

BACKGROUND PAPER

Together towards a climate-neutral Europe: Polish-German climate and energy partnership

New cooperation opportunities supporting the European Green Deal and the “Fit for 55” package

Andrzej Ceglarz



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Brief Summary

Poland and Germany have always played an important role in shaping the EU's climate and energy policies, although often with very different political goals on both sides. The European Green Deal and the "Fit for 55" package create multiple opportunities for Poland and Germany to develop and intensify their climate and energy cooperation. This paper proposes options, which can contribute to this objective, built around different dimensions of the climate and energy realm. These ideas concern, e.g., possible joint undertakings regarding the regulative inclusion of greenhouse gas emissions and removals from land use, land use change and forestry, the Energy Efficiency and Energy Performance of Buildings Directives or the Carbon Border Adjustment Mechanism. All presented measures correspond with the Polish and German national climate and energy policy interests and agendas. A successful implementation of these suggestions can be beneficial for both countries as well as for the whole European Union as they contribute to a strong, united and carbon neutral Europe.

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Foreword

On 17th of June 2021, Germany and Poland will celebrate the 30th anniversary of the "Treaty on Good Neighbourliness, Friendship and Cooperation". This significant occasion offers a great chance to further develop the bilateral partnership. Germanwatch, DNR (the German umbrella organisation of environmental and nature protection NGOs), together with the author of this paper, suggest advancing the bilateral relations through significantly intensifying Polish-German cooperation on one of the most important issues of our times: the climate and energy transition. With this paper, we intend to support Polish and German policy makers, think tanks and civil societies in kicking off the discussion on this cooperation.

Germanwatch has always advocated for climate partnerships in Europe and with the Global South, as it is clear that international cooperation is key for successfully fighting a global crisis. We therefore inter alia maintain since many years close relationships with a variety of think tanks, NGOs and other partners in Poland.

Over the last years, Poland has changed its approach towards the zero carbon and sustainability transition and has moved closer towards the EU mainstream. Polish companies do now provide Germany with electric busses, Polish cities plagued by smog have taken measures to tackle air pollution and the Polish photovoltaic market is booming. The fifth biggest EU country in terms of population is now slowly moving into a position in which it can more and more constructively shape an ambitious EU climate policy agenda.

This opens the room for increasing the EU and national climate policy coordination between Warsaw and Berlin, while understanding the viewpoints, interests, worries and domestic debates of the respective other side remains vital. Additionally, the old task of preventing a "two speed" decarbonisation approach in the EU – that could disintegrate the Union long term – remains on the agenda. With these considerations in mind, Germanwatch has now stepped up resources to support this climate dialogue and partnership. In the upcoming months and building upon the findings of this paper, Germanwatch will analyse options, ideas and possibilities of a joint climate cooperation and coordination between these two important EU member states. In German-Polish cooperation lies a yet unexploited potential, which once unleashed, can contribute to accelerating the energy transition in the European Union in a way that is beneficial for Poland and Germany alike.

This paper by Andrzej Ceglarz provides concrete ideas for policy makers and further stakeholders. The author brings an interesting perspective into the debate as he is a Polish researcher working in Germany for a long time and has an excellent understanding of interests and agendas in the climate and energy policy fields of the two countries.

Sylwia Andralojc-Bodych & Oldag Caspar (both Germanwatch)

1 Introduction

The European Green Deal sets a new pathway towards the European Union's (EU) climate neutrality by 2050. After the European Council reached in December 2020 an agreement on a new EU greenhouse gas emissions (GHG) reduction target of at least 55% by 2030 compared to 1990 levels¹, the major revisions and regulations presented under the "Fit for 55%" package² will be key for achieving this goal. Additionally, the EU budget for the years 2021-2027, coupled with Next Generation EU as the largest stimulus package ever financed through the EU budget³ do both step up investments into the sustainability transition. These important decisions demonstrate that the EU has a long-term perspective aimed at creating a more environmentally friendly and resilient Europe that sets green technological and social trends and creates new jobs.

Poland and Germany are key actors in implementing these arrangements in a future oriented way. However, in the past their roles in shaping the EU's climate and energy policies have been rather opposing ones. While Poland has presented itself as a Central and Eastern European (CEE) countries' speaker and regional leader⁴, insisting on the recognition of different national circumstances and realities in pursuing climate and energy goals, Germany has been advocating more progressive policies and pushing for the implementation of specific climate and energy measures⁵. These developments at the EU level influenced how both countries have perceived each other. In Germany, Poland has often been perceived as a member state which blocks Europe's ambitious goals to mitigate climate change. In turn, many actors in Poland have criticised Germany for the radical and undiscussed energy policies associated with the "Energiewende" and for imposing certain technological choices without considering the resulting consequences for the situation of their neighbours⁶. At a symbolic level, both countries have represented East and West as opposing parties regarding the advancement of the European climate and energy policies, and this has reinforced a 'two-speed' decarbonisation approach.

