

Poland's brief proposal for European Carbon Neutrality

Problem Statement

The hitherto debates have shown that all participants, regardless of their position are very passionate about climate change as well as the immanence it represents for the European Union. In this manner, the EU is aware of its leadership position in this fight against global warming which is threatening humanity. All participants agreed to set Carbon Neutrality by 2050 as the main goal, while also acknowledging that such an ambitious target brings numerous risks. Less economic competitiveness, carbon leakage and energy poverty will have to be managed collectively (CAKE, 2019). Without suitable transition funds it will pressure some economies massively, especially the younger democracies of the European Union (Chestney, 2018).

Research shows that the costs of adaptation to the new environmental policies will affect mostly countries with lower GDP per capita. By 2030, these studies suggest that these countries must each invest up to an additional €30 billion for ensuring that the emission targets are met (Wierzbowski et al, 2017). Additionally, since these countries are currently reliant on fossil fuels, their average electricity generation costs will also increase more than in the EU average (CAKE, 2019). On the national level, Poland must significantly decrease their dependence on fossil fuels and invest in other energy sources to comply with the European guidelines. Current greenhouse gas emissions are three times higher in relation to the GDP and are 18 percent higher per capita than the European Union average (WWF, 2018). 80 percent of the electricity production is based on coal which currently employs 237.000 polish citizens, whose employment would vanish without a just transition (IOS-PIB, 2018). Depending on different scenarios for the specific emission goals for 2050, these challenges will reduce Poland's forecast GDP growth by up to 1.8% and cost between €529 - 556 billion. In other words; Poland would have the highest expanse compared to other countries in the EU, (Forum Energii, 2017).

Due to this fact, it should be understandable why the polish nation is suggesting a transition mechanism, which tries to divide the burdens between those states who declare the European Union as a guarantee for solidarity. Cede single states to their individual challenging transition is endangering not only the stability of those states, but also threatens the European rudimentary beliefs.

Proposed Solution

Poland sets itself the goal of finding a synergy between actions with a positive outcome on sustainable development and emission reductions, while simultaneously maintaining the competitiveness of the economy and ensuring energy security and economic growth. Thus, we argue for policies that ensure the common European goal of Carbon Neutrality by 2050 without threatening individual national growth by national emission goals.

As we put an emphasis on energy security, the continued exploitation of our natural resources of hard coal and lignite will build the foundation of our energy mix. We propose that the percentage of fossil fuels in our energy mix should be continuously reduced to 30% by the end of 2050. The remaining 70% will be generated through nuclear energy, the increased exploitation of RES (namely wind power technology and photovoltaic). This compromise between the original Polish position and the other proposals acknowledges both, the threat of climate change and the Polish economic and political situation. As the energy sector currently generates 8% of the Polish GDP (NECP, 2019), economic and political stability demands a sophisticated incremental reduction of fossil fuels.

Additionally, an incremental reduction would also diminish the threat of overreliance of natural gas. While most studies argue it will play a key role in replacing coal and lignite, they neglect two

important features. In a transformation towards sustainable energy sources, natural gas can only be considered a transitional fuel (CAKE, 2019). Such suggestions ignore the significant fixed cost and long depreciation horizons. Since Poland lacks substantial domestic natural gas resources, it would create a negative impact on the rate of energy self-sufficiency. This would increase the country's dependence on expensive imports of such carriers (CAKE, 2019). Therefore, natural gas can only play a minor role in the future energy mix.

Instead of natural gas, we propose an energy mix containing RES and nuclear energy to fill in the remainder of our energy needs. As these energy sources need a significant time to develop the infrastructure, they cannot contribute immediately to the energy mix. This fact should have been considered from Sweden with its ambitious emission reduction goals. For Poland it will be challenging to achieve the already existing goals of the RES share of 32% (IOS-PIB, 2018), so any additional demands are not feasible for our economy (NECP, 2019). The construction for an offshore wind park in the Baltic sea is planned and the first wind turbines will connect to the grid in 2026. The full capacity for wind energy will be reached between 2035 and 2040. Photovoltaic is currently not an economic feasible alternative, as the costs for electricity are significantly higher than fossil fuels (NECP, 2019).

