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Cutting Europe's lifelines to coal

Tracking subsidies in 10 countries

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Poland

Key findings

Transparency – subsidy reporting

Rating: poor

- The Polish government does not publish an overview of the country's coal subsidies.

Coal mining – subsidy phase out

Rating: good

- Currently, all coal mining subsidies in Poland are allocated to coal mine decommissioning, rehabilitation and the support of former miners through re-employment in other sectors, compensatory pensions and social security benefits.

Coal fired power – subsidy phase out

Rating: very poor

- Poland has many existing and new subsidies that support coal-fired power, including those for: co-firing of biomass in coal plants, the use of the Article 10c derogation under the EU ETS for coal power plant upgrades, stranded cost compensation (to cover losses made by coal-fired power plant operators) and two capacity reserves
- The country is also planning to introduce a new capacity mechanism.

1. Trends in the production and use of coal in Poland

Poland is the second largest producer of coal in Europe after Germany (Energy Information Administration (EIA), 2016). An increase in the costs of coal production combined with lower coal prices is negatively affecting the Polish coal mining industry, which has already been partly unprofitable. However, given the historic cultural importance of the industry and fear of job losses, the government is loath to shift away from coal production and use. In 2016, state-owned utilities invested \$624 million to rescue Europe's largest coal mining company, Kompania Weglowa, from bankruptcy (EIA, 2016). In April 2016, mining companies, banks and financial institutions established the Polish Mining Group (PGG), with a plan to take over 11 coal mines, four bankruptcy threatened plants and the liabilities of the already mentioned Kompania Weglowa, as well as the debts of mines and plants (Olszewski, 2016).

The country also continues to rely heavily on coal for electricity generation, with this accounting for 83% of the power produced in the country in 2014. However, driven by European Union (EU) air quality legislation, this is a reduction compared to the even higher share of 96% in 2000 (Organisation for Economic Co-operation and Development (OECD), 2014; International Energy Agency (IEA), 2014). The dominance of coal makes Poland's economy one of the most carbon-intensive in the OECD (OECD, 2015).

Poland is currently operating about 28GW of coal power capacity. Despite over 12GW of planned coal-fired capacity in Poland being cancelled in recent years, with 5GW now shelved, 9GW of new coal-fired capacity is still in the pipeline (End Coal, 2016; Wynn, 2016).

Poland is set to achieve its target of 15% renewables in final energy consumption by 2020. This is primarily the result of government support for the co-firing of biomass with coal. Renewable energy technologies other than biomass have not received similar support and new barriers to development in this area have been established (OECD, 2015). For example, in May 2016, parliament passed a bill raising taxation of wind farms and requiring wind turbines to be located at a minimum distance from buildings and protected areas of at least ten times the height of a turbine, a rule that is blocking onshore wind projects (Mortkowitz Bauerova and Martewicz, 2016).

According to the World Health Organisation (WHO), two-thirds of Europe's most polluted cities are in Poland, most of these in the mining region of Upper Silesia and Malopolska (Mortkowitz Bauerova and Martewicz, 2016). In 2013, coal-fired power generation caused over 5800 premature deaths in Poland with estimated total health costs ranging between €8 and €16 billion: the highest projections among EU Member States (Schaible et al., 2016). In the same year, 36 coal plants in Poland used

derogations to evade emission limits provided by the EU Industrial Emissions Directive (IED) (Schaible et al., 2016).

2. Status of subsidies to coal and coal-fired power in Poland

As a Member State of the EU and thus part of the G20, Poland has repeated its commitment to phase out fossil fuel subsidies every year since 2009. In 2016, as a continuing EU member and therefore part of the G7, the country called on all nations to end fossil fuel subsidies by 2025. The European Commission (EC) has furthermore repeatedly called on EU Member States to end all environmentally harmful subsidies, including those to fossil fuels, by 2020.

Poland is shifting support away from coal mining. In 2012, the government introduced an excise tax on coal and is gradually phasing out some of its support to coal mines, including efforts to alleviate the costs of closing mines, rehabilitate sites and support the workforce transition. In November 2016, the European Commission approved €1.8 billion in state aid to be provided between 2015 and 2018 to alleviate the environmental and social impacts of closing uncompetitive coal mines by 2018.

