“Every breath you take”: Reducing exposure to environmental health risks in Poland

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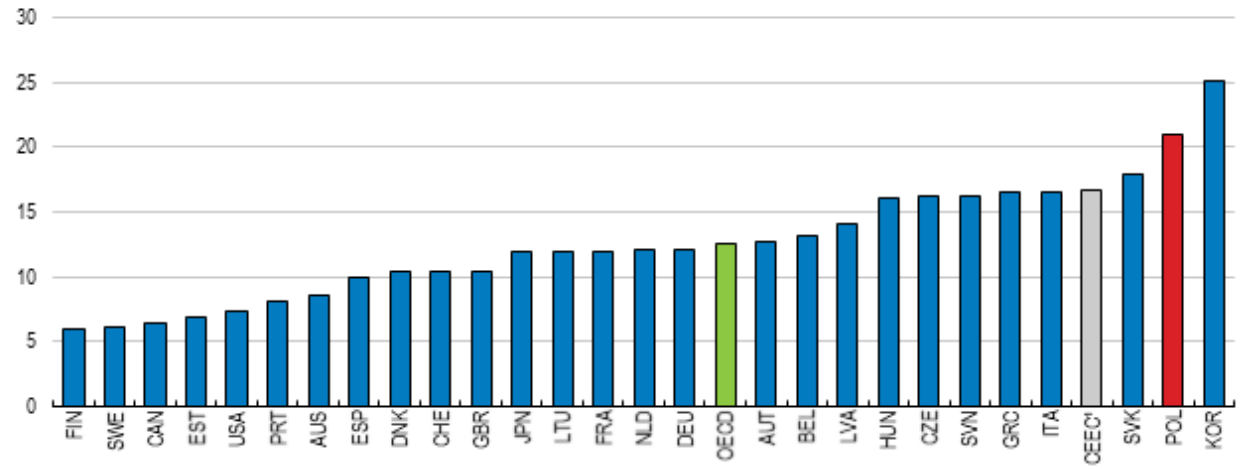
The COVID-19 crisis has spotlighted Poland’s environmental challenges, notably the heavy air pollution at which the Polish population is exposed, as it makes individuals more vulnerable to acute respiratory illnesses and to the ongoing sanitary crisis. As the government prepares its recovery plan to revive the economy in the aftermath of COVID-19, there is a unique opportunity to bring forward needed public investments into clean energy projects. “Green” investment projects would not only stimulate employment and aggregate demand, but also make growth more sustainable in the longer-term. The newly agreed “Next Generation EU” recovery plan will have dedicated funds to support the transition to climate neutrality and Poland should grasp the opportunity to enhance the resilience of its economy and society. The newly published 2020 OECD Economic Survey of Poland provides some advice on policies that could help supporting the transition to a greener and fairer economy.

Poland has made little progress to improve air quality. In many cities and regions, the level of atmospheric pollution remains well above the limits established in the European Union Air Quality Directive: an alarming 36 out of 50 most polluted European cities are located in Poland. The population exposure to fine particles is among the highest in the OECD (Figure 1), which causes a variety of adverse health outcomes and premature deaths (WHO, 2019).

Figure 1. Mean population exposure to air pollution (PM2.5)
Micrograms per cubic metre, 2017



1. CEEC is the average of Hungary and the Czech and Slovak Republics.
   Source: OECD (2020), OECD Green Growth Indicators (database).

The residential sector is responsible for high air pollution and levels of energy consumption. The burning of poor-quality coal, wood, or even waste, in old boilers used to heat individual houses is the main contributor for the high level of particulate matter in the air. The incomplete combustion of solid fuel in low-efficiency stoves and lamps used for cooking and lighting also releases a significant amount of fine particles. Moreover, a large share of the existing residential and commercial buildings date back from before 1990 and have poor thermal insulation. As a result, space heating requires a significant amount of energy and there is a lot of heat loss through the building envelope. In fact, the energy intensity of space heating in Poland is one of the highest among European Union (EU) countries.

The transport sector is another key driver of air pollution. In 2018, the average vehicle age in Poland was 14 years, compared to 11 years in the European Union. That same year, 80% of passenger cars in Poland’s roads were more than 10 years old (European Commission, 2019). The average CO2 emissions from new passenger cars sold in Poland are among the highest in Europe. In 2019, only 0.5% of newly registered

passenger cars were electric vehicles, compared to an average of 3.6% in the European Union (International Council on Clean Transportation, 2020). Polish authorities have set welcome and ambitious targets to increase the fleet of electric vehicles in the coming years. These targets should be met. In June this year, the government made efforts in that sense and introduced Poland's first fiscal incentive programme for the purchase of cleaner cars.

Progress to decarbonise electricity production in Poland has also stalled over the past few years. Coal still accounts for around 78% of gross electricity generation, compared to about 25%, on average, in other Visegrád countries and the OECD. Furthermore, most Polish coal-fired power plants are over 25 years old. The industry lags behind in terms of production efficiency and in the adoption of new technologies that could reduce the emission of pollutants.Coal mining is another source of air pollution as it releases fine particles in the air, such as dust, soot and smoke, which can be carried to nearby towns by the wind. Despite all the environmental challenges implied, Poland is still one of the largest coal producer in the world. The authorities have recently agreed to phase out coal mining by 2049, but plan to continue subsidising coal production until then (European Council for an Energy Efficient Economy, 2020).

Polish authorities need to step-up their efforts to improve air quality and reduce the health risks associated with ambient air pollution. The latest OECD Economic Survey of Poland establishes three policy priorities that can boost Poland's transition to a greener economy and, in particular, bring the country on the path to meeting higher air quality standards:

1. ***Support building renovation to improve energy performance in the residential sector.***

Two years ago, the government introduced a programme to offer

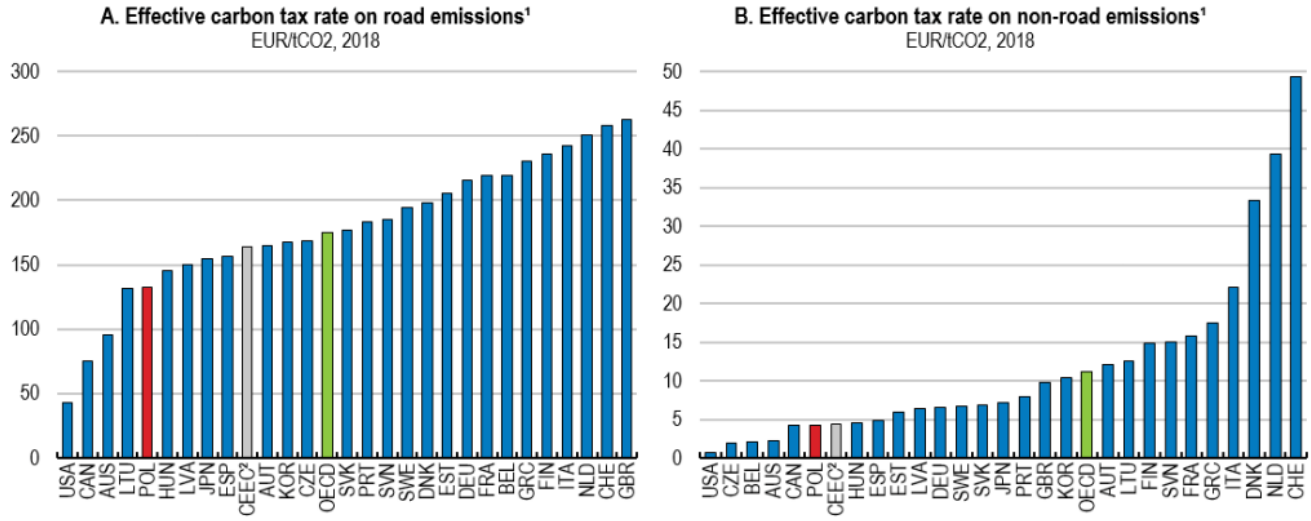
means-tested financial grants and loans for the replacement of obsolete stoves and for thermal retrofits to single-family houses. However, the take-up rate has been far much lower than anticipated. Complex application procedures and low income-threshold for the highest grants have been pointed as possible reasons for the low take-up.

Polish authorities could consider extending nationwide the recently introduced anti-smog regulations in some regions ("voivodeships") that aim at limiting the burning of fossil fuels in furnaces, as well as introducing fines for noncompliance. Continuing to simplify the administrative procedures associated with the loans and grants for replacing old heating and cooking equipment as well as easing access for low-income households would help to increase take-up. Expanding the use of smart meters would also contribute to reduce the energy consumption of the residential sector. Finally, improving the energy standards for new buildings (e.g. more stringent building energy codes, additional performance-based requirements or more demanding energy performance certificates) and imposing minimum requirements for the creation of reserve funds in multi-flat buildings dedicated to building renovation and thermal insulation, could significantly improve buildings' energy efficiency.

2. ***Increase the effective tax carbon rate and the pricing of environmental externalities.***

Tax rates on energy use in the residential sector and the electricity excise tax are low for international standards. Furthermore, there are several exemptions from energy taxes, such as from the tax on coal in the agricultural sector, from the tax on coal for households' consumption, and from the coal and gas excise duties in some energy-intensive industries. Poland is also one of the very few OECD countries without a specific CO2-related vehicle tax and diesel is still taxed at a lower rate than petrol. Overall, this results in low carbon prices on road and non-road GHG emissions (Figure 2).

Figure 2. Effective carbon tax rates



1. 2018 tax rates as applicable on 1 July 2018. The average effective carbon tax rate in 2015 is expressed in 2018 prices. CO2 emissions are calculated based on energy use data for 2016 from IEA (2018), World Energy Statistics and Balances. Emissions from the combustion of biofuels are included. The scale of the horizontal axis differs between Panel A and Panel B. Note that changes in average effective tax rates over time are also affected by inflation, exchange rate fluctuations, and changes in the composition of the energy mix. In Chile, the average effective carbon tax on non-road emissions is due to the Green Tax. Due to data limitations, the figure does not show the average effective carbon tax rates in 2015 for Argentina, Canada, Colombia, Lithuania, and the United States.

2. CEEC is the average of Hungary and the Czech and Slovak Republics.

Source: OECD (2019), *Taxing Energy Use 2019: Using Taxes For Climate Action*, OECD publishing, Paris.

To encourage the takeup of greener technologies, the government should progressively phase out exemptions to energy taxes and gradually increase explicit carbon taxes, while using the generated revenues to support the transition of low-income households towards greener technologies and increase social adhesion.

3. ***Improve the regulatory environment surrounding the production and distribution of renewable energy.***

Stringent regulation prevents the use of larger and more efficient turbines to generate electricity from onshore wind. The development of offshore wind, on the other hand, is held back by low energy transmission capacity, especially in the northern part of Poland. Frequent changes in regulations create a lot of uncertainty and reduce incentives for private investment in renewable energies.

A stable regulatory environment and further incentives to develop alternative sources of energy would help to reduce the reliance on coal for energy production. The renewable energy sector can quickly absorb capital investments and generate

employment in both construction and manufacturing.

Further reading:

European Commission (2019), The Environmental Implementation Review 2019, Country Report – Poland, April 2019.

European Council for an Energy Efficient Economy (2020), Poland Agrees to shut coal mines by 2049, EurActiv News, 26 September 2020.

European Environmental Agency (2019), Tax breaks and incentives make Europeans buy cleaner cars, 12 April 2018, Last modified 10 December 2019.

International Council on Clean Transportation (2020), Emerging electric passenger car markets in Europe: Can Poland lead the way? Working Paper 2020-19.

OECD (2020), OECD Economic Surveys: Poland 2020, OECD Publishing, Paris, https://doi.org/10.1787/1999060x

World Health Organization (2019), Health consequences of air pollution on populations, 15 November 2019.