

WATER PRICING AND COST RECOVERY

The case of the Turów lignite mine in Poland

The Polish mine Turów is draining communities of water

The Turów lignite mine in south-west Poland, at the border with the Czech region of Liberec and German state of Saxony, has been in operation since 1907. In 2017 it still had 295 million tonnes of lignite reserves, making it one of Poland's biggest lignite mines. The Turów coal plant is one of the worst in the EU in terms of both CO₂ emissions and adverse health effects¹, but the mine itself has its own issues – it is draining bordering communities of water.

Lignite mining requires the removal of enormous amounts of soil to reach down to the brown coal. Each year, 8 million tons of coal and 32 million m³ of overburden are extracted from the Turów mine². This digging disrupts the underground aquifers, and the groundwater within is pumped out to keep the mine from being swamped. A single lignite mine can require millions of cubic metres of groundwater to be pumped out in a year. In the case of the Turów mine, this represents [40 L per second, the equivalent of the water consumption for the entire Liberec region of 350,000 people](#). Citizens on the Czech side of the border are suffering water shortage due to Polish company PGE's mine operations on the Polish side. Despite protests from local communities, NGOs and politicians, the mine was granted a permit to expand its operation after the past permit expired in end April 2020.

¹ Europe Beyond Coal, Coal Exit Tracker, <https://beyond-coal.eu/coal-exit-tracker/?type=maps&layer=1&toggle=toxic30>

² PGE GiEK, Kopalnia Węgla Brunatnego Turów (Turów Brown Coal Mine), <https://pgegiiek.pl/Nasze-oddzialy/Kopalnia-Wegla-Brunatnego-Turow>

Water management of the Oder/Odra river basin

Water authorities in EU countries are currently drawing up the management plans for their water bodies. These plans will direct how surface and groundwater bodies will be managed from 2022 and the following six years to reach good status under the Water Framework Directive³. The Turów mine is located within the Odra river basin, which area is shared between Poland (86,4%), Czech Republic (5,9%) and Germany (7,7%)⁴. Water abstraction and drainage of mining areas as well as formation of depression cones in main usable aquifers groundwater of regional span are both listed as water management issues of *significant* value for the Oder river basin by the Polish national water management authority Polish Water (aPGW)⁵. For the Central Oder region, Polish Water writes “The problem is that the available resources are exceeded on an annual scale due to drainage abstraction (Turoszów Coal District).” A general problem for the Oder river basin is that excessive abstraction is lowering the groundwater table. For the Central Oder river, where Turów is located, “changes in the groundwater table level are mainly caused by the volume of mining abstraction or drainage in relation to the available groundwater resources, documented depression cones in the main usable aquifers, as well as a long-term downward trend regarding the groundwater table level” according to Polish Water.

At the same time, water resource efficiency and financing of water management activities are being listed by Polish Water as *very significant* water management issues. Water management is financed mainly from public budgets in Poland, and Polish Water states that “the problem of financing has an impact on the achievement of environmental objectives”, and that the lack of economic efficiency in the Polish water management is not compatible with the reaching of the environmental protection measures required by national and EU policies.

³ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02000L0060-20141120>

⁴ International Commission for the Protection of the Odra River against Pollution
<http://www.mkoo.pl/index.php?mid=2&lang=EN>

⁵ Polish Water (aPGW), Draft review of significant water management issues for the Oder River Basin – Appendix 1 <https://www.apgw.gov.pl/en/news/show/123>

Water fees and water pricing for water resource efficiency

The Water Framework Directive (WFD) explicitly includes the use of economic instruments (e.g. taxes or charges) to reach its objectives. The main economic concepts in the directive are cost recovery (fees for water use, including negative environmental impact), incentive pricing (as water pricing affects the behavior of users) and the polluter pays principle (ensuring fair contribution by different water users to cover environmental costs). In the evaluation of the current River Basin Management Plans (RBMPs), the Commission stated that “progress on the implementation of the principle of cost recovery and the use of economic instruments has been limited, which limits the potential of promoting efficient water management”⁶.

In Poland, water fees are regulated through the Polish Water Law⁷ (Ustawa Prawo Wodne). The Polish water management authority recognises that water management efficiency is one of the major problems of water management in Poland, with low levels of investments and lack of funds for implementation of environmental protection, and that changes in the Water Law and the introduction of cost recovery for water services are first steps to improve the situation. However, the Water Law, in the same article stating that water services should be paid for, explicitly states also that in the case of hard coal and lignite mining, as well as other mining and quarrying activities, the water fee is only applicable for water collection which *do not* belong to mining drainage systems (Art. 268.2).

Power plants (including combined heat and power plants) are also explicitly exempted from water fees. Art. 279 of the Polish Water Law states that waters originating from the cooling circuits of the power plant or combined heat and power plant are exempt from fees “if their temperature does not exceed + 26 °C or the difference between the temperatures of water taken in and released into water [is] less than 11 °C”. PGE GiEK, the lignite branch of PGE

⁶ European Commission, Commission Staff Working Document: European Overview – River Basin Management Plans (2019) <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=SWD:2019:30:FIN&qid=1551267381862&from=EN>

⁷Polish Water Law

<http://prawo.sejm.gov.pl/isap.nsf/download.xsp/WDU20170001566/U/D20171566Lj.pdf>

Group, reported a total volume of water abstraction of more than one thousand million m³ for 2018⁸, water that to a large share is exempt from fees.

Conclusion and recommendations

Mine drainage is by far accounting for the main share of water abstracted by the lignite mining sector, with millions of cubic metres of water displaced per year and mine. Its negative impact on groundwater status is recognised as a significant water management issue in the Oder river basin, as well as in other river basins with active lignite mining. In addition, groundwater bodies in Germany and Czech Republic are affected by the Turów mine and will be even more so if the mine expands, as stated in the Environmental Impact Assessment issued by PGE⁹. The fact that the Polish Water law specifically exempts mine drainage, the cause of these issues, from fees is not in line with the cost recovery principle of the Water Framework Directive, which states that the environmental and resource cost shall be taken account of. The coal and lignite sector further benefits from generous exemptions from fees for cooling water.

Poland should conduct an economic analysis in their River Basin Management Plans according to Annex III of the WFD, considering long term forecasts of supply and demand for water in the river basin district. This analysis should include estimates of the volumes, price and cost of the mine drainage water, and reflect the social, environmental, and economic costs. As guidance, a fee of 4,5 euro cents is applied for drainage of mining water in the German federal state of North Rhine-Westphalia to cover the environmental costs of mine operations, which includes lowered groundwater tables, disconnection of rivers from their groundwater source, and exposure of groundwater to pollutants¹⁰.

⁸ PGE, Report on non-financial data of PGE Polska Grupa Energetyczna S.A. and PGE Group for 2018, <https://raportzintegrowany2018.gkpge.pl/en/wp-content/uploads/sites/2/2019/08/Non-financial-report-PGE-Group-2018.pdf>

⁹ PGE, Fortführung des Abbaus der Braunkohlelagerstätte Turów, https://uvp-verbund.de/documents/ingrid-group_ige-iplug-sn/9B855E5E-2211-44DE-9933-94B3D7FE9F3E/UVP-Bericht.pdf

¹⁰ BUND – Friends of the Earth Germany, <https://www.bund-nrw.de/themen/braunkohle/hintergruende-und-publikationen/braunkohle-und-umwelt/braunkohle-und-wasser/>

As the water abstracted by the Turów mine comes from the same groundwater source supplying drinking water for communities on the Czech side of the border, the fee should be at least at the same level applied for drinking water there. More generally, the water fees applied to the coal sector, for mine drainage as well as for cooling water, should not be lower than other, less polluting, energy producers.

Water management in Poland needs to urgently address the issue of recovery of costs for water services. The Polish national water management authority points out the financing of water management activities as an issue of highest importance to achieve the objectives of the Water Framework Directive. The exemption of water abstraction for mine drainage from fees and the reduced fees for cooling water in the Polish Water Law need to be urgently adjusted to achieve an adequate contribution from the lignite sector.

« Water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such »

(Water Framework Directive)