Therefore, our main focus for achieving European Climate Neutrality by 2050 will be the introduction of Nuclear Power. By 2033 the first power plant will be connected to the electricity grid. By 2043, Poland is set to operate 5 plants. However, as we never used Nuclear Power before, we ask our European neighbours for an exchange of knowledge and technology. Poland actively participates in the peaceful use initiative of the IAEA to fulfil all requirements of the NPT (IAEA, 2013). To advance this transformation, bilateral agreements with the most knowledgeable users of Nuclear Power (especially Sweden and France) would speed up the efficient use of this energy source, which in turn would help to decrease our dependence on coal.

So far, we described the domestic contribution Poland is willing to make to achieve the ambitious climate goals for 2050. However, it is obvious that such a drastic transformation of the energy sector will project enormous impacts on our economies (IOS-PIB, 2018). Therefore, we want to remind the European community that different countries have different capabilities. The GDP per capita numbers vary tremendously from state to state, not mentioning the different challenges each country must face. As stated in the first chapter of this proposal, less developed countries are left alone with their burden and many experts already acknowledged that the €1 trillion investment package is not nearly enough to finance the energy transition within the next ten years (Claeys, 2019). Additional funding is necessary. Therefore, we argue that the national contributions to the multiannual financial framework should be increased to 1,5% of GNI. By itself, this would not solve the financial shortcomings of the European Climate aspirations but would help less developed countries to invest more funds into the needed transformation of the energy sector.

Additionally, we would like to suggest the creation of Joint Ventures between Polish, Swedish and German companies to enable an active exchange of technology and knowledge in the fields of RES and nuclear energy. Companies like Enercon, Nordex and Siemens Gamesa (German producers of wind energy technology) and OKB AG and Sydkraft (Swedish nuclear energy producers) could play an important role in enabling the transition and also mitigating the negative socio-economic effects, which Poland will face due to the reduction of the coal and mining industry.

In conclusion, Poland's proposal consists of two main parts. First, we present a plan on how we would significantly accelerate the transformation of the domestic energy structure. For this purpose it is important to regard solutions, which would not cause political instability and damage whole economies (NECP, 2019). Therefore, the second part of our proposal presents solutions on how the European Community needs to hold up their end of the bargain to cooperate with the Polish government to mitigate the threats of climate change and the resulting socio-economic effects. We believe that a mix of multilateral financial support as well as knowledge and technology exchange is

the best viable option for achieving our ambitious climate goals without threatening our economic competitiveness.

Major Obstacles/ Implementation Challenges

Every aspiring plan faces numerous obstacles and implementation challenges, especially financial ones. So far, estimates about the total costs and the European Budget for the implementation of mitigation strategies diverge significantly (Forum Energii, 2017). Solving these issues in a timely fashion is necessary to enable governments around Europe to transform their economies in a sustainable manner. Further, RES technologies are not fully matured and pose additional financial threats as energy costs are most likely to rise across Europe (CAKE, 2019). Our scenarios are based on steady learning curves which make these technologies more affordable. Next, this proposal included measures on how to mitigate the expected employment losses in the mining industry. We agree with Babiker and Eckhaus (2007) that climate policies must be combined with labour policies to avoid high levels of unemployment. The cooperation with Swedish and German companies to establish plants in Poland would be one way to mitigate this threat. Finally, we would like to point to the underappreciated point of energy security. Carbon Neutrality poses a severe challenge to energy security not just for the Polish state but for the whole EU. A shift towards natural gas increases our dependency from Russia and imposes the risk of volatile prices (CAKE, 2019). Additionally, energy exchange in 2050 is about 60% larger in scenarios which mirror the European plan. We stress that the EU needs also to present a plan on how to ensure the fair exchange of electricity across national borders which will include additional cross-border infrastructure.

Admittedly, our policy proposal does not solve all the raised issues of this complex situation. We believe that it acknowledges not only the immediate threat of climate change but also common but different responsibility of all European member states. By working towards a solution that is inclusive of all its members, our European community must see this challenge as a chance to revive the core European principles of solidarity and equality.

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