

Almost all power utilities recently were under pressure from Green NGOs from EU to shutdown older coal fired power plants or to prepare the decommissioning scenarios. Old facilities lack modernization of environment protection systems.

In Serbia, health costs due to harmful gases reach between 1.8 and 4.9 billion euros annually and 2000 persons die prematurely from these fumes, it has been stated in an analysis of HEAL.

The announcement that the electricity price will be increased has given the chills even to those who have not yet reached the point of wondering at least once whether to buy bread or medicines. But, as it follows from the ecologists' warnings, it seems that electricity already costs us more than we thought, by forcing us to buy precisely medicines and, when they fail, coffins.

The estimate of the Health and Environment Alliance (HEAL), a group that cooperates with the World Health Organization (WHO), the European Union and the Serbian Ministry of Health, says that, in Serbia, health costs due to the diseases caused by the gases from coal-fired plants amount to 1.8 to 4.9 billion euros annually, i.e. up to 680 euros per capita. According to the calculation of this organization, the toll of lives takes away from this country around 2.000 persons who die prematurely because of having simply inhaled more coal fumes than the organism can bear. This may not seem frightening in comparison to seven million citizens, but it has been enough to launch us, as it is stated in the HEAL Report, to the fifth place in Europe according to the number of victims of such pollution. When it comes to the expenses of medical care for those who have fallen ill due to coal emissions, as seen per capita, we have reached nothing less than - the first place on the continent.

Of course, thermal power plants are not the only ones that burn coal in their boilers, but they are a dominant source of this pollution in the air around us. Serbia obtains one half of its electricity owing to this fuel which is called the dirtiest by the ecologists and doctors. And nine tenths of carbon-dioxide which rises from this country to the sky to nibble the ozone layer and, as most scientists believe, which speeds up climate changes - exposing us to floods, draughts, earthquakes and various diseases - also come from power plants, according to the data of the national Environmental Protection Agency. According to the estimate of the European Commission, with all other pollution sources, in 2010, in Serbia, 10.000 persons died from the so-called fine particles and ozone in the air earlier than they would have had to according to their genetic disposition and other risk factors, which is the second highest rate in Europe.

As much as they have advanced with respect to us in dismantling "dirty technologies", in the European Union, too, people become ill and die in scores because of bad air. 430.000 died in the EU last year only due to the excessive level of fine particles, according to the report of the European Environment Agency. From 80 to 90 percent of inhabitants of the European

cities are forced to inhale fine grained particles and ozone in the quantities above the values prescribed by the WHO. According to the Agency's most pessimistic estimate, in 2012, air pollution from industrial plants cost the EU even up to 189 billion euros, which is equal to the gross national product of Finland or to one half of the Polish GDP.

HEAL also adds to this that the health costs in the EU due to air pollution from coal-fired plants reach as much as 42 billion euros annually and that even all this money does not help to prevent the premature death from poisoning by these fumes of around 18.000 persons in the Brussels club member states.

There are sceptics who claim that the ecologists are in the least exaggerating because the industry of "clean", renewable, resources is paying them so as to be fixed up with jobs. One thing goes in favor of the reluctance towards catastrophic estimates: it is extremely complex to prove that a certain kind of pollution, even air pollution, coming from coal from example, causes an increase in the incidence of certain diseases, let's say respiratory, within a particular area, be it Serbia or any other country in the world. So many other potential causes of diseases should be excluded, too many genetic factors and bad habits in the personal histories of respondents must be scratched off from the list of variables, that such studies demand decades of work of the most professional teams and more money than even rich countries have.

Oliver Dulić, while he was the Minister of Environment, announced that his department would carry out a research about the extent to which the pollution in Serbia affected the health of its citizens. The result was a thin brochure with generalized warnings, redundant even for a schoolboy. However, this does not mean that it has not been scientifically confirmed that long-term exposure to a certain type of pollution leads to certain diseases. When this is taken into account and combined with environmental and medical statistics, there are statistical models which can give quite good idea about the extent of the risk of disease within a geographical area and the number of those who have succumbed - first to the risk and then to the disease.

In Serbia, the only serious study similar to this one, with far more modest and realistic ambitions than the Dulić's, was the one carried out in the vicinity of Obrenovac by the team lead by Dr Elizabet Paunović, who later became the state secretary in the Ministry of Health, and who is currently the Head of WHO European Centre for *Environment and Health* in Bonn. They focused on the village of Grabovac, the closest to one of the ash dump sites of the Thermal Power Plant "Nikola Tesla".

- On the basis of the measurements of air quality around the ash dump site of the thermal power plant Obrenovac B and through the analysis of the available scientific literature, we have concluded which symptoms and respiratory diseases could occur in children as the most sensitive group. The questionnaire about possible symptoms and diseases was answered by parents. We have concluded that the relative risk of asthma in the children

from Grabovac was 2.4 times higher than in the children from the control group, inhabited in the nearby Draževac, which is not affected by air pollution. The data is accurate but limited because it refers only to the ash dump site and it is based on the assessment of parents. Much more can be done. But, the data from global researches show the negative impacts of lignite-fired thermal power plants, so that, on the basis of emissions into the air and water, it is clear that technological enhancements must be undertaken so as to protect health - dr Paunović explains.

The Advisory Board of the Electric Power Industry of Serbia adopted this study in 2004, although dr Paunović, as she says, has experienced very negative reactions from this company. As much as they were dissatisfied, EPS later used the data from this research in the movie by which it promoted the project of remediation of the ash dump site near Grabovac, for which the EU donated 25 million euros.