Yet, the adoption of a new 2030 emissions reduction target and the accompanying "Fit for 55" package, as well as the adoption of the Multiannual Financial Framework for the years 2021-2027, in which at least 30% of the EU expenditure will support climate objectives⁷, creates an opportunity to initiate a new and important

¹The European Parliament calls to increase this target to 60% and at the time of the publication of this paper negotiations have been ongoing between Council and Parliament on the final target number.

²European Commission (2021), [2021 Commission work programme – from strategy to delivery](#).

³European Commission (2021), [Recovery Plan for Europe](#).

⁴Matúš Mišík (2015), [The influence of perception on the preferences of the new member states of the European Union: The case of energy policy](#), *Comparative European Politics*, 13, 198-221.

⁵Robert Henry Cox and Mariam Dekanozishvili (2015), German Efforts to Shape European Renewable Energy Policy, in Jale Tosun, Sophie Biesenbender and Kai Schulze, (eds.), [Energy Policy Making in the EU. Building the Agenda](#), Springer: London, Heidelberg, New York, Dordrecht, pp. 167-184.

⁶Agnieszka Cianciara (2017), [Contestation of EU Climate Policy in Poland: Civil Society and Politics of National Interest](#), *Prakseologia* 159, pp. 237-264.

⁷European Council (2021), [Multiannual financial framework for 2021-2027 adopted](#).

chapter – a Polish-German climate and energy cooperation, which would reinforce the EU decarbonisation efforts.

Pursuing intense collaboration in the areas of climate and energy is in the interests of both countries since it could further increase the influence of both Poland and Germany within the EU. For Germany, an effective partnership with Poland could mean a smoother and more coordinated decarbonisation in Europe. It would also underline Germany's ambitions as a European climate action and energy transition leader and, within the framework of the Presidency Trio, it would facilitate the continuation and strengthening of its efforts as undertaken during the Council's Presidency in 2020.

For the Polish government, more climate and energy policy cooperation with Germany could be an opportunity to demonstrate to the European community the determination behind its endeavours regarding climate ambitions which will drive and define the domestic energy transition. Furthermore, improving overall relations with Germany would advance Poland's strategic decisions to form intra-European alliances not only with the CEE region, but also to strengthen its role within the inner circle of the leading EU countries. That would better enable Poland to pursue its European ambitions as one of the most influential EU member states. The Weimar Triangle could provide the perfect platform for that.

A successful Polish-German climate and energy cooperation could bring a new quality and dynamic to the European Union's politics. Both countries can develop the EU's overall direction, as they have already been doing in a conflictive and synergistic way. Close involvement in shaping the European Union's most important energy policy frameworks⁸ establishes the basis for further collaboration in energy management beyond national systems – which would help to overcome one of the greatest long-standing weaknesses of European energy policy – its fragmentation⁹. Successful cooperation could further increase both countries' influence and expand the possibilities of climate actions within the EU, especially considering the steps outlined in the "Fit for 55" package. The Polish-German climate and energy cooperation could also contribute to diminishing the line which runs across the river Oder that creates a 'two-speed' decarbonisation division in Europe. That would reinforce a European unity on the European Green Deal agenda, underlining the EU's ambition to be a global leader in the fight against climate change.

The collaboration of the two countries in the fields of climate and energy would consolidate the already very well-developed Polish-German economic relations. It would support Poland in becoming a leader in certain green economy sectors and therefore ease the structural change related to decarbonisation. For Germany, it would be an additional factor in further developing its economic ties with Poland,

⁸ For a detailed overview of various EU energy frameworks, such as the *Energy Union*, the *European energy security strategy*, the *Clean energy package for all Europeans* and the *2050 long-term strategy*, see European Commission (2021), *Energy Strategy*.

⁹ Kacper Szulecki and Kirsten Westphal (2014), *The cardinal sins of European Energy Policy: Nongovernance in an uncertain global landscape*, *Global Policy* 5, pp. 38-51.

supporting the green transition and, at the same time, the energy security of one of its the biggest neighbours. Consequently, it would also strengthen the overall Polish-German relations. Multidimensional climate and energy cooperation between Poland and Germany could also increase the credibility of both countries' governments in the eyes of their citizens. Despite the health-related and economic turmoil caused by the COVID-19 pandemic, Poles and Germans remain conscious of the seriousness of climate change and expect robust actions from their political leaders to combat the climate crisis¹⁰. Such a cooperation would demonstrate that the actions of both governments are driven by values of trust, solidarity and partnership. However, for this purpose, Poland and Germany must consider a longer perspective than just the next domestic electoral cycle.

To these ends, current developments at the EU level are creating new opportunities, which can foster Polish-German cooperation, and can bring added value to a constructive discussion on how to improve the two neighbours' current relationships in the field of energy and climate policies. This paper focuses on possible options, considering the broader climate and energy-related processes and descended from the actions outlined in the "Fit for 55" package and in the European Green Deal. First, it will sketch a short overview of the current Polish-German climate and energy relations. Secondly, it will present the Polish and German interests with regards to climate and energy policy. Subsequently, it will lay out ideas and projects organised around five different dimensions: (i) Research and innovation; (ii) Electricity infrastructure; (iii) The social dimension; (iv) The local dimension; and (v) The institutional dimension. The final section of this paper presents a summary and conclusions.

¹⁰ Ministerstwo Klimatu i Środowiska (2020), *Badanie świadomości i zachowań ekologicznych mieszkańców Polski*, Warszawa; BDEW (2020), *Vier von fünf Deutschen finden...*.

2 Overview of the Polish-German climate and energy relations

For many years, Polish-German relations in the field of climate and energy policies have been dominated by diverging perceptions and narratives, resulting from differing political, economic, social and historical conditions. Many existing studies have described conflictual and controversial issues in this field: uncontrolled electricity produced by wind power from northern Germany putting the Polish grid under pressure (the so-called “loop flows”), Nord Stream 2, shale gas extraction (because of the environmental impact of hydraulic fracking), nuclear energy, the speed of energy transformation related to greenhouse gas emissions reduction, as well as the development and deployment of renewable energy sources¹¹. However, while different approaches to climate and energy issues have led to significant misunderstandings and sometimes mistrust between the governments of both countries¹², the overall tendency is that divergences between Poland and Germany in this field are decreasing. This is reflected in both countries’ strategic documents defining climate and energy policy goals for the coming decades, as well as in the overall trends and processes determining the developments in these fields.

This means that the new developments related to the European Green Deal and Next Generation EU open new doors for a more intense Polish-German climate and energy collaboration. This might lead to the creation of innovative means of cooperation, beyond the existing formats delivered by various EU frameworks, or those based on personal contacts at a high political level.

Examples of existing include Poland’s and Germany’s involvement in the Baltic Energy Market Interconnection Plan (BEMIP) initiative and the work of both countries in several regional groups within the framework of the Trans-European Energy Networks (regarding electricity as well as gas infrastructure corridors)¹³. Within the context of bilateral climate and energy cooperation, 29 different official interactions took place between January 2016 and June 2019, and comprised of various formats (intergovernmental consultations, bilateral ministerial meetings,

¹¹ Andrzej Ancygier and Kacper Szulecki (2014), [A Common Renewable Energy Policy in Europe? Explaining the German-Polish Policy of Non-Convergence](#), ESPRI Working Paper No. 4. Environmental Studies and Policy Research Institute, Wrocław; Aleksandra Gawlikowska-Fyk et al. (2017), [Energy in the German-Polish Relationship: Acknowledging Controversies—Pursuing Shared Interests](#), SWP Comments; Kacper Szulecki and Julia Kusznir (2018), Energy security and energy transition: securitisation in the electricity sector, in Kacper Szulecki, (ed.), [Energy Security in Europe. Divergent Perceptions and Policy Challenges](#). Palgrave, London, pp. 117-148.

¹² Filip Černoch et al. (2017), [Energiewende and the Energy Security of the Czech Republic and Poland](#), Masaryk University: Brno; Andreas Heinrich et al. (2016), [Auf dem Weg zu einer gemeinsamen EU-Energiepolitik? Debatten über Energiesicherheit in Polen und Deutschland](#), Polen-Analysen. Deutsches Polen Institut; Mariusz Ruszel (2016), [Czy w stosunkach polsko-niemieckich w obszarze polityki energetycznej jest miejsce na zaufanie?](#) Komentarze IPE nr 1/2016. Instytut Polityki Energetycznej im. Ignacego Łukasiewicza, Rzeszów.

¹³ European Commission (2021), [Regional groups and their role](#).

meetings of experts from both countries, conferences on energy issues and study visