

# Do you know what you BREATHE?



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## “Air Pollution” is the theme of this year’s World Environment Day, marked annually on June 5<sup>th</sup>.

World Environment Day 2019 will urge governments, industry, communities, and individuals to join hands in exploring renewable energy and green technologies options and improve air quality in cities across the world.”

Air pollution is a challenge that threatens basic human welfare, damages natural and physical capital, and constrains economic growth. It refers to the release of pollutants into the air that are detrimental to human health and the planet as a whole, and it is perceived as a by-product of increasing urbanization and industrialization; smoke, mold, pollen, methane, and carbon dioxide are just a few examples of common pollutants.

Air pollution occurs in indoor contexts; caused by the burning of solid fuels in the household for cooking or heating, and outdoor environments caused mainly by the energy and transport sectors, in addition to energy-intensive industries, construction sites, agricultural practices, and the combustion of dirty energy sources.

### • MAIN CO<sub>2</sub> EMITTING SECTORS

- 42%** Electricity and Heating
- 23%** Transportation
- 19%** Industrial Sector

Global carbon dioxide (CO<sub>2</sub>) emissions data as reported by the International Energy Agency (IEA) show that the electricity and heating sector has the highest contribution with 42 percent of the total emissions, followed by transport, 23 percent, and the industrial sector with 19 percent.

However, impacts of emissions from the transport sector are more substantial compared to the power sector because they are emitted at ground level and in highly populated cities and provinces.

Air pollution is especially severe in some of the world’s fastest-growing urban regions, where greater economic activity is contributing to higher levels of pollution. However, air pollution is also witnessed outside cities where populations continue to depend on burning solid fuels such as wood, charcoal, and dung in their homes for cooking and heating.

According to science, an estimated 92 per cent of people worldwide do not breathe clean air, additionally, air pollution continues to grow, and about 87 percent of the world’s population now live in countries in which ambient pollution levels exceed air quality guidelines determined by the World Health Organization (WHO). This danger is even more aggravated in low- and middle-income countries, and children under age 5 in lower-income countries are more than 60 times as likely to die from exposure to air pollution as children in high-income countries.

Negative effects of air pollution are mainly noticeable on health, and air pollution is one of the great killers of our age, as breathing polluted air increases the risk of deadly diseases such as lung cancer, stroke, heart disease, and chronic bronchitis. While those effects emerge from long-term exposure, air pollution can also cause short-term problems such as sneezing and coughing, eye irritation, headaches, and dizziness.



According to estimates in 2013, 5.5 million premature deaths worldwide, or 1 in every 10 total deaths, were attributable to air pollution. In the absence of aggressive control, ambient air pollution, according to the Organisation for Economic Co-operation and Development (OECD), is projected by 2060 to cause between 6 and 9 million deaths per year.

Additionally, air pollution has various negative economic impacts and the overall annual cost of air quality degradation could reach around 2 percent of GDP in developed countries and around 5 percent in developing countries. These costs include mortality, chronic illness, hospital admissions, and lower worker and agricultural productivity, and the global costs of air pollution related to premature deaths are projected to increase from USD 3 trillion in 2015 to USD 18-25 trillion in 2060.

In the Arab region, although natural sources of air pollution, such as windblown dust, are prevailing, several anthropogenic emissions also contribute to deteriorating air quality. Industrial emissions are the most important anthropogenic source of air pollution which results from the high number of petroleum refineries and fossil fuel powered power plants in the region. Vehicular emissions, coupled with lack of vehicle emission standards and fuel quality, and poor investment in public transport, as well as open burning of waste are additional sources of air pollution in the region.

According to OECD, regional annual premature deaths from exposure to particulate matter are around 300 per one million inhabitants, and could rise to 500-600 per million by 2060. The IEA estimates show that per capita CO<sub>2</sub> emissions in the region have increased from around 4 tons/capita in 1990 to around 7.5 tons/capita in 2013, noting that these figures exceed the World Bank figure of 5t/capita in 2013 despite the witnessed efforts in the region towards a significant shift towards the deployment of renewable energy, mainly photovoltaic technologies (PV).

An estimated 125,000 lives were lost in Middle Eastern and North African countries in 2013 to diseases associated with outdoor and household air pollution, and while pollution-related deaths strike mainly young children and the elderly, premature deaths also result in lost labor income for working-age men and women.

**Solutions** to air quality degradation problems include a mix of political leadership, regulations, technology and lifestyle changes. Ambient air pollution can be controlled and the diseases it causes prevented through specific sector policies such as energy, transport, urban planning and infrastructure policies that have clear and tangible health and environmental objectives. Adopting clean/green technologies can improve energy efficiency and reduce harmful emissions; additionally, burning trash should be avoided at any cost.

**Important mitigation measures** can also be adopted in our daily routine such as favoring public transportation, carpooling, cycling, or walking, in addition to turning off the engine during long traffic and at the red light. Conserving energy at home is an easy and crucial step, such as using solar power, turning off appliances when not in need and using energy efficient light bulbs. Supporting urban greeneries is an ideal way of naturally cleansing the air, as well as avoiding products that contribute to deforestation such as red meat and palm oil products.



It is also time to initiate intensive awareness raising campaigns to educate policymakers and the public using a wide range of media and messaging tools.