However, in terms of coal-fired power, the country's remaining subsidies are high and new forms of coal support have been introduced in recent years, some of which serve to raise revenue for coal power plant operators and extend the lifetime of coal assets. Examples include the stranded cost compensation scheme (see description below), under which the government covers losses made by coal-fired power plant operators if revenue is not sufficient to cover the costs of production. By magnitude, this is one of the largest coal subsidies in Poland. Other examples are the subsidies provided to support the co-firing of biomass in coal-fired power plants and the use of free allowances allocated under the EU Emission Trading Scheme (EU ETS) to upgrade coal boilers to burn coal with biomass and upgrade coal combustion infrastructure. Even though these free allowances were valued at €7.4 billion between 2013 and 2019 and ought to be used to diversify the energy mix, Poland primarily uses them to support hard-coal plants, followed by gas and nuclear (ClientEarth, 2012).

Poland is also currently in negotiations with the European Commission over a new proposed capacity mechanism. According to Krzysztof Tchorzewski, Poland's Energy Minister, this will be necessary not only to avoid power shortages, but also to "help coal-fired power plants compete with producers of renewable energy" (Euractiv, 2016). This could add a significant amount of support to coal in addition to the support already provided through the above described measures. The total costs of the capacity market have been estimated at €1.8 billion between 2021 and 2030 (Client Earth, 2016). According to the minister, the capacity mechanisms will help build and modernise Poland's coal infrastructure.

3. Poland's coal subsidy measures explained

Average annual coal subsidies (see table): €920 million, equivalent to 3805 million Zloty.

The breakdown below provides a chronological overview of Poland's historic, continuing and new coal subsidies. The historic subsidies are not included in the annual average estimate as these have been phased out.

- **Initial investment aid for hard coal mining (historic: 2010):** The former Ministry of Economy granted direct budgetary aid to support the mining of coal resources in existing mines. This covered the initial investment costs, fixed capital expenditure related to infrastructure work and the equipment necessary for obtaining coal resources in existing mines. This one-off subsidy of €53 million was only provided in 2010 (OECD, 2015). It is not included in the annual average subsidy estimate as it has been phased out.
- **Aid for coal mine decommissioning (continuing: 1991 onward):** This measure was introduced by the Polish government in 1991, with the aim to make the coal-mining sector profitable. This has enabled the government to cover the costs of dismantling equipment and ensuring that coal mines are protected from water, gas and fire hazards. Government documents suggested that the measure would be continued until at least 2015, but records of OECD estimates of the subsidy are only available up to 2011 (OECD, 2015).
- **Aid for employment restructuring (continuing: 1993 onward):** The employment restructuring programme was introduced in 1993 to reduce unemployment in the mining sector. It supports the re-employment of younger miners in other sectors, as well as the provision of welfare benefits to laid off workers.
- **Early retirement benefits for laid off miners (continuing: 1994 onward):** The government provides direct government support to laid off miners who have five years or less of remaining service, in the form of early-retirement benefits.
- **Rehabilitation of regions damaged by coal mining (continuing: 1994 onward):** This subsidy is provided to support both the rehabilitation of regions damaged by coal-mining, as well as the reactivation of abandoned coal mines. OECD estimates of this subsidy are available only for the years 2006 to 2011 (OECD, 2015).
- **Coal allowances in coal mining sector (continuing: dates not available):** The government provides subsidies to miners, both serving and pensioned, in the form of free coal. As most miners have access to distributed heating systems, the free provision of coal is now being phased out and replaced by cash equivalents (OECD, 2015). The table below includes the OECD estimate for this subsidy, which only covers the share of the subsidy paid by the state.
- **Free emission allowances under the EU ETS (continuing: 2005 onward):** Article 10c of the EU Emission Trading Scheme (ETS) Directive allows lower-income EU Member States from Central and Eastern Europe to give free allowances under the ETS to electricity installations on the condition that they invest at least the equivalent monetary value of free allowances in the modernisation and diversification of their energy systems (Carbon Market Watch, 2016). However, the derogation has mostly been misused to subsidise existing and new coal power plants in Central and Eastern Europe. Between 2013 and 2019, the market value of the free allowances allocated to Poland were estimated at €7.4 billion. According to Carbon Market Watch (2016), 82% of Poland's total investments through Article 10c focus on fossil fuel capacity modernisation. Considering the prominent role of coal in Poland's energy mix, it is likely the biggest share of these investments benefit coal. The support provided includes investments in Belchatów, which is Europe's largest coal power plant and its biggest polluter (Carbon Market Watch, 2016).
- **Subsidies to the co-firing of biomass in coal plants (continuing: 2007 onward):** Under the Green Certificate System, producers of renewable energy were able to claim green certificates, including for the co-firing of biomass in coal plants. The rapid increase in biomass co-firing created an oversupply in green certificates, causing their value to drop significantly. Between 2005 and 2015, an estimated €2.3 billion was transferred to power plants, which produced energy from co-firing with coal. This constituted approximately 35% of all renewable energy support granted by the Polish government during this time frame (Wiśniewski, 2016). The Renewable Energy Supply Act, introduced in 2015, replaces the certificate system and supposedly halves subsidies for the co-firing of biomass (apart from for dedicated co-firing installations) (Norton Rose Fulbright, 2015). Nonetheless, a study suggests the new auction system set to replace the certificates still seems to favour co-firing in coal-fired power plants over renewable energies (Wiśniewski, 2016).
- **Stranded Costs Compensations (continuing: 2008 onward):** The government introduced this subsidy in 2008 as a replacement for Power Purchase Agreements (PPAs), which were subject to an in-depth investigation by the by the Directorate-General for Competition of the European Commission in 2005. It covers losses made by coal-fired power plant operators when revenue is not sufficient to cover the costs of coal-fired power production, which implies that the state bears the risks of production normally borne by power plant operators. It is financed with a fund made up of levies on consumer bills and is run by a special purpose state-owned company (OECD, 2015).
- **Operational Capacity Reserve (continuing: 2014 onward):** Poland launched the Operational Capacity Reserve

(OCR) at the beginning of 2014 as an interim measure before the introduction of the capacity market, with the stated objective of ensuring electricity system stability. It was introduced in response to oversupply of capacity, leading to low prices and the resulting concern that some plants would no longer be profitable and subsequently stop operating (Bayer et al., 2015). In 2016, the Polish government budgeted €115 million (500 million zloty) for OCR payments (Towarzystwo Obrotu Energia (TOE), 2016). It is unclear what share of these payments would benefit coal-fired power. However, considering it accounts for more than 80% of Poland's electricity production, it is plausible that a vast share of the payments are for this form of power production. Research by the Regulatory Assistance Project (Bayer et al., 2015) shows that the mechanism has increased costs to consumers, while it has failed to address electricity system stability problems.

- **State aid to support closure of coal mines (new: 2015 to 2018):** In November 2016, the European Commission approved €1.8 billion in state aid planned by the Polish government to alleviate the environmental impact of closing uncompetitive coal mines by 2018. This will be used to support workers who have lost – or will lose – their jobs because of the closures. It will be used to provide severance payments, compensatory pensions and social security benefits. In addition, the money will be used to support the decommissioning of mine infrastructure and to re-cultivate the land after mine closures.
- **Intervention Cold Reserve (new: 2016 to 2019):** The Intervention Cold Reserve (ICR), a strategic reserve, was introduced at the start of 2016 (TOE, 2016). Like the Operational Capacity Reserve, it is meant to function as an interim measure until the introduction of the capacity market, with the stated objective of ensuring electricity system stability. It is made up of old coal plants that were scheduled for retirement, but for which retirement has been postponed to address electricity system stability concerns. However, it can only be activated with advance notice, as the units typically require eight to ten hours to warm up before they can start operating. Bayer et al. (2015) estimate the maximum annual cost

of maintaining the strategic reserve at €40 million (174 million zloty).

- **Capacity market (proposed: 2017):** Poland is in negotiations with the European Commission over its proposed capacity mechanism, which, according to Krzysztof Tchorzewski, Poland's Energy Minister, will be necessary to “help coal-fired power plants compete with producers of renewable energy” and to avoid power shortages (Euractiv, 2016). The minister takes the view that this would help build and modernise coal infrastructure. As proposed by the Ministry of Energy, the capacity market is set to cost up to 73.5 billion Zlotys (€16.8 billion) between 2021 and 2035, increasing energy bills for average households by an average of €71.80 (310 Zlotys) a year: a 20% rise (Client Earth, 2017). If the scheme were to go ahead, this could lead to a significant increase in subsidies to coal, with the risk that this will prolong the lifetime of coal power plants.
- **Research and development budget for coal (continuing):** According to IEA data, the Polish government spent an average of €17.5 million a year on coal-related research, development and demonstration between 2009 and 2013 (IEA, 2016).

4. Opportunities to phase out subsidies to coal and coal-fired power in Poland

Despite commitments to phase out fossil fuel subsidies, and despite the urgency of moving away from coal production and use for climate, health and economic reasons, Poland's coal subsidies remain substantial. Even more so, the government has recently introduced new support in an attempt to save coal-fired power production in the context of deteriorating economic conditions. This means Poland should refrain from introducing new coal subsidies and should phase out its existing subsidies that extend the lifetime of coal assets. In the transition away from coal, subsidies to support its phasing out may be necessary. Poland already has significant subsidies that are meant for this purpose. While it is likely to be necessary for support to manage the transition to continue being provided, these subsidies should also be proportional and limited to a set period.

Table 1. Existing and new measures that support coal

Measure	Subsidy type	Stage	Fuel	Annual estimate (€ millions)	Year(s) for which estimate calculated	Source
Aid for coal mine decommissioning (1996-)	Budgetary support	Coal mining	Hard coal	53.0	2006-2011	OECD (2015)
Aid for employment restructuring	Budgetary support	Transition support	Hard coal	44.0	2006	OECD (2015)
Early retirement benefits for laid off miners	Budgetary support	Transition support	Hard coal	5.7	2006-2011	OECD (2015)
Rehabilitation of regions damaged by coal mining	Budgetary support	Decommissioning and environmental rehabilitation	Hard coal	6.2	2006-2011	OECD (2015)
Coal allowances in coal-mining sector	Direct budgetary support	Households (coal miners)	Hard coal	9.5	2006-2014	OECD (2015)
Article 10c derogation	Budgetary support	EU ETS	Coal power plants	Not available*	Not applicable	Carbon Market Watch (2016)
Co-firing of biomass in coal power plants	Budgetary support	Biomass co-firing	Coal power plants	Not available	Not applicable	EC (2016)
Stranded costs compensations	Budgetary support	Coal mining	Hard coal	336.1	2008-2014	OECD (2015)
Operational capacity reserve	Budgetary support	Capacity mechanism	Coal-fired power plants (other)	Not available **	Not applicable	TOE, 2016
State aid to support the closure of coal mines (new)	Budgetary support	Transition support and decommissioning and environmental rehabilitation***	Coal mines	447.5	2015-2018	EC (2016)
Intervention cold reserve (new)	Budgetary support	Capacity mechanism	Coal-fired power plants (other)	Not available****	Not applicable	Bayer et al. (2015)
RD&D Budget for coal	Budgetary support	Research and Development	Coal	17.5	2009-2014	IEA(2016)

*These free allowances were valued at €7.4 billion between 2013 and 2019. Poland primarily uses these free allowances to support hard-coal plants, followed by gas and nuclear, but it is unclear what share exactly benefits coal or the other energy sources.

**A total of €115 million (500 million zloty) was provided for OCR payments for all energy sources in 2016.

*** Value split evenly across two categories

****The maximum annual cost of maintaining the strategic reserve is estimated at €40 million (174 million zloty).

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For the purpose of this country brief, subsidies to coal include: direct spending, tax expenditure and other support mechanisms (e.g. capacity mechanisms). Where information is available, estimates for all of these categories are included in the national subsidy total for each country and in the country briefs.

The policy briefing provides a more detailed discussion of the methodology used for the country briefs. The authors welcome feedback on both this country study and the policy brief to improve the accuracy and transparency of information on coal subsidies.

A data spreadsheet summarising coal subsidies data for the 10 European countries reviewed is available here: odi.org/coal-subsidies-Europe.



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