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## Toxic Air: The Price of Fossil Fuels - Greenpeace Report

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### Why in News

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The Greenpeace Southeast Asia has released a report titled '**Toxic Air: The Price of Fossil Fuels**'.

The report provides a **global assessment of the health impact of air pollution** from fossil fuels in 2018 and a first-of-its-kind estimate of the **associated economic cost**.

The study is limited to the following pollutants: **fine particulate matter (PM<sub>2.5</sub>), ozone (O<sub>3</sub>) and nitrogen dioxide (NO<sub>2</sub>), and only that pollution which is emitted by fossil fuel combustion (coal, oil and gas).**

### Pollutants and Their Effects

- **PM<sub>2.5</sub>** refers to fine particles with diameters that are generally 2.5 micrometers and smaller. PM<sub>2.5</sub> particles are respirable, which means that they are small enough to reach the gas exchange region of the lungs.
- **Ozone (O<sub>3</sub>)** formed at near-ground level is an air pollutant that causes smog. Ground level ozone forms when Nitrogen oxide (NO<sub>x</sub>) pollution reacts with chemicals called volatile organic compounds (chemicals from sprays, paints etc.). Ozone pollution causes acute human health problems, including chest pain, throat irritation and inflammation of the airways. It also adversely affects vegetation and crops.
- **Nitrogen oxides:** When fossil fuels are burned in air, nitrogen oxides (NO and NO<sub>2</sub>, collectively referred to as NO<sub>x</sub>) are created from molecular nitrogen in the air and in the fuel that is being burned. NO<sub>x</sub> pollution, along with sulfur dioxide, which is also produced when fossil fuels are burned, reacts with water to form acid rain, snow and fog, and with other substances to form particulate matter. The health impacts of exposure to nitrogen oxides include cardiovascular diseases, exacerbated symptoms of asthma, chronic obstructive pulmonary disorder and other respiratory diseases.

### Key Findings

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- **Impact of Air Pollution on Health**

- Exposure to an air pollutant or combination of air pollutants, such as PM<sub>2.5</sub>, NO<sub>2</sub> or ozone, is associated with increased incidence of diseases including Ischaemic Heart Disease (IHD), Chronic Obstructive Pulmonary Disease (COPD), lung cancer, lower respiratory infections, type II diabetes, etc.
- Health impacts from air pollution generate economic costs through the cost of treatment, management of health conditions, and from work absences.

- **Economic Cost of Air Pollution**

- Air pollution from burning fossil fuels costs an estimated 3.3% of global Gross Domestic Product (GDP), equivalent to US \$8 billion per day and 12,000 premature deaths every day.
- China, the US and India bear the highest economic cost of soaring pollution, at an estimated \$900 billion, \$600 billion and \$150 billion (5.4% of the India's GDP) a year, respectively.

- **Burden of PM<sub>2.5</sub>**

- PM<sub>2.5</sub> air pollution leads to the greatest health impact and the greatest financial cost of the three pollutants (PM<sub>2.5</sub>, O<sub>3</sub>, NO<sub>2</sub>).
- Globally, air pollution is estimated to cause 4.5 million premature deaths each year. This includes 3 million deaths attributable globally to PM<sub>2.5</sub>.
- Pollution from PM<sub>2.5</sub> costs 2.5% of the global GDP whereas pollution from O<sub>3</sub> and NO<sub>2</sub>, each costs equivalent to 0.4% of global GDP.

- **Suggestions**

- **Sustainable Transport System:** Creating a sustainable transport system by setting a phase-out date for diesel and petrol cars, while implementing various urban transport measures, such as restricting cars' access into certain neighborhoods or districts, promoting car-free days, etc.

One of the longest-running examples of a car-free day event in a city is the Ciclovía in Bogotá, Colombia which was initiated in 1974. This is a weekly event that takes place every Sunday and public holiday in central Bogotá, in which roads are closed to motorised traffic to allow cyclists, skaters and pedestrians traffic-free access to 120 kilometres (74.6 miles) of roads.

- **Switch to Renewable Energy:** The phaseout of fossil fuels and switch to renewable forms of energy is beneficial both for reducing **air pollution** and mitigating **anthropogenic (man-made) climate change**.

## India-Related Findings

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- PM<sub>2.5</sub> is one of the principal pollutants in northern Indian cities including Delhi.
- The 2 million preterm births globally due to PM<sub>2.5</sub> include 9,81,000 preterm births in India.

- The report links approximately 3,50,000 new cases of child asthma in India to nitrogen dioxide. As a result of this, over 1.28 million more children in India live with asthma, which is linked to fossil fuel pollution.
- In India, exposure to fossil fuels also leads to a loss of around 490 million workdays.

## Way Forward

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- India needs to increase its spending on the health sector.
  - It needs to be noted that India spends around 1.28% of the GDP on health while air pollution from burning fossil fuels costs an estimated 5.4% of India's GDP.
  - The central government has allocated only Rs 69,000 crore for the health sector in the **Union Budget 2020-21**.
- The coal fired power plants in India have repeatedly **missed the emission deadline** set by the Union Environment Ministry. Strict action should be taken against non-compliance of thermal power plants.
- The government should ensure the construction of new coal-fired power plants is halted and existing plants should be shut down in phases.
- Moving the energy generation sector from fossil fuels to renewables would help to prevent premature deaths and vast savings in health costs.

**Source: IE**