For immediate release

India needs an official national emissions inventory for pollutants, as existing ones show 37% variation: CEEW

New Delhi, 6 October 2021: India needs to develop and maintain a comprehensive inventory of baseline emissions to ascertain whether its policy and technological interventions are able to reduce air pollution, according to an independent study released today by the Council on Energy, Environment and Water (CEEW). The study, a comparative analysis of existing high-resolution inventories, finds that existing estimates for India's emissions vary by up to 37 per cent for the pollutants considered - particulate matter (PM2.5 and PM10), Nitrogen oxide (NO_x), Sulphur dioxide (SO_2) and Carbon Monoxide (CO). The study also found significant variations in sectoral estimates.

The CEEW study considered emissions from industries, power plants, road transport, domestic sources, and agricultural waste burning, which account for approximately 95 per cent of all the criteria pollutant load emitted. It compared pollutants - PM2.5, PM10, NO_x, SO_2, and CO - from three global emissions databases - *Emissions Database for Global Atmospheric Research (EDGAR)*, *Regional Emissions Inventory in Asia (REAS),* *Evaluating the Climate and Air Quality Impacts of Short-lived Pollutants (ECLIPSE)* - and two domestic ones – *Speciated Multipollutant Generator* (*SMoG) and The Energy and Resources Institute.*

The CEEW study also found significant variation in sectoral emissions across the five estimates. For instance, the contribution from the residential sector was found to vary from 27 per cent to 50 per cent of the total PM2.5 emissions in the country. The power sector was found to be the leading source - around 44 per cent to 62 per cent - of SO2 emissions. Most of the above-mentioned estimates also point to the power sector as the leading emitter of NO_x, but according to ECLIPSE the transport sector is the leading emitter.

Tanushree Ganguly, Programme Lead, CEEW and lead author of the study, said: "To meet the NCAP target of 20 - 30 per cent reduction in particulate concentration by 2024, we need to estimate emission reductions needed across sectors. Estimating these reductions will only be possible when we have an official, representative emission inventory for India. Our study finds that industries and power contribute significantly to multiple pollutants like PM2.5, SO_2 and NO_x. Policymakers should focus on reducing emissions from these two sources, on a priority basis."

The study also highlighted that Uttar Pradesh is the leading emitter of PM2.5 due to the usage of solid fuels in households. It is closely followed by others like Maharashtra, Madhya Pradesh, Gujarat, and Odisha as the highest emitters of PM2.5, albeit with high variations.

Karthik Ganesan, Fellow and Director - Research Coordination, CEEW, said: "As a start, India should create a comprehensive and consistent energy balance at a country and state level to account for use of energy use across sectors - formal and informal. This is the main input to the process of creating the emissions database. Efficient and periodic collection of data from rural households, industry,

MSMEs, and other parts of our informal economy is necessary to better understand their contribution to pollution in a particular region. Equally, scientific institutes must prioritise the creation of emissions factors that represent local conditions, technologies and maintenance practices."

The study recommended that developing a national emissions database would require consistency in the methods and data sources that will be adopted to calculate annual increase or decrease in emissions. Government departments need to collaborate with each other for updating the emissions estimates periodically. The Central Pollution Control Board should collaborate with National Knowledge Network (NKN) to develop a comprehensive emissions factor database, which will comprise sector- and region-specific emission factors i.e. the quantity of a pollutant being released into the air from a particular activity.

The study 'What's Polluting India's Air' can be accessed here.

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About CEEW

The Council on Energy, Environment and Water (CEEW) is one of Asia's leading not-for-profit policy research institutions. The Council uses data, integrated analysis, and strategic outreach to explain – and change – the use, reuse, and misuse of resources. It prides itself on the independence of its high-quality research, develops partnerships with public and private institutions, and engages with wider public. In 2021, CEEW once again featured extensively across ten categories in the 2020 Global Go To Think Tank Index Report. The Council has also been consistently ranked among the world's top climate change think tanks. Follow us on Twitter @CEEWIndia for the latest updates.