energy markets function and generate detailed sector-by-sector and region-by-region projections for the World Energy Outlook (WEO) scenarios

The Global Methane Tracker covers all sources of methane from human activity.

For the energy sector, these are IEA estimates for methane emissions from the supply or use of fossil fuels (coal, oil and natural gas) and from the use of bioenergy (such as solid bioenergy, liquid biofuels and biogases).

For non-energy sectors – waste, agriculture and other sources – reference values based on publicly available data sources are provided to enable a fuller picture of methane sources

Major findings of the Report

At global level

Our new Global Methane Tracker shows that some progress is being made but that emissions are still far too high and not falling fast enough – especially as methane cuts are among the cheapest options to limit near-term global warming.

According to the report, the world's energy sector released 135 million tonnes of methane into the atmosphere in 2022, just a little less than the record highs observed in 2019.

Around 30% of the increase in global temperatures during the Industrial Revolution can be attributed to methane.

Now, the second largest contributor to human-caused methane emissions, the energy sector, is responsible for around 40% of all emissions.

More than 260 billion cubic metres (bcm) of natural gas (mostly composed of methane) is wasted through flaring and methane leaks globally today

The study for this year also discusses steps to reduce methane emissions from coal mines by half.

At India level

The tracker has revealed India’s estimated total emissions to be 29?667 kt (kiloton). Its share in global emissions stands at 8.3%.

It has identified agriculture as the largest emissions source and its share of emissions from the energy sector are 17 per cent. Around 53 per cent share of emissions could be avoided at no net cost.

India’s mitigation initiative

In India, which has the world's largest cattle population and is the second largest rice producer, The Galvanising Organic Bio-Agro Resources (Gobar-Dhan) scheme launched in 2018 and the New National Biogas and Organic Manure Programme, implemented from 2017, provide incentives to farmers for cattle waste recovery, used in the production of bio-energy.

The National Livestock Mission since 2014 includes feeding livestock with balanced rations which "can help reduce methane emissions from livestock

Several other schemes including Direct Seeded Rice, which uses less water during initial paddy cropping that can reduce methane emissions, and Waste to Energy plants that will generate biogas/biomethane or Bio-CNG from agricultural, urban, industrial and municipal solid waste, etc, that will indirectly reduce methane emissions, were listed in the ministry's response

The Way ahead

An internationally coordinated arrangement focusing on minimum methane prices would be effective from an emission and competitiveness perspective. The arrangement could initially start with key countries that have signed the Global Met