Air Pollution in Sofia

CITY FACTSHEET

The Problem

Sofia's air pollution level remains one of the highest in European cities. 97.2% of Bulgarians are exposed to harmful levels of particulate matter PM10 (particles 10 microns or smaller) throughout the year. Measurements show that citizens all over the country breathe in air that the WHO considers very harmful to health.

According to the World Health Organization (WHO) Bulgaria has the third highest mortality rate (per 100.000 population) from air pollution in the world, after North Korea and Bosnia and Herzegovina.

In addition, the WHO estimates that air pollution eats up the equivalent of 29.5% of the country's GDP through reduced productivity and costs of treating the diseases caused.

But next to immense and unnecessary costs, Bulgaria is also in almost constant breach of EU air quality laws aimed at protecting people's health. So much so that the European Commission has taken Bulgaria to court. In 2017, the EU Court of Justice ordered Bulgaria to take action to improve its air. The Court ruling states that Bulgaria not only failed to meet the binding EU's air quality standards, but also remained inactive in improving air quality. Now, Bulgaria faces severe financial penalties should it not improve the country's air quality.

Coal plants are responsable for almost all of the country's sulfur-dioxide and the majority of nitrogen-oxide emissions. They are contributing to the formation of smog and acid rain.

The main sources of small particle pollution (PM2.5) in Bulgaria are household burning of fossil fuels or biomass, and transport. Production of electricity by burning of coal in thermal power plants and other industrial processes also contribute to PM pollution.

Small particles in the air are called Particulate Matter or PM. This PM is formed when we burn things like wood or coal in our stoves, furnaces or power plants, or when we fuel and drive our cars. When small particles are inhaled, they cause harm to our lungs and heart. They can cause stroke in our brain and lead to premature death. These particles also negatively affect the immune system of our body which reduces our abilities to fend off other disease.

Bulgaria is also out of step with EU goals to reduce greenhouse gas emissions. Many of the sources of air pollution, such as household coal burning and fossil fuel-based electricity production, also contribute to climate change. Climate change, in turn, can make air quality worse when warmer temperatures contribute to smog formation. But in 2017, Bulgaria ranking third in the EU in growth of carbon dioxide emissions.

Air Quality Monitoring

The country runs 40 monitors of PM10 in its official network for monitoring air quality.

However, since authorities have failed to improve air quality for years, citizens have become engaged in large numbers. They now carry out their own monitoring of PM10 and PM2.5 with more than 300 monitors in Sofia and around the country. The network is growing by the day.

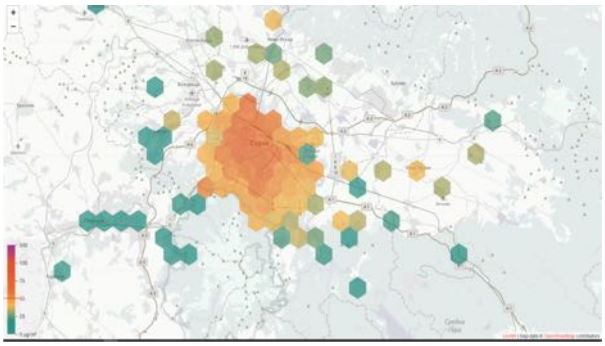

Photo 1: Sofia community monitoring stations measurement on 29 March 2018.

In the first 180 days after citizens started to monitor the air (in Oct 2017), they recorded 70 days of exceeding the legal limit values of PM10 in Sofia. Some days the peak pollution would reach as high as 330 µg/m3, which is 6 times more than the legally allowed daily limit of 50 µg/m3.

Looking at national level, PM10 concentrations have for years been much higher than the limits set by the EU, and the even stricter ones recommended by the World Health Organization (WHO). Official data from 2015 shows that the annual average air pollution for PM10 was 68.7 µg/m3 while EU limit value is 40 µg/m3. Annual levels for PM2.5 were just under the maximum legally allowed annual levels (25 µg/m3).

It is important to note that the European Union set the limit of 25 µg/m3 as the maximum annual average for PM 2.5, while the World Health Organization (WHO) recommends that PM2.5 should not exceed 10 µg/m3 as an annual average. In addition, the WHO highlighted that there is no safe level for particulate matter pollution when it comes to health impacts and issued clear recommendations that should be taken into account in drafting national laws.

The Solution

- Comply with legally binding EU air quality standards.
- Establish air quality standards (limit values) for PM10 and PM2.5 in accordance with recommendations of the World Health Organization.
- Health professionals should become engaged on air quality including on policy changes, inform the public on health risks due to air pollution and alert their patients when air pollution exceeds EU or WHO guidelines.
- Move away from coal energy to renewable energy sources and promote energy savings. Prioritise energy efficiency and renewable energy projects.
- The promotion of renewable energy systems for household heating and transitioning away from fossil fuel use.
- Put strict emissions standards for vehicles in urban zones; and implement the “polluter pays” principle with sanctions for those not sticking to the rules.
- Make active travel including walking and cycling and sustainable public transport the backbone of city transport policies.

· Action

We invite health professionals and local patient organisations to contact us and indicate how you can get actively engaged in the Clean Air debate. www.unmaskmycity.org/sofia

UNMASK MY CITY

Healthy air. Healthy climate.

www.unmaskmycity.org #UnmaskMyCity

Unmask My City is a global initiative by doctors, nurses, public health practitioners, and allied healthcare professionals dedicated to improving air quality and reducing emissions in our cities.

This will save millions of lives, improve health outcomes for billions of people, and make a huge contribution to greenhouse gas reductions needed to keep the world safe from climate change crises.

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