

Higher Methane Emissions from Energy Sector

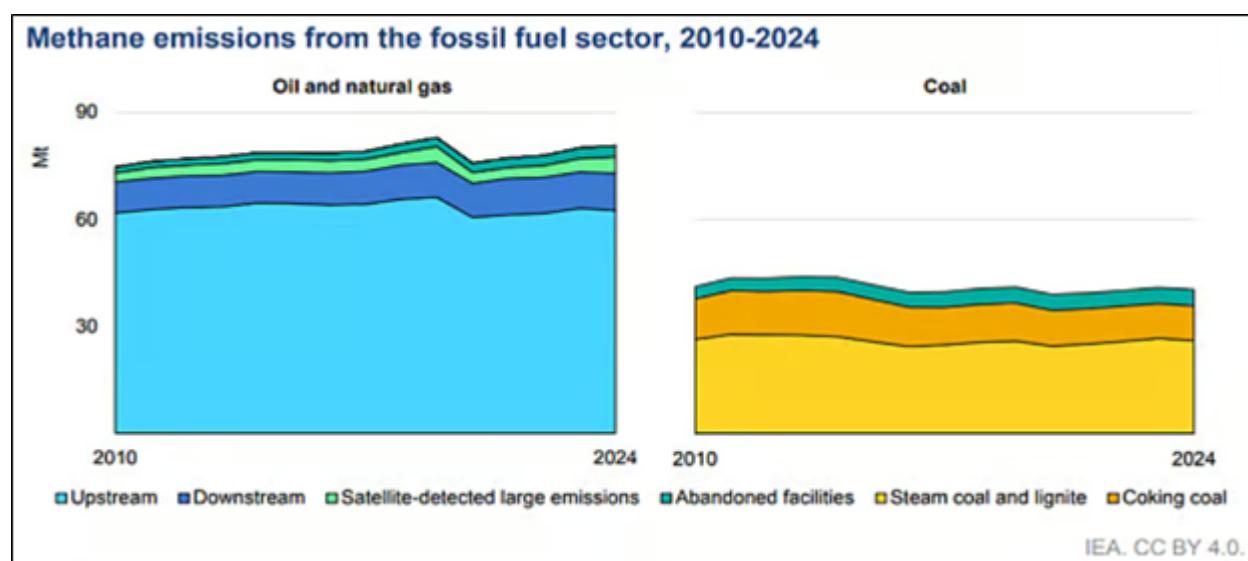
Prelims: General issues on Environmental ecology, Bio-diversity and Climate Change

Why in News?

According 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.

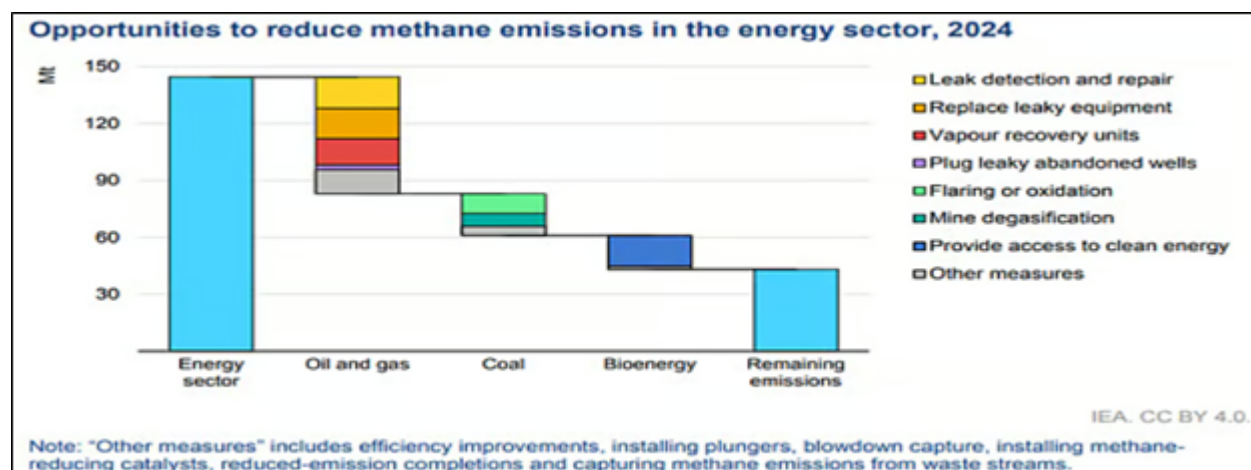
- **3 main sources of methane** - Agriculture, energy and waste sectors.
 - Oil, natural gas, coal and bioenergy-based sectors accounts for more than 35 % of methane emissions from human activity.



- **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

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