

Poland at a crossroad:

Move into a green energy future now, or stay dependent on dirty fossil fuels for decades?

November 2013

The host of this year's UN Climate Talks has a once-in-a-generation opportunity: much of Poland's coal-fired power-plants is overaged and will need replacement over the coming years. So it's now that the country needs to make the choice: Do we keep relying on dirty, dangerous, and increasingly costly fossil plants? Or do we substitute the old, dirty plants with clean renewable energies?

The Polish Government apparently already made its choice: It relies blindly on coal as the country's main energy source, ignoring its catastrophic impacts on world climate, environment, and on the health of people¹.

This briefing introduces Poland's energy situation and sheds light on the energy policies it pursues both domestically and in the European Union (EU). It also puts forward recommendations for improving the country's energy mix – by moving to an energy system based on renewables and energy efficiency.

The status quo: 90 percent coal – and staggering emissions

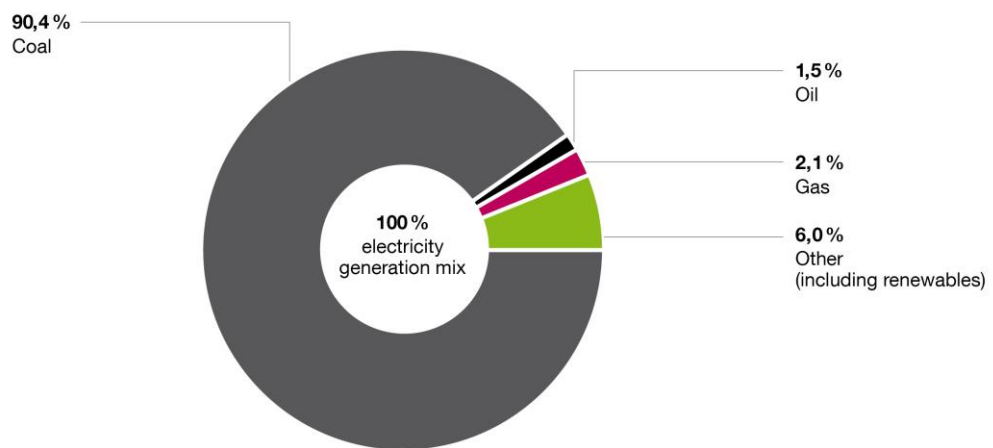
Poland's energy mix today is dominated by coal. The dirtiest of all fossil energies generates a staggering 90 percent of the country's electricity. Until 1989 this could be attributed to the country's communist heritage. In this era investments were focused on coal-fired power generation. However since then, Polish governments have failed to steer the country out of its dirty past. The sources of power have remained largely unchanged.

As a result, Poland's greenhouse gas (GHG) emissions are high. Misleadingly, by 2011, the country could claim to have reduced emissions by 29 percent compared to 1988 (the Kyoto

¹ See http://greenpeace.pl/wegiel_zabija/index.php?page=raporty

base year). But these reductions were largely due to the closure of industrial facilities shortly after the collapse of the Soviet regime. Since Poland ratified the Kyoto protocol in 2002, its GHG emissions have actually risen by 8.2 percent. Over the same period, the other three Visegrad countries have reduced their emissions: the Czech Republic by 5.7 percent, Hungary by 15.4 percent, Slovakia by 11.5 percent.

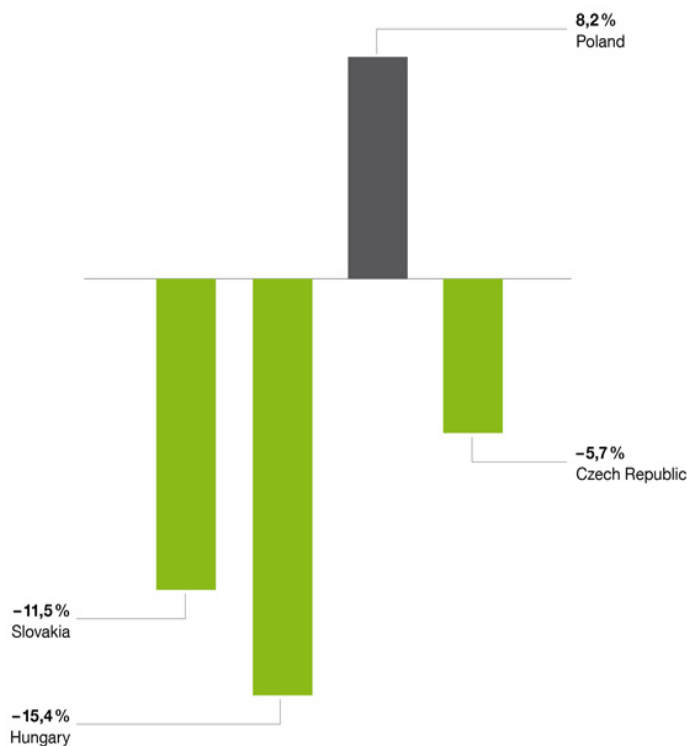
Poland's electricity generation mix



Output shares (%) in electricity generation. Countries – Poland, 2011 Review

Greenpeace Graphics; Source: IEA Energy Policies of IEA; 10/2013

GHG emissions change 2002 – 2011



Greenpeace Graphic; Source: UNFCCC; 10/2013

Polish government possibilities: replace a dirty, dangerous Yesterday with a cleaner, greener Tomorrow

Poland's power plants are aging². A significant number of them are expected to be decommissioned soon. It is the type of replacement the government chooses now, that will determine Poland's power mix for the coming decades. If the unavoidable investments are channelled into renewable energies and energy efficiency, the result could be significant: independent energy experts say, Poland could have a 19 percent share of renewable energy by 2020, and a 35 percent share by 2030³. According to different estimates, the country's overall emissions could be reduced by 40 percent by 2030 (compared to 1988)⁴, while energy-related emissions could be reduced by 50 percent (compared to 1990)⁵. A shift to renewables would also create 108,600 direct jobs in the renewable energy sector – equal to Poland's current workforce in the coal industry. At the same time, coal power plant capacity could be halved from currently 120 TWh to 60 TWh⁶.

The government's plans: stick with the dirty, dangerous Yesterday

The current Polish government leaves no doubt as to which path they plan to pursue: a dozen large coal fired power-plants are currently in the planning stages. They will potentially add over 100 million tonnes of CO₂ emissions, thus increasing to Poland's annual carbon footprint by a third⁷. During a public speech in September⁸, Polish Prime Minister Tusk confirmed his intentions to stick to coal. The Polish Ministry of Economy will host the World Coal Association's Coal and Climate Summit in parallel with the climate negotiations⁹. Poland is risking to be left with an outdated energy system, rising fuel costs and – most tragically - with the missed opportunity to build a clean domestic energy industry granting the country a sustainable future.

Polish energy policy: blocking the way into a cleaner tomorrow

The Polish government has a long and ugly history of opposing an energy system based on

² Around 70 percent of Polish power plants are over 30 years old, 40 percent over 40 years old, and 15 percent over 50 years old.

³ Institute for Sustainable Development (2009), Poland's Alternative Energy Strategy until 2030, http://www.ine-isd.org.pl/theme/UploadFiles/File/projekty/ekoherkules/APE_final_document.pdf

⁴ Bukowski et al (2013). Niskoemisyjna Polska 2050. Instytut Badan Strukturalnych & Instytut na rzecz Ekorozwoju. Warszawa 2013. <http://np2050.pl/pl/raport/r3-czesc-iii-niskoemisyjna-energetyka>

⁵ Energy [Revolution]. Greenpeace et al 2013. http://www.greenpeace.org/poland/PageFiles/559373/Greenpeace_Rewolucja_Energetyczna.pdf

⁶ Ibid.

⁷ World Resources Institute. 2012. Global Coal Risk Assessment. <http://www.wri.org/publication/global-coal-risk-assessment>

⁸ <http://www.thenews.pl/1/12/Artykul/146850,-Poland-will-stick-with-coal-PM-pledges>

⁹ Poland's Deputy Prime Minister to open International Coal & Climate Summit – Warsaw. <http://www.worldcoal.org/extract/polands-deputy-prime-minister-to-open-international-coal-climate-summit-warsaw-2551/> Accessed October 9 2013.

efficiency and renewables. Under the EU Renewable Energy Directive, Poland must have a 15 percent share of renewable energy by 2020. Up until today, though, Polish governments have failed to transpose and implement this directive, leading to infringement proceedings by the European Commission¹⁰. The government's main energy strategy, the Energy Policy of Poland until 2030 (EPP 2030), adopted on November, 10, 2009, is a clear statement to rely on coal.

Not only is the Polish government blocking investments in clean power generation (solar, wind and small scale biomass), but it also aims to deliver renewable targets by burning biomass alongside coal in existing coal plants. The International Energy Agency¹¹ has warned that this approach is unbalanced and that additional policies and support are required to boost other renewable sources, such as onshore and offshore wind. The EPP 2030 aims to increase the share of renewables by a meagre one percentage point between 2020 and 2030. For electricity, the plan actually aims to decrease the share of renewables, from 20.2 percent in 2025 to 18.8 percent in 2030.

On the European level, the Polish government has regularly attempted to oppose measures to mitigate climate change. For instance, the government

- has repeatedly vetoed the EU debate on more ambitious climate action,
- has said in its position¹² prepared for the recent European Commission public consultation on the EU 2030 climate and energy framework that European targets can only be discussed when a global deal is reached. The reality is however the opposite: only by the Polish government stopping to block the progress at the EU level can the EU play a constructive role at the international negotiations, leading to a meaningful climate deal. The current position of the Polish government on European targets is de facto holding the EU back - and consequently global climate action hostage,
- will oppose any new EU climate and energy targets for 2030¹³,
- has vehemently opposed the measures to cut emissions in the discussions between member states on the 2020 climate and energy package,
- managed to negotiate transitional free allocations for its power sector with the hope that these would allow state aid for the construction of new coal-fired power plants (a decision of the European Commission last year blocked the state aid),

¹⁰ http://europa.eu/rapid/press-release_IP-13-259_en.htm

¹¹ IEA (2011), Energy Policies of IEA Countries - Poland, 2011 Review.

¹² European Commission, 2030 climate and energy policy framework Green Paper Public consultation webpage (2013) - http://ec.europa.eu/energy/consultations/20130702_green_paper_2030_en.htm

¹³ Poland to Fight Brussels on More Ambitious CO₂ targets. <http://stream.wsj.com/story/latest-headlines/SS-2-63399/SS-2-338582/> Accessed October 9 2013.

- has failed to implement numerous EU directives relating to renewable energy, climate action and the opening up of national gas and electricity markets.

Poland is isolating itself, thus missing out on the growth a new industry

Poland increasingly stands alone with its obstructive stance towards reducing emissions. The Polish government risks high fines imposed by the European Court of Justice for non-compliance¹⁴. While Poland has delayed the indispensable reform process of its energy system and weakened the credibility of EU's climate policy, it has also clearly isolated itself.

The Polish government claims the costs of a European climate and energy policy are too high. This is not true. In fact, the net costs of further EU climate ambition are not high at all for the country: according to an analysis by Bloomberg New Energy Finance¹⁵, a step up to a 30 percent EU emission reduction target for the year 2020 would result in a benefit (total net saving) of €97 to €338 million in 2020 for the Polish economy.

Efficiency and energy savings: plenty of untapped potential

Poland's potential to increase efficiency and energy savings is high: the amount of energy used per unit of GDP currently stands at more than double the EU average. However, most of this potential remains untapped. So far, government efforts have been weak: for instance, energy efficiency laws published in 2011 do not require renovations of public buildings to include measures to improve efficiency.¹⁶

There isn't much ambition for the coming years, either: the Energy Policy of Poland for the year 2030 (EPP 2030) merely aims to reach the level of energy intensity that the highest income countries in the EU already achieved in 2005. And even this target is unlikely to be met, since the EPP 2030 also projects primary energy demand to grow by 21 percent over the same period. As long as the government fails to incentivise energy efficiency measures through robust legislation, the potential will remain untapped.

How lignite mining is threatening the environment and livelihoods

The Polish government is planning to open or extend several lignite mines. Lignite is the dirtiest of all fossil energy sources and therefore the most dangerous one for the climate. Open-cast

¹⁴ Poland could violate law with new power plants – EU climate chief. <http://www.rtcc.org/2013/09/30/poland-could-violate-law-with-new-power-plants-eu-climate-chief/> Accessed on October 8 2013.

¹⁵ Bloomberg New Energy Finance (2012), The cost of meeting a 30 percent emission reduction target in Europe <http://www.bnef.com/WhitePapers/download/74>

¹⁶ Research from the Central European University demonstrates that up to 84 percent of energy for heating buildings could be saved through a retrofit programme. Central European University (2008), Employment Impacts of a Large-Scale Deep Building Energy Retrofit Programme in Poland, http://www.chronmyklimat.pl/theme/UploadFiles/File/2012_pliki/04/streszczenie_eng.pdf

mining means destroying huge parts of the natural landscape - and expropriations. If the current plans go ahead, up to 16 000 people would need to be resettled. The mines would prolong the country's dependency on coal for the next 100 years, releasing several thousands of millions of tons of CO₂. The Polish reserves of lignite, in the planned mining areas, are estimated as 20 300 million tons (Region Dolnośląski: ca. 14700 million tons, Region Lubuskie: ca. 4200 million tons, Region Łódzkie: ca. 1100 million tons, Region Wielkopolskie: ca. 300 million tons¹⁷). For comparison, the lignite resources in the areas that are being mined at present are 1450 million tons.

Case: Opole coal power plant

The Polish Prime Minister, Donald Tusk, is currently preparing a flagship project in the South of Poland (two new units at the Opole coal power plant). He is doing this even though the project has been found uneconomic to the extent that PGE, the energy company that owns the current unit, did not want to proceed with it¹⁸. Each of the new units would emit 1.5 billion tonnes of CO₂ over the next 55 years¹⁹. The project is in direct violation of EU regulations, as the units' ability to incorporate CCS technology has not been assessed²⁰. The CCS technology is highly risky and won't be a solution for mitigating CO₂ anyway.

Burning coal does not equal energy independence

Polish politicians often argue that coal secures Polish energy independence. However, the country is increasingly dependent on coal imports: these rose over five-fold between 2002 and 2011 – from 2771 to 15 123 thousand tons²¹. In 2008, Poland became a net importer of coal²² with estimated annual import costs of about €1.5 billion (in 2008). The country's coal mining sector is in decline, and between 2006 and 2010, domestic production of coal and lignite dropped by almost a fifth²³. Coal imports from Russia accounted for 70 percent of total coal imports in 2009²⁴, adding to Polish dependence on Russian fossil fuel imports. Between 1999 and 2009, Poland saw the greatest increase in energy import dependency among EU countries:

¹⁷ Z. Kasztelewicz, W. Koziol, M. Ptak, S. Modrzejewski, Zagrożenia dla bezpieczeństwa energetycznego przez ograniczoną dostępność do złóż węgla brunatnego (Dangers for energy security due to limited availability of lignite deposits), *Węgiel Brunatny*, 2010, 2/71; <http://www.ppw.org.pl/wb/71/8.php>. All values round to +/- 50 million tonnes.

¹⁸ Rozgrywka o Elektrownię Opole. Tusk wyrzuci Kiliana? <http://www.wprost.pl/ar/413357/Rozgrywka-o-Elektrownie-Opole-Tusk-wyrzuci-Kiliana/> Accessed October 8 2013.

¹⁹ Poland could violate law with new power plants – EU climate chief. <http://www.rtcc.org/2013/09/30/poland-could-violate-law-with-new-power-plants-eu-climate-chief/> Accessed October 8 2013.

²⁰ Ibid.

²¹ Eurostat statistics database. Title: Supply, transformation, consumption - solid fuels - annual data. Code: nrg_101a.

²² Okłulski T. *Polityka energetyczna* Tom 13 (2): 365 – 375, Instytut Gospodarki Surowcami Mineralnymi i Eenergia PAN, Zakład Ekonomiki i Badan Rynku Paliwowo-Energetycznego, Kraków.

²³ *Eurostat Energy Balance Sheets 2008-2012*.

²⁴ IEA (2011), *Energy Policies of IEA Countries - Poland, 2011 Review*.

imports rose from 9.8 to 31.7 percent of total energy consumption²⁵.

The sustainable way forward: Energy [R]evolution

Poland's coal dependence is not a given, but a result of misguided energy policies and neglected opportunities to foster investment in clean energy and energy efficiency. Poland's coal-focused strategy is, in fact, increasing its dependency on foreign energy imports. These policies can and must be reversed. The Polish government must first and foremost stop blocking efforts on the European level to cut emissions. Moreover, the government must speedily transpose the EU Directives it has agreed to earlier, including the EU Renewable Energy Directive and the third energy package.

Investments in coal and lignite mining and combustion must be abandoned, and incentives for renewable energy and energy efficiency strengthened. Only by starting the modernisation of its energy sector and ceasing to obstruct the EU 2030 climate and energy framework can the Polish government be considered a credible host for the UN Climate Talks.

For further information, please contact:

Iwo Łoś - climate and energy campaigner, Greenpeace Poland,
iwo.los@greenpeace.pl, tel. +48 513 172 537 (coal and lignite)

Anna Ogniewska - climate and energy campaigner, Greenpeace Poland,
anna.ogniewska@greenpeace.pl, tel. +48 506 124 689 (renewables)

Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace. Greenpeace does not accept donations from governments, the EU, businesses or political parties.

²⁵ Eurostat (2011), Energy, transport and environment indicators 2011 Edition.