

Financing for coal power in Poland – a current and future health threat

New evidence shows extent of public subsidies in this unhealthy technology and health costs from Leczna plant



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Poland is the ninth largest country in the European Union (EU), and the biggest economy in Eastern Europe. While the country has seen modernisation in many areas, its power sector is still heavily dependent on fossil fuels, with up to 85 percent of current electricity generated from coal (1). Many of these plants are by now old and inefficient, producing only about 30 percent electrical energy compared to the energy in the coal that is burned.

This coal power dependency comes with a heavy health cost, as existing coal power plants are a major source of air pollution emissions. According to the Polish National Center for Emissions Balancing and Management (KOBIZE), plants are responsible for 11 percent of primary PM_{2.5} dust, 51 percent of sulphur dioxide (SO₂) and 31 percent of nitrogen oxides (NO_x) emissions (2). In fact, the contribution of the coal sector to pollution with particulate matter is even higher, as the emitted SO₂ and NO_x convert into additional PM through further chemical processes in the atmosphere (the so-called secondary PM). These emissions add to pollution from domestic heating and transport, agriculture, shipping and other sources, making Poland the country with one of the worst air quality in Europe. A recent report by the World Health Organisation (WHO) and the Organisation for Economic Co-operation and Development (OECD) estimated that health costs from air pollution are equal to 20 percent of Poland's GDP (3). These costs are most likely higher, because healthcare costs and loss of workers productivity are not factored into the WHO/OECD assessment.

Health effects from air pollution

Each year, hundreds of studies are being published on how polluted air harms our health. The WHO has recently warned that impacts can already occur at lower concentration levels than previously thought and that the range of impacts is broader (4). Polluted air not only contributes to premature death, heart and lung disease, breathing problems and asthma, it can also interfere with the healthy development of a child, already in utero. There is also new evidence linking air pollution to the development of diabetes, a major chronic disease in Europe and worldwide.

Despite the significant health problems and cost associated with existing coal power generation, the Polish government wants to pursue the coal path in the future: over 11.2 GW new capacity are in the pipeline with nine new plants or blocks using coal, for an estimated investment amount of 17 billion EUR. With these plants Poland is the only EU country that defies the downward trend in coal power generating capacity.

INVESTMENTS IN COAL VERSUS INVESTMENTS IN HEALTH?!

For all of the nine new coal project in the pipeline, some kind of public financing is given: either because new entities belong to the state treasury, either because the investment takes place through a state-owned company, or because public funds own shares in the investment company. This public investment moves Poland further into an unhealthy direction and ultimately hampers health prevention.

A recent report by the International Monetary Fund (IMF) (5) found that fossil fuel companies – the coal, oil and gas sectors – benefit from global subsidies of 5,3 trillion USD (4,84 trillion EUR – that is 4,840,000,000,000 EUR). Coal is the most heavily subsidised fossil fuel in this estimate. This amount includes external costs such as health costs from air

pollution, or carbon dioxide (CO₂) emissions, and considers not only electricity generation but also other sectors. The authors of the IMF study point out that coal is the most carbon-intensive and air-pollution intensive energy product, yet no country really imposes meaningful taxes on coal use from an environmental perspective.

In the EU, these fossil fuel companies benefit from 301 billion EUR of subsidies. In emerging European countries including Poland, subsidies for coal constitute over 5 percent of the country's GDP, according to the IMF estimate.

The amount of global fossil fuel subsidies is greater than the total health spending of all of the World's governments combined.

Subsidies for existing coal in Poland and health

According to a new calculation by the Health and Environment Alliance (HEAL) (6), coal power generation is subsidised with 17.5 – 39.4 billion PLN each year (4.2 – 9.3 billion EUR). This quantification is based on estimates by the Warsaw Institute of Economic Studies (7), adding indirect health subsidies of 3-8.2 billion EUR, which were calculated in HEAL's report The Unpaid Health Bill (8).

This calculation shows that public financing for coal can be higher than the annual support that public hospitals in Poland receive, which is 28.4 billion PLN, or 6.69 billion EUR (9).

CASE STUDY: LECZNA – SPENDING PUBLIC MONEY THAT THREATENS OUR HEALTH AND THE ENVIRONMENT

The Lublin region, on the eastern border of Poland, is a region abundant in green fields, with many hiking and biking trails, and clean air. It is a hub of Poland's agricultural production. Yet, this pristine environment is under threat: the Polish company Bogdanka wants to build a 500 MW coal plant in the municipality of Leczna. Together with the French company ENGIE Bogdanka, they have applied for an environmental permit.

Even if this future coal plant would use the newest filter technology, it would contribute to a worsening of air quality in the region, and generate health impacts all over the country. According to modelling carried out by HEAL, it would mean costs of 0.875 – 2.8 million EUR (3.5 – 11.25 million PLN) a year in the Lublin region from early death, increase in chronic bronchitis in adults, and for bronchitis in children, as well as from productivity loss (people staying at home and not being able to work). If the plant was running for 40 years, which is the average lifetime of a coal plant, the total amount of external health costs would be 35-113 million EUR (140-450 million PLN).

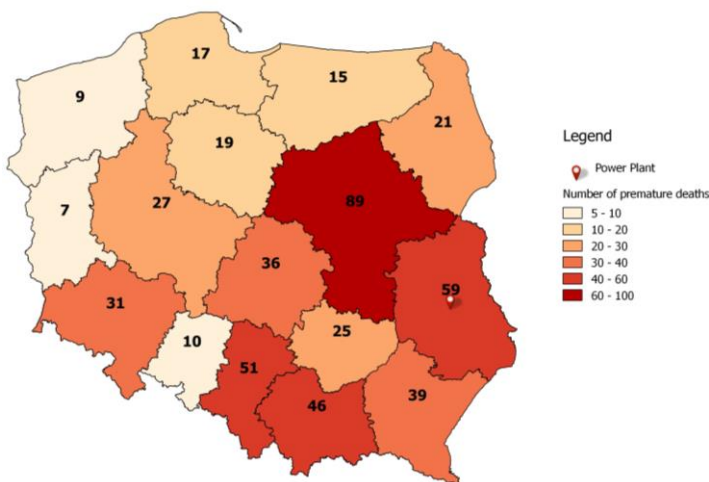
For the whole of Poland, the costs would be 7.5-24.05 million EUR (30-96.175 million PLN) for external health effects per year, with a total amount of 300-962 million EUR (1200-3847 million PLN) in 40 years.

Health costs of the future Leczna power plant

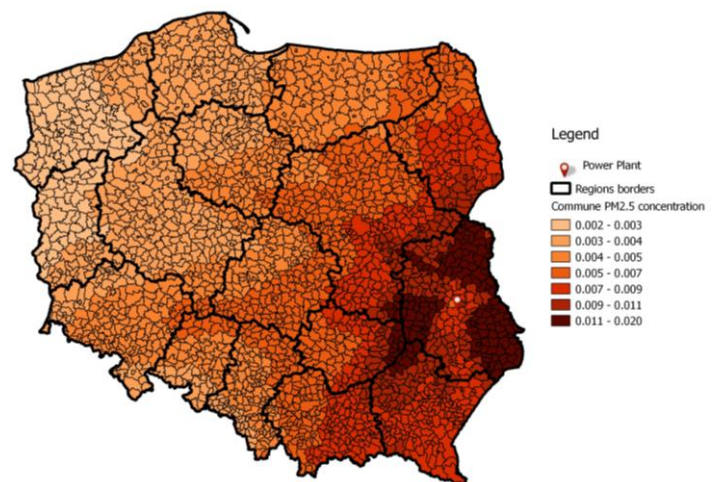
According to a new calculation by the Health and Environment Alliance (HEAL), the future Leczna plant would contribute to worsening air quality, not only in the vicinity of the plant, but also all over Poland.

The health costs from Leczna would be 0.875 – 2.8 million EUR a year in the Lublin region. If the plant was running for forty years, which is the average lifetime of a plant, the total amount of external health costs would be 35-113 million EUR (140-450 million PLN).

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Number of premature death from the future Leczna plant for the whole of Poland, over 40 years lifetime



Increase in particulate matter concentration from the future Leczna plant, annually

DATA AND METHODOLOGY

The data and methodology used to calculate the health effects of the future Leczna plant follows an approach used by the World Health Organization and the EU Commission. The five step approach considers the emissions of air pollutants of the future plant, the dispersion of pollutants in the atmosphere and the resulting increase in air pollution, the population being exposed to pollution, the health impact, and lastly, an economic value is attached.

In order to calculate the health costs from Leczna, data from the following reports was used: Main Statistical Offices report on the Polish population (10), Polish database on hospital morbidity (11), Social Insurance (12). However, the health costs in the calculation are an underestimate, since not all health effects on the population could be quantified.

The model used to calculate the dispersion of air pollution, also in the vicinity of the plan is the CALPUFF modeling system, recommended by Environmental Protection Agency in USA (13). This model allows for much more precise calculations than the model used by the Polish authorities.

A HEALTHY ENERGY FUTURE – FOR LECZNA AND FOR POLAND

The unhealthy future for Leczna and the whole of Poland has to be avoided, and alternative solutions exist. There is significant potential in the Lublin province for renewable energy production from solar, hydro, geothermal and wind energy, as well as biogas and biofuels because of the existing agricultural production.

This potential also exists for the whole country: in just six years, the country increased its share of wind turbines and other renewables by 10 percent (14).

Redirecting investments of 17 billion EUR for new coal plants would be a much needed boost for a clean, healthy energy future in Poland.

HERE IS WHAT THE POLISH GOVERNMENT SHOULD DO

- Issue a moratorium on the building of Leczna and other new coal plants
- Establish a strategy to reducing dependency on coal power generation and public financing
- Increase public financing for renewables and energy saving
- Support efforts to establish a binding and fair international agreement at the Paris COP21 in December 2015

The Health and Environment Alliance (HEAL) is a leading European not-for-profit organisation addressing how the environment affects health in the European Union (EU). With the support of more than 70 member organisations, HEAL brings independent expertise and evidence from the health community to different decision-making processes. Our broad alliance represents health professionals, not-for-profit health insurers, doctors, nurses, cancer and asthma groups, citizens, women's groups, youth, environmental NGOs, scientists and public health research institutes. Members include international and Europe-wide organisations as well as national and local groups. HEAL gratefully acknowledges the financial support from the European Union (EU), the Global Call for Climate Action (GCCA), and the European Climate Foundation (ECF). The views expressed in this briefing do not necessarily reflect the official views of the funders.

The role of France in Polish coal

The French company ENGIE (formerly Gdf-Suez), who has applied for the Leczna environmental permit (together with the Polish company Bogdanka), is a partly state-owned company, with the French state holding 33 percent of its shares.

Ahead of the December 2015 UN COP21 climate negotiations in Paris, many civil society organisations urge the French government to end its “double standards” on climate and energy policy. On the one hand, the government increases climate finance and bans export credits for coal, on the other hand ENGIE pursues the building of new coal plants in Turkey, Mongolia, Brazil and other countries (15).

ENGIE has in the meantime announced that it will end investments into new coal projects abroad, but would continue with those projects that have reached contractual stage. It is unclear what this means for the Leczna plant.

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