Air quality, coal and health in Serbia

EXPERT STATEMENT

We, the undersigned medical experts and health organizations that represent the interests of public health professionals, experts in clinical medicine, doctors of environmental medicine, pulmonologists, allergists as well as experts in the field of environmental protection, have adopted the following position.

We note that:

- Air quality in Serbia is a serious problem and that the concentrations of PM2.5 and PM10 are significantly higher than levels in the EU or those recommended by the WHO (World Health Organization);
- In 2010, it was estimated that around 10,000 people in Serbia died prematurely due to exposure to particulate matter and ozone. It is the second highest rate of premature deaths due air pollution in Europe. Furthermore, there were 2.5 million lost working days;
- It is estimated that each year more than 1,000 people in Serbia are diagnosed with chronic bronchitis, 600 are hospitalized due to respiratory or cardiovascular symptoms, and 2,000 deaths occur as a result of exposure to fumes from coal power plants in ambient air pollution;
- The economic costs of the health impacts from coal combustion in Serbia are estimated at up to €4.98 billion a year;
- Ambient air pollution due to coal combustion in thermal power plants has negative effects on the cardiovascular and respiratory system, can severely harm the brain and the developing nervous system of children, can hamper fetal development and can lead to carcinogenesis;
- There is evidence available of the damaging effects of coal on health at every stage of its use - from excavations in the mines to the final disposal of ashes and by-products;
- The combustion of coal in thermal power plants generates steam that drives turbines, creating electricity. At the same time this process generates the release of pollutants, such as particulate matter (PM10, PM2.5), sulphur dioxide, nitrogen oxides, carbon dioxide, mercury, arsenic, chromium, nickel, other heavy metals, acid gases (HCL, HF), hydrocarbons (PAHs) as well as small quantities of uranium and thorium present in the fly ash;
- It is estimated that for every TWh (Terrawatt-hour) of electricity produced from coal, there are an average of 24.5 air pollution-related deaths, 225 cases of serious cardiovascular, respiratory, and cerebrovascular disease as well as 13,288 cases of minor illness in Europe. In the case of the use of lignite, the most polluting type of coal, which also creates the most

pollution, each TWh electricity produced results in 32.6 deaths, 298 cases of serious diseases and 17,676 cases of minor illness;

- Use of coal for heating and cooking in the home leads to the accumulation of pollutants in the air indoors, which can also cause respiratory symptoms and even cancer;
- Serbia has the largest electric power system in the Balkan region with about 62% of electricity produced from lignite;
- Currently, Serbia does not have any plans to transfer national energy production from coal as a dominant energy source to an alternative form of energy generation.

In order to (1) improve air quality, (2) reduce the incidence of respiratory, cardiovascular and other diseases related to air pollution, and (3) reduce long-term economic costs for the health system:

We, the undersigned experts in the field of health (public health and clinical medicine) as well as environmental protection would like to start the following common processes and activities:

- Promote the inclusion of the health sector in energy policy development and regulation;
- A joint initiative of decision makers on the urgent adoption of legislation in the field of indoor air quality, which is an obligation in accordance with the Parma Declaration, signed by Serbia;
- Joint encouragement of local government to "raise awareness" of the population to the damaging effects of air pollution on health;
- Strengthening of multi-sectoral collaboration through joint initiatives, programmes and projects;
- Better sharing of data of sufficient quality amongst stakeholders in order to meet the obligation of monitoring air pollution levels. These stakeholders, including the Serbian Environment Agency (SEPA) and public health institutions, have a legal obligation to provide this data and to indicate the health risks of environmental pollution to the public exposed. Furthermore, to revitalize activities in EIONET project - the aim of which is to establish an alert system. The medical profession would alert the public on potential health risks as well as prevention measures (individual and general);
- Provide better database linkages between public health and hospital data in order to achieve comparability with international data, including on the monitoring of the correlation of episodes of sudden deterioration in air quality and hospitalizations as defined by International Classification of Diseases (ICD).

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