

Poland in the International Climate Policy - By Gabriela Michałek and Reimund Schwarze [PL/EN]

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Wind farm in Poland (Karolina Kabat, Creative Commons)

Poland in the international climate policy

On the 5th of June 1992 Poland signed the United Nations Convention on Climate Change (UNFCCC), known as the 'Rio Convention', acknowledging the necessity of a "*...stabilization of greenhouse gas concentrations in the atmosphere at the level that would prevent dangerous anthropogenic interference with the climate change system*" (UNFCCC 1992, Art. 2, p.4). Poland was also a signatory to the Kyoto Protocol adopted in Japan in 1997 that set binding commitments to reduce GHG emissions on average by about 5% below 1990 emission level between 2008 and 2012 (UNFCCC 2014). However, Poland's position in the Kyoto Protocol was particularly favorable: it has been listed as a developed country together with other Western European economies in the Annex I. On the other hand, Poland was acknowledged as a economy in transition and thus could freely choose the base year for emission reductions. Consequently, Poland's emission reduction target in the first commitment period

amounted to 6% in reference to the 1988 emission level. In fact, already in 2004 Polish territorial emissions (excluding emissions from land use and forest) decreased by far below that number (reduction of about 30%) which could be easily achieved due to the transition from inefficient centrally planned to market driven economy and respective modernization measures (Ministry of the Environment, 2006). Russia and other East European countries experienced similar developments which led to the problem of a significant surplus of tradeable emission units (Assigned Amount Units – AAU), called 'hot air'. Beside that problem, the Kyoto Protocol has been plagued by a phenomenon called carbon leakage describing an increase in emissions in the unregulated area (in this case Non-Annex B countries without binding reduction commitments) due to climate policy in the regulated area (Annex B countries). In particular, its 'weak' form – carbon embedded in the net emission imports – undermined some of the ambitious mitigation efforts of the developed countries (Aichele and Felbermayr 2012, Peters et al. 2011).

The successor of the Kyoto Protocol, the Paris Agreement negotiated at the end of 2015, is supposed to overcome problems resulting from the fragmentation of the international climate policy. Its flexibility and voluntary character of the national emission pledges, known as Nationally Determined Contributions (NDCs), enabled for an unprecedented consensus on the climate protection among all participating 195 countries and European Union (EU). However, it is already known that pledged NDCs will be insufficient to fulfill the laudable goal of the Paris Agreement to keep the global warming *"well below 2 °C above pre-industrial levels"* (UNFCCC 2105, Paris Agreement Art. 2.1 lit. A), not to mention the even more ambitious goal of striving for 1.5 °C temperature increase pushed by the "high ambition coalition" composed of the majority of participants, incl. small and particularly vulnerable island states and African countries, but also the EU and USA. Many scientists believe that in order to do so we have to achieve 'negative emissions' by using new and often risky technologies that ultimately remove GHGs from the atmosphere (Smith et al. 2015). Examples of such technologies include geoengineering or carbon capture and storage (CCS).

Poland as an EU member-state showed solidarity with other member states during the Conference of Parties (COP) 21 in Paris, but its stance on coal protection, strongly supported by other countries such as Russia or India, has been reflected in the Agreement. Instead of decarbonisation, the Paris Agreement speaks of climate neutrality (*'balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases'* UNFCCC 2015, Paris Agreement, Art.4.1) which allows for offsetting emissions (e.g. by planting forests) without ruling out the use of coal. This was particularly important to fossil-fuel rich Poland where in 2013 over 80% of its electricity was produced from coal (Rynek energii elektrycznej, initial source: Rocznik ARE Statystyka elektroenergetyki polskiej). Poland's reliance on coal is not going to end soon as the country plans to invest in new coal plants. The official document on the Polish energy policy up to 2050 makes it clear that coal will not disappear from the national energy mix; in the electricity production sector it should still make up about 57% in 2030 and decrease to 38% in 2050. Such scenario denotes a significant change in the current status quo and a convergence towards EU climate goals. It is, however, based on the bold assumption that nuclear power will satisfy a considerable share of the national energy needs by that time (Ministerstwo Gospodarki, 2015, Table 5, p.6).

Polish energy policy and respective behaviour in the climate and environmental policymaking is mostly motivated by energy security and independence from the imports from Eastern countries. Those energy policy

priorities are reflected in the Eurostat data according to which in 2013 Poland was the fourth least energy dependent country in the EU just behind Estonia, Denmark and Romania (Eurostat News Release 2015). But Poland's clinging to coal is also connected to a long tradition of coal mining in Poland as well as the strong position of the labor unions. Thus, it is not surprising that Poland has been actively engaged in research and demonstration projects related to the so-called clean-coal technologies (CCT) and CCS (Carpenter 2014). However, modernization of the coal plants and research on CTT and CSS (whose deployment on a large scale still remains questionable) will not be sufficient to fulfill Poland's obligations as a EU member towards 2030 Climate and Energy Framework. According to that regulation (which is at the same time the basis for EU NDC) members states are required not only to cut EU emissions by 40% until 2030 in reference to the baseline year 1990, but also to increase energy efficiency and the EU share of renewable energy consumption up to at least 27% (European Council, 2014). In 2013, renewables constituted only 11.25% of final energy consumption in Poland with an apparent domination of solid biomass. Until 2020 the share of renewables should grow up to about 15% of the final energy usage which is a rather modest result compared to other European countries (Ministerstwo Gospodarki, 2015 p.20), and certainly another challenge to Polish energy and climate policy.

Though the EU climate policy regulations and respective pledges in the international climate negotiations are often perceived as a threat to Polish economy and especially the energy sector, they have also a couple of important points in common with Poland's economic priorities. In fact, they offer a chance to catch up with world economic trends and green business models clearly stated by business representatives during COP21 in Paris. Investments in green innovations could be also a way for Poland to escape economic stagnation referred to as the middle income trap (World Bank 2010). Further, compliance with EU climate regulation can help to ensure energy diversification, economic modernization and innovation as well as achievement of greater energy efficiency.

Coal business is becoming more and more risky due to currently relatively low market prices and uncertain political frameworks. Future increasing restrictions imposed by the EU Emission Trading System (EU ETS) are going to make it even harder to the Polish coal-driven energy sector. In fact, coal is slowly becoming a 'liability' which can be illustrated by an example of German Lausitz lignite-fired plants recently sold by Vattenfall to a Czech consortium of EPH and PPF at a negative price resulting mostly from low power prices and future restoration costs (Reuters 2016). Modernization of the Polish coal plants will certainly help to increase energy efficiency and to reduce emissions, however, it will not reverse current market developments that put renewable energy in the foreground also with the respect to technology development and competitiveness. A good example in this respect is China, world's biggest polluter, often referred to as a "global factory". As a booming economy, China pays incredible attention to its economic growth and implications of climate policies. Similarly to Poland, China relies on coal production. Still, as a part of the Paris Agreement, China voluntarily agreed to reduce its emissions per unit of GDP by 60-65% in reference to 2005 (China's Intended Nationally Determined Contributions 2015, p.5). China's emission has already began to decrease which can be traced back to huge investments in renewables and a rapid increase in the renewable power capacity (Mathews and Tan 2014; Jackson et al. 2015). Certainly Poland can find its own way to reduce emissions in the most effective and economically efficient way, e.g. by using CCS and solid biomass. Such a mix could be described as a rather 'hard way' to meet the challenge of low-emission transformation, but still fully acceptable. One thing remains clear:

cost-efficiency will play a decisive role in the Polish climate policy model. A nuclear energy future is ruled out by such cost considerations especially if the nuclear waste storage costs are internalized.

Summarizing, Poland will have to face the challenges of the new green market trends sooner or later. The upcoming months will show if it starts a long-term transition towards green economy now or becomes stuck in the fossil fuel model.

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