EEB briefing document

Input to SWMI public consultation - ODER River Basin

To the attention of

The International Commission for the Protection of the Odra River against Pollution

and the Water Directors of Czech Republic, Germany and Poland, and the Ministries in charge of the Water Framework Directive implementation

Brussels 22/06/2020

Dear Mr. Piotr Barański,
Dear Ms. Monika Niemiec-Butryn,
Dear Ms. Heide Jekel,
Dear Mr. Daniel Pokorný,
Dear Mr. Lukáš Záruba,

The European Environmental Bureau (EEB) welcomes the opportunity to provide its comments in relation to the Significant Water Management Issues (SWMI) for the River Odra/Oder.

The EEB is the largest network of environmental citizens' organisations in Europe. It currently consists of over 160 member organisations in more than 35 countries (all EU Member States plus some accession and neighbouring countries), including a growing number of European networks, and represents about 30 million individual members and supporters.

The following briefing is aimed at highlighting those SWMIs linked to the energy-mines-water nexus and provides suggestions aimed at promoting a forward-looking energy transition fully compatible with the preservation of water resources. Therefore, it is not meant to provide an exhaustive analysis of other equally relevant SWMI issues (e.g. hydropower, agriculture, as well as other kinds of pressures on water ecosystems or biodiversity impacts on aquatic life).

We hope that this briefing will enable relevant decision-makers to consider the raised issues as SWMI and to properly address them in the development of the 3rd generation of the River Basin Management Plans for the Oder.

The EEB explicitly supports comments submitted by our members on this public consultation e.g. Grüne Liga, BUND, ClientEarth, where applicable.

SWMI Issue n° 1: The continuation of lignite mining activities and the operation of thermal power plants shall be recognised as a main bottleneck to the achievement of the good status for the Oder river.

The second international Water Management Plan for the Oder River assumed to reach *good ecological status/potential* for 29% of the basin's surface water and *good status* for 65% of the basin's groundwaters by 2021[1], whereas derogations have been applied to the remaining waters. In comparison to the status reached by other European water basins, more ambitious targets should have been set; as a matter of fact, at the end of the second round of River Basin Management Plans (RBMP) 40% of Europe's surface water bodies reached good ecological status, while 74% of groundwater bodies were in good chemical status and 89% were in good quantitative status. In the Oder river basin itself, 36.8% of the surface water bodies achieved good chemical status, and 85.6% of groundwater bodies were in good quantitative status by the end of the second cycle of RBMPs. It is to be expected that the water management authorities involved in the drafting of the third round of RBMPs increase their ambitions and reduce the reliance on derogations.
The Oder river basin itself achieved better results: 36.8% of the surface water bodies achieved good chemical status, and 85.6% of groundwater bodies were in good quantitative status[2]. Consequently, we think that the third RBMP should increase its ambition and we call the water management authorities to reduce their reliance of derogations.

In the Czech part of the Oder river basin, WISE database reports for 4 water bodies (representing 3% of the total) mercury breaches of Environmental Quality Standards (EQS) due to diffuse atmospheric deposition. All these water bodies are granted exemptions beyond 2027, either under Art 4.4 (extended deadline) or Art 4.5 (technical feasibility cases).

[1] ICPO, Initial review of significant water management problems identified in the International Odra River Basin District for the purposes of the third planning cycle in accordance with the WFD.
[2] EEA, WISE WFD data viewer, HYPERLINK "https://www.eea.europa.eu/data-and-maps/dashboards/wise-wfd"https://www.eea.europa.eu/data-and-maps/dashboards/wise-wfd

All 534 surface water bodies in the German part of the Oder river basin district breach mercury EQS due to diffuse atmospheric deposition. Over 62% are annual exceedances, whereas 12% exceed the maximum allowable concentrations. However, whereas these water bodies have been granted exemptions under Art. 4.4 (in most cases claiming technical infeasibility), management authorities claimed that they will be able to achieve good chemical status by 2027.

The largest part of the Oder lies in Poland. 55% of water bodies either fail to achieve good chemical status, or the status is unknown[3]. In Poland, mercury is the second most common reason for surface water bodies to fail good chemical status[4]. All surface water bodies in the Polish part of the Oder breach the EQS for mercury[5], which does not allow to reach good chemical status. The European Commission has pointed out that Poland should improve the quality of the monitoring of priority substances in order to determine the chemical status of water bodies. For example, in the second RBMP round Poland did not report the monitoring of mercury in biota for WISE status assessment, even though monitoring reportedly started in 2016[6]. This might have led to underestimating the chemical status. Most of the mercury breaches in surface water bodies for the Polish part of Oder river district are reported to be either urban waste waters or unknown anthropogenic pressures, while in seven cases unknown anthropogenic pressures or unspecified point source is reported as source.

EEB recommendations

Mercury is the main cause for water bodies to fail the achievement of good chemical status in the Oder river basin. Both Germany and Czech Republic report diffuse atmospheric deposition as a source of mercury, whereas it stands out that Poland is not reporting diffuse atmospheric deposition as a source, despite the proximity to several combustion plants.
The three countries are also tackling this problem differently: whereas Germany applied exemptions under Art. 4.4 but claimed that the issue will be fixed by 2027, for the same issue Czech Republic has been granted exemptions beyond 2027 for failing to reach good chemical status.
It appears clear that reporting, evaluation and exemption concessions should be harmonized throughout the whole river basin, as well as throughout Europe. Moreover, if technical unfeasibility can be overcome in Germany, the same should be possible in the Czech Republic. Finally, Poland

[3] EEA, WISE Water Framework Directive (data viewer), https://www.eea.europa.eu/data-and-maps/dashboards/wise-wfd
[4] European Commission, COMMISSION STAFF WORKING DOCUMENT
Second River Basin Management Plans – Member State: Poland
[5] WISE Water Framework Directive Database
[6] European Commission, COMMISSION STAFF WORKING DOCUMENT
Second River Basin Management Plans – Member State: Poland

failing to recognize atmospheric deposition as a source of mercury in surface waters must be addressed.

SWMI Issue n°2: Require competent authorities to set stricter requirements to enable compliance promotion with relevant environmental quality standards (EQS).

The impact caused by lignite mining on groundwaters should be included among trans-regionally significant water management issues that must be addressed at the international level (A level) - here ICPORP-[7]. The SWMI pre-consultation document for Oder refers to pollution prevention controls of wastewater discharges to be aligned to the "best available techniques" and that those aspects, as well as source control measures, should be addressed only at inter-state level. Those pollution prevention standards are set at EU level but leave a large discretion on their implementation to Member States permitting authorities. However, it is clear that the stringency of their implementation is of trans-boundary relevance whenever implementation affects downstream operators and users of the same water stream, which is the case for the issue at stake.

This is equally valid for those pollutants having accumulation and persistency properties such as mercury, for which the stack route is more relevant. As referred in the example concerning the new pollution standards for Large Combustion Plants (due to be complied with by August 2021 at the latest), the margin of discretion left to Member States permitting authorities is so high that the most effective BAT able to prevent pollutants to negatively affect Oder's good chemical and ecological status will not be implemented. Therefore, it is ICPORP and Member States (B level) competence and responsibility to ensure that necessary pollution prevention measures are applied consistently in regard to pollutant sources negatively affecting the Oder.
Moreover, it is ICPORP's responsibility to develop and update the International Plan of the River Basin for the Protection of the Odra River, which shall formulate key measures in order to achieve a good quantitative state of all underground and surface water bodies.

Whereas "A level" bodies should keep a holistic view about the achievement of good quantitative condition within the whole river basin, it is equally true that international bodies are the only decision-makers that will not act considering national interests, which may be primarily aimed at shielding national industries or consider measures limited to its geographical scope for the sake of cost-effectiveness. The same consideration is valid to address negative impacts such as upstream water pollution coming from heavy industry. The EEB wishes to highlight the issue in

[7] In the pre-consultation document Annex I, SWMI are considered in relation to surface water relevant impacts only. Lignite mining impacts (groundwater, water availability) or wastewater discharge source control measures are mentioned in section 2 but it is proposed to deal with those aspects in an inter-state level only

relation to the Turow lignite mine extension as a bright example of how upstream pollution affects downstream users in other countries.

Thermal combustion plants

1. Any discharge to a receiving water body due to thermal combustion requires the application of the strict Best Available Technique – Associated Emissions Level (BAT-AEL) for water release (BAT 15 LCP BREF[8]). Permits shall require compliance with the maximum emission limit values by April 2021 at the latest.

Whereas the current biota limit set for mercury is breached in the Oder River, as in other Member States, the Water Framework Directive (WFD) requires that Persistent, Bio-accumulative and Toxic substances (PBT) must be phased out by 2024 at the latest.

The maximum ELV limit for Large Combustion Plants (in particular, those using coal/lignite[9]) shall be set at 0.2 µg/l, which is achievable using membrane techniques at the waste treatment plant.

2. Concerning mercury release to air, the maximum ELV for lignite/coal combustion shall be set to 1µg/Nm^3, which is achievable using dedicated mercury controls. Permits shall require compliance by August 2021 at the latest.
Air pollution from industrial activities is relevant for Oder's chemical status because pollutants enter water bodies through deposition from the air route (immission). In relation to coal/lignite power plants, the operators reported to huge amount of 3.9 tonnes per year, whereas the average concentration at the stack is 9.6 µg/Nm^3 meaning that the full potential of pollution control at source has not been implemented.

This implies that significant PBT air pollutants, in particular mercury, emitted via the plants' stacks have the potential to worsen the chemical status of the surface waters. After the implementation of the 2nd RBMP, only 36.8% of the surface water bodies in the Oder river basin reached good chemical status[3].

3. Concerning Priority Hazardous Substances (cadmium and mercury), a continued operation of lignite combustion will considerably undermine the phase-out target in

[8] http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1503383091262&uri=CELEX%3A32017D1442

[9] Mercury captured in the waste gas phase and removed from the scrubbers may end up in the waste water-treatment effluent

relation to mercury pollution of surface waters. The LCPs located along the Oder can be run thanks its waters, which are basically used for cooling and wet scrubbing purposes. As already mentioned, these plants emit in average 3.9 tonnes of mercury to air, with an average concentration at the stack of 9,6µg/Nm³.

As confirmed also by the Minamata Convention BAT-BEP guidance[10], if the strict BAT requirement set under the 2017 LCP BREF of max. 1 µg/Nm³ is implemented, the mercury pollution load would be cut by 3.5 tonnes of mercury for each year of operation, leaving a residual pollution load of about 341 kg/year. Assuming a continued operation under the new river basin timeframe (up to 2027), the potential amount of mercury not contaminating Oder's surface waters would be at least 24.8 tonnes.

The table below shows the breakdown on the main air-to-water mercury sources to air (top 3 sources per country)[11].

Plant name (country)	Current average emission (mercury) in concentrations µg/Nm³ and load (kg/yr)	Possible air emissions pollution prevention per year of operation, assuming full BAT implementation (1µg/Nm³)	Possible pollution prevention gains in kg for the period up to 2027 (3rd RBMP cycle)
Scholven (DE)	4.86 µg/Nm³, 79 kg	63 kg	438 kg
HKW Moorburg (DE)	1,30µg/Nm³, 30 kg	7 kg	48 kg
HKW Wedel (DE)	6 µg/Nm³, 26 kg	22 kg	152 kg

[10] http://www.mercuryconvention.org/Portals/11/documents/forms-guidance/English/BATBEP_introduction.pdf

[11] The E-PRTR has high reporting thresholds for mercury to air emissions of 10kg/year for each emitting facility. The fact that many lignite/coal combustion plants do not report emissions does not mean they do not emit mercury (unless these did not operate), it just means that the level is below 10kg/year:

Sub-total DE (6 entries) reported mercury, *other 6 are below the 10kg reporting threshold	3.92 µg/Nm^3, 178 kg*	123 kg	859 kg
TRINEC a.s. - E 3, Provozy teplarny a tepelna energetika (CZ)	16.54 µg/Nm^3, 42 kg	39 kg	274 kg
Elektrarna Trebovice III (CZ)	3.81 µg/Nm^3, 6 kg	5 kg	33 kg
Elektrarna Trebovice II source 2 (CZ)	3.81 µg/Nm^3, 4 kg	3kg	22kg
Sub-total CZ (3 entries) reported mercury, *other 9 are below the 10kg reporting threshold	8.06 µg/Nm^3, 52 kg*	47 kg	329 kg
Belchatow (Plants 1-4) (PL)	15 µg/Nm^3, 2160 kg	2021 kg	14148 kg
ZE PAK S.A. - Elektrownia Adamów (PL)	29 µg/Nm^3, 320 kg	309 kg	2163 kg
ZE PAK S.A. - Elektrownia Pątnów I (PL)	14.93 µg/Nm^3, 268 kg	250 kg	1750 kg
Sub-total PL (18 entries) reported mercury, *other 66 are below the 10kg reporting threshold	11.7 µg/Nm^3 3646 kg*	3365 kg*	23558 kg*
Total (all 26 coal/lignite LCPs) reported emissions (*84 records below 10kg reporting threshold)	9.6 µg/Nm^3 / 3.9 tonnes*	*3.5 tonnes	24.8 tonnes*

Polish main emission sources impacting the Odra basin are clearly thermal power plants, and notably Belchatow. Just the 15 facilities located in the Odra basin emit 3.67 tonnes of mercury per year into the air, making 80% of the total industrial sources.

Releases of Heavy metals		As	Cd	Cr	Cu	Hg
⊞ 1 Energy sector	Quantity	1.24 t	74.1 kg	4.64 t	1.33 t	3.67 t
	Facilities	9	3	6	6	15
⊞ 2 Production and processing of metals	Quantity	420 kg	92.8 kg	0	1.45 t	102 kg
	Facilities	2	3	0	1	2
⊞ 3 Mineral industry	Quantity	22.4 kg	0	134 kg	1.19 t	416 kg
	Facilities	8	0	5	11	7
⊞ 4 Chemical industry	Quantity	102 kg	0	0	0	0
	Facilities	2	0	0	0	0
⊞ 5 Waste and waste water management	Quantity	199 kg	0	0	307 kg	410 kg
	Facilities	8	0	0	18	11
⊞ 6 Paper and wood production processing	Quantity	0	0	0	0	0
	Facilities	0	0	0	0	0
⊞ 9 Other activities	Quantity	0	0	0	0	0
Total	Total	1.98 t	167 kg	4.78 t	4.27 t	4.60 t
	Facilities	29	6	11	36	35

2017 data, source E-PRTR filtered to Oder/Oldra River Basin.

The Turów case

The recent extension of mining operations in Turów granted by the Polish government has an indirect impact on the water bodies of transboundary relevance. The extension is primarily aimed at allowing Turów lignite powerplant to further operate until 2026 (a request by the operator to extend it until 2044 is still pending). It is expected that about 330 M tonnes of lignite will be extracted for combustion up to 2044 [11.5 M t/year from 2020-2038 and 7 M t/year from 2039-2044].

This implies that significant quantities of air pollutants will be emitted by the plant, which may worsen the chemical status of Oder's surface waters. Concerning Priority Hazardous Substances

(cadmium and mercury), a continued operation of lignite combustion will considerably undermine the phase-out objective in relation to mercury pollution in surface waters.

The Turów plant emits on average each year 334 kg of mercury[12], with an average stack concentration of 10 µg/Nm³. As confirmed also by the Minamata Convention BAT-BEP guidance[13], if the strict BAT requirement set under the 2017 LCP BREF of max. 1 µg/Nm³ is implemented, the mercury pollution load could be cut by a factor of 10, resulting in residual pollution load of about 30 kg/year. Assuming a continued operation until 2044, the potential amount of mercury not contaminating Oder's basin surface waters would be at least 6680 kg tonnes.

Presently, Oder does not comply with the biota EQS set for mercury; however, because mercury is a global pollutant relevant for many other water bodies, it is appropriate for the ICPORP to set the relevant criteria and obligations in relation to preventing mercury release from this source, inter-alia to be able to veto the lignite mining extension.

Water abstraction for cooling towers should be equipped with necessary fish egg and larvae protection barriers.

ICPORP identifies morphological changes in surface waters as a significant water management issues preventing the achievement of biological quality objectives, including distortion of spawning grounds for fish and distortion of watercourses. The abstraction and discharge of cooling waters impact aquatic life both indirectly through thermal pollution and directly by suction of fish egg and larvae into cooling circuits. Considering that 98 hard-coal thermal power plants are located in the Oder river basin, abstraction of surface water for cooling purposes should be addressed as a significant issue to protect aquatic life and habitats.

The JRC Power Plant Database[14] provides estimates of water withdrawal rates for thermal power plant operations. The database suggests that 9 Polish hard-coal power plants require very high water withdrawal rates due to the use of once-through cooling technique, which is known to destroy fish eggs and larvae. However, since we believe these data need further verification, we will not elaborate this point further. In any case, it should be recognized that the lack of user-friendly, good quality and real-time data concerning water relevant pressures (e.g. source related

[12] Based on 2017 data , EEB industrial plant data viewer from PRTR https://public.tableau.com/profile/schaible#!/vizhome/UnderDevelopment_EEB_LCP_DataViewertest4_15880952402100/HomePage?publish=yes

[13] http://www.mercuryconvention.org/Portals/11/documents/forms-guidance/English/BATBEP_introduction.pdf

[14] https://ec.europa.eu/jrc/en/publication/joint-research-centre-power-plant-database-jrc-ppdb

withdrawal, consumption and release information) is a significant issue in various countries, which needs to be properly addressed (see SWMI n° 4).

Lignite mines

Mine backfilling with residues / sludges from coal/lignite combustion (fly ash / residues from flue gas treatment or sludges) should be prohibited. Storage sites must be equipped with leach free sealants and subject to periodic monitoring (at least 3 times per year) of ground and surface waters.

The operation of coal/lignite power plants also generates various harmful residues potentially harming Oder basin: heavy metals does not simply disappear but remain in the fly ashes, which need to be properly disposed.

Again, the Turów case is a bright example of wrong waste disposal. The residue concentrations of mercury and cadmium in the furnace mass are reported to be very low (in the order of 0.1 mg/kg and 2 mg/kg respectively). Residual manganese levels are reported in the range of 239 mg/kg, which seems realistic. The drinking water quality (good indicator) limit for manganese is set to 50 µg/l. Considering the reported fly ash amount generated by the 6 lignite boilers operating in the Oder river body and assuming very low mercury residue levels (as set out below), the following additional pollution loads contained in fly ash residues can be estimated for the 3rd RBMP period (7 years):

Fly ash volume: 21,84 Million tonnes
Mercury: +12,2 tonnes
Cadmium: +195,8 tonnes
Manganese: +32.491 tonnes

3 examples are used for coal/lignite plants operating in the Oder River Basin:

Boiler ID	Declared fate of fly ash	Fly ash (t)	Mercury (kg)	Cadmium (kg)	Manganese (kg)
CZ Turow (6 units) *One-year operation*		1.364.000	134 (assuming low concentration 0.1 mg/kg)	2 688 (assuming concentration 2 mg/kg)	321.224 (assuming concentration 239 mg/kg)

3rd RBMP period (7 years)			*941 kg*	*18,8 tonnes*	*2249 tonnes*
Detmarovice (CZ)	porous concrete production, backfills	276.493	72,6 (reported concentration 0.26 mg/kg)	553 (assuming concentration 2 mg/kg)	Not reported
3rd RBMP period (7 years)			*508 kg*	*3.871 kg*	*No data*
Katowice (plant 1, PL)		30.252	15 (concentration 0.5 0 mg/kg)	67 (reported concentration 2.215 mg/kg)	7.230 (based on assumed concentration 239 mg/kg)
3rd RBMP period (7 years)			***107 kg***	***469 kg***	***51 tonnes***
Potential extra heavy metals contained in fly ash residues for 7 years continued operation of 20 lignite plants that reported data (covering		*13,4 Million to nnes*	*12,2 tonnes*	*196 tonnes*	*32.491 tonnes*

In most cases fly ashes are either dumped in the mines as "backfilling material" or landfilled, transferring pollution to another medium, where these may leach into groundwater or surface waters. The impacts due to additional residues / waste from lignite mine extraction activities need to be properly accounted and tackled at the source.

SWMI Issue n° 3: External damage due to mining activities and thermal power combustion plants operation, including environmental and resource costs, should be accounted.

Water abstraction for mine drainage and plant cooling, as well as any storage infrastructure must be recognized as water service and be subject to a fair price, as for other users of Odra's basin water.

According to the recent report "*The consumptive water footprint of the European Union energy Sector*[15]", the EU currently does not explicitly account water resource use in its energy related policies. The report considers as "high" the amount of water used by wood, hydropower, first generation agrofuels, "moderate" for fossil fuels and nuclear energy and "low" for solar, wind, geothermal and run-of-the-river hydropower. The average water footprint for energy production is evaluated to 1068 litres per day. It is evident that the choice of energy sources has a direct impact on the level of water stress and water scarcity. Water is essential for both food security and energy security. The average water footprint in relation the thermal power plants assessed in this report (>50 MWh) is estimated to 136 m^3 TJ^{-1} for gas, 572 m^3 TJ^{-1} for coal and lignite.

Water abstraction, drainage of mining areas and formation of depression cones in main usable aquifers groundwater of regional span are considered SWMI for the Oder river basin by the Polish Water, the national water management authority (aPGW)[16]. 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. 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 350000 people[17]. Villagers on the Czech side of the border are suffering water shortage due to the state-owned Polish company PGE's mine operations on the other side of the border. Despite protests from local community, NGOs and politicians, the mine was granted a permit to expand its operation until 2026, after the past permit expired in April 2020.

[15] Davy Vanham et al., 2019, Environ. Res. Lett 14 104016 https://iopscience.iop.org/article/10.1088/1748-9326/ab374a
[16] 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
[17] https://meta.eeb.org/2020/03/19/thirst-for-justice-communities-take-on-coal-giant-for-stealing-their-water/

Therefore, it is therefore appropriate to carefully assess the water availability for the various users and prioritize access to "essential" use, such as for drinking water and food production. 90% of the groundwater abstraction (for users of more than 6000 m^3/year or 500 m^3/month) in the Czech part of the Oder river catchment is used for drinking uses, whereas less than 1% is used by the energy sector or industry (including the extractive industry)[18]. This shows the importance of groundwater as a source of drinking water on the Czech side of the border.

The Water Framework Directive explicitly includes the use of economic instruments (e.g. taxes or charges) to reach its objectives. The main economic concepts in the WFD are cost recovery (fees for water use, including negative environmental impact), incentive pricing (water pricing is affecting the behaviour of users) and the polluter pays principle (ensuring fair contribution by different water users to cover environmental costs). In the evaluation of the current RBMP the European 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"[19].

The Polish Water Law[20] (Ustawa Prawo Wodne) states that water services should be paid for, but also explicitly states 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 excepted 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".

In Germany, water fees are regulated at the Länder level. The Länder concerned by the Oder river basin are Brandenburg, Mecklenburg-Vorpommern and Saxony. In Brandenburg, the fee for abstraction of cooling water from surface water is 0.0058 €/m^3, abstraction from groundwater for mine drainage is exempt from fees unless it is used for public water supply or cooling water: in the latter case, the standard rate is applied (0.10 €/m^3 for drinking water and 0.115 €/m^3 for

[18] Ministry of Agriculture and the Ministry of the Environment of the Czech Republic, Report on water management in the Czech Republic in 2018, http://eagri.cz/public/web/en/mze/publications/publications-water/report-on-water-management-in-the-czech-5.html

[19] 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

[20] Polish Water Law http://prawo.sejm.gov.pl/isap.nsf/download.xsp/WDU20170001566/U/D20171566Lj.pdf

industrial use)[2122]. In Saxony, the fee for cooling water is 0.005 €/m^3, while lignite mines drainage is exempt from fees[23].

Lignite mining in the Lusatia region of Germany cause sulphate pollution of drinking water in the Brandenburg Länder. Even though sulphates drinking water limit is set to 250 mg/l (in line with the German drinking water law and the EU Drinking Water Directive), the sulphate management decree for the river Spree[24] sets a derogatory level of 280 mg/l that must be observed 328 days per year, which was not achieved in 2019[25] due to LEAG's Lausitz lignite mining activities. Reportedly, 51% of the sulphate pollution comes from the current mining activities in Lausitz, whereas 28% from former mining activities[25]. Treatment costs to address sulphate pollution in drinking water is estimated to be between 0.55 and 0.7575 €/m^3 [26]. The problem is addressed diluting low-sulphate waters from other regions, which is becoming less feasible due to drought.

Other impacts caused by Lausitz mine on water include evaporation[27]; it is estimated that the evaporation rate in dry periods may even be in the range of 6m^3/s, which is higher than the flow rate of the Spree. Moreover, the evaporation rate is likely to aggravate due to climate change related impacts. The mine operator LEAG plans to proceed with further flooding of open pit mines for "re-cultivation" purposes, which would mean an additional (conservative) evaporation rate of about 3.3 m^3/s.

In Czech Republic it seems that no fee for the abstraction of surface water for the purpose of flow cooling is required[28], despite the fact that there are two large coal combustion plants in the area (Elektrarna Detmarovice, a.s. and TAMEH Czech s.r.o. - Teplarna spolecnosti). As comparison, the fee for abstraction of surface water for other purposes in Czech Republic is 0.17 €/m^3 (4.62

[21] Brandenburg Water Law - Brandenburgisches Wassergesetz (BbgWG), last amended 4. December 2017, current rates apply since 1st January 2018. https://bravors.brandenburg.de/gesetze/bbgwg

[22] Note however that only the commercially used share of abstracted water is subject to a fee (e.g. about 10%), the remainder re-discharged to rivers is dispensed

[23] Saxony Water Law § 91, Sächsisches Wassergesetz vom 12. Juli 2013 (SächsGVBl. S. 503), das zuletzt durch Artikel 2 des Gesetzes vom 8. Juli 2016 (SächsGVBl. S. 287) geändert worden ist https://www.revosax.sachsen.de/vorschrift/12868-SaechsWG#p91

[24] Bewirtschaftungserlass Sulfat (Spree), https://mluk.brandenburg.de/sixcms/media.php/9/Bewirtschaftungserlass-Sulfat.pdf

[25] and is exceeded far beyond those limits in other water bodies, see recent analysis by Greenpeace here https://greenpeace.berlin/wp-content/uploads/2020/06/Auswirkungen-des-Braunkohletagebaus-in-Turow-auf-die-Wasserk%C3%B6rper-in-der-Region-der-Lausitzer-Neisse.pdf

[26] Estimated by Eureau based on impact assessment in Germany

[27] See notably expert assessment by René Schuster from Gruene Liga https://www.bundestag.de/resource/blob/700652/6a62933111957b4ba6de0c1d1a9b437a7/19-16-352-D_Schuster-data.pdf

[28] Ministry of Agriculture and the Ministry of the Environment of the Czech Republic, Report on water management in the Czech Republic in 2018, http://eagri.cz/public/web/en/mze/publications/publications-water/report-on-water-management-in-the-czech-5.html

CZK/m^3) and the average price of water for households in Czech Republic was 1.4 €/m^3 (38.1 CZK/m^3) in 2018. Numbers do not include VAT.

EEB recommendations

A minimal fee shall be required per water abstracted for the following uses:

- Abstraction of groundwater / other water for mining activities (including coal washing/processing).
- Abstraction of water for cooling tower purposes (thermal power plant).
- Abstraction of water for diffuse dust management / other related activities.

To assess the water use on the same basin, water fees should be set at least at the highest level applied in the Oder basin region. The fee should reflect the external damages caused on the water body (quality and quantity) by its use and should not be lower than competing energy providers like hydropower. Where the origin of the water source / body is the same, fees should be at least equal to the one applied in another country for a user of that same water source / body.

We call the ICPORP to provide a clear ranking of conflicting water uses and to adapt fees accordingly. Use for drinking water, food production and prudent agricultural use should always be prioritised over industrial uses. A cascade of use hierarchy should be set for industrial uses and operators required to implement water use prevention and recycling techniques.

We also call the ICPORP to quantify the impact on aquatic ecosystems provoked by mining operations (both in terms of water quality and hydro-morphological alterations), considering also other negative environmental impacts on e.g. Natura 2000 sites or wetlands. This should enable proper application of the cost recovery principle mentioned by the WFD.

To achieve the above-mentioned goals, the following supporting and monitoring actions should be undertaken:

- Quarterly groundwater monitoring around mining sites of relevant pollutants under the Groundwater Directive, WFD and Drinking Water Directive with a focus on heavy metals and sulphates. More frequent monitoring intervals could be set.

- Water abstraction should stay below 20% of the available renewable water resources, in line with the EU target[29], and by no means prevent the achievement of ecological flows supporting the good ecological status objectives.

SMWI Issue n° 4: Inadequate reporting on water use, levels of abstraction and discharge related information (pollutants / temperature).

Require an EU centralized level with real time -access.

To enforce law requirements, an EU centralized monitoring system with real-time access is needed. The ICPORP should establish a forward-looking and public reporting information portal, to disseminate information on water-relevant issues. We acknowledge that it is primarily Member States responsibility, but such a recommendation could be part of the SWMI document regarding access to information and transparency, benchmarking progress and compliance promotion.

EEB recommendations

Monitoring results on water release, abstraction and quality should be tele-reported to a centralised EU database (e.g. WISE / IED Registry / revised E-PRTR reporting) and should be made actively available online within 1 month after the information has been generated.

It should contain at least the following items:

- ID code of the installation (IED Registry ID code) or mine.
- Water consumption per type of water body and type of purpose.
- Water release information per type of receiving body for the pollutants subject to monitoring, E-PRTR[30] reporting and other monitoring obligations in the format of concentration and loads, including annual average of pH, min/max temperature at release point and flow rates.
- Other information that may affect water quality status, such as waste disposal.
- Permit levels set on the above and annual compliance reports information (e.g. Art. 14 of the IED to be included in the reporting under the IED[31]).
- Other evidences on the correct implementation of the WFD, such as derogations status, impact quantification and methods / calculations for cost recovery principle.

[29] See COM(2011) 571 final, page 14 https://www.europarl.europa.eu/meetdocs/2009_2014/documents/com/com_com(2011)0571_/com_com(2011)0571_en.pdf

[30] https://prtr.eea.europa.eu/#/home

[31] https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590744583053&uri=CELEX:32018D1135

See further (more specific) requests on access to information in the section 6 of EEB publication[32] "An industrial EU strategy for achieving the zero-pollution ambition set in the European Green Deal".

[32] https://eeb.org/library/an-eu-industrial-strategy-for-achieving-the-zero-pollution-ambition-set-in-the-european-green-deal/