Higher Methane Emissions from Energy Sector

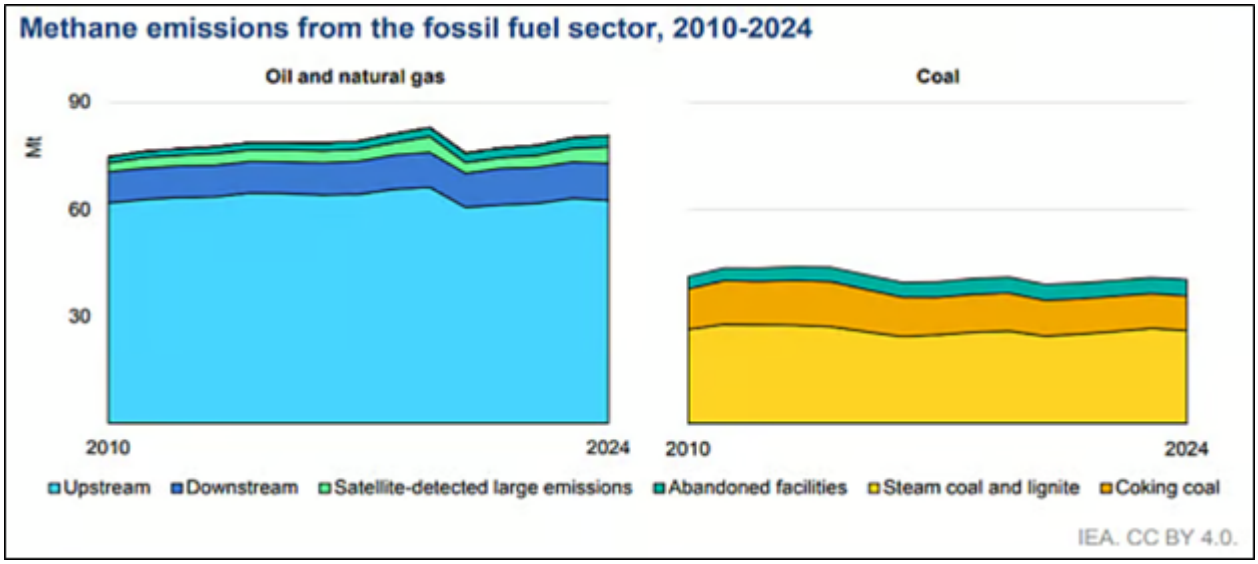
***Prelims**: General issues on Environmental ecology, Bio-diversity and Climate Change*

Why in News?

Aaccording to the recent International Energy Agency's (IEA) Global Methane Tracker 2025, the energy sector contributed around 145 million tonnes (Mt) of methane emissions in 2024.

> ***Methane (CH_4)** is a greenhouse gas responsible for around 30 % of the rise in global temperatures since the Industrial Revolution. Its levels in atmosphere are growing faster than other greenhouse gases, with its concentration being 2-and-a-half times higher than the preindustrial era.*

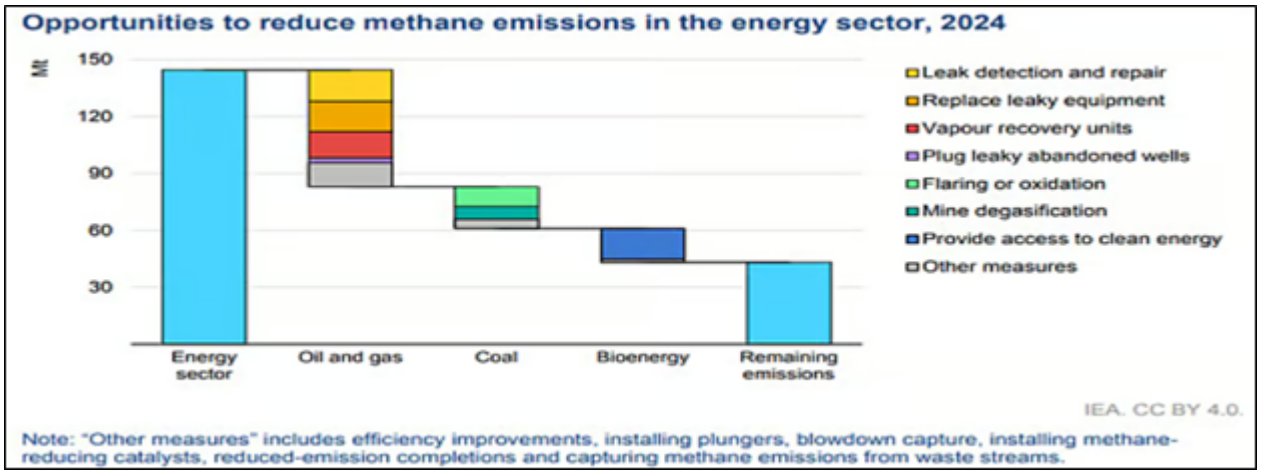
- **3 main sources of methane** – Agriculture, energy and waste sectors.
  - Oil, natural gas, coal and bioenergy-based sectors accounts for more than 35 % of methane emissions from human activity.



- **Methane Emissions by sectors in decreasing order**
  - **In Energy sector** - Oil operations>Natural Gas Operations> Abandoned Wells
  - **Overall** – Oil operations> Coal> Natural Gas Operations> Bioenergy
- **Emissions from abandoned facilities** - IEA estimated around 8 million abandoned onshore oil and gas wells are present globally, as well as a large number of abandoned coal mines.
  - Both sources, it added, *would be the world's 4th largest emitter* of fossil fuel methane.
- **Emitting countries** - *China leads* the world in methane emissions from fossil fuel operations, followed by United States, Russia, Iran, Turkmenistan, India, Venezuela

and Indonesia.

- **Measures** – ***Global Methane Pledge (GMP)*** launched in 2021, aims to collectively reduce global methane emissions by at least 30 % from 2020 levels by 2030.
- ***Oil and Gas Decarbonization Charter*** was launched in 2023, aims to reduce the greenhouse gas pollution of 50 major oil and gas companies.



With current technologies, around 70 % of methane emissions from the fossil sector can be reduced.

- **Challenges** - Existing pledges would cut fossil-fuel methane emissions by 40 % by 2030.
- Only few countries or companies have developed real implementation plans for these commitments.
- Most of the coal industry has not committed to reducing its methane emissions.
- **IEA Recommendations** – Fossil fuel companies should bear the primary responsibility for abating methane emissions.
- **Significance of emission reduction** - Deploying targeted methane mitigation solutions in the fossil fuel sector would prevent a roughly 0.1°C rise in global temperatures by 2050 according to IEA.

Reference

Down To Earth| Higher Methane Emissions from Energy Sectors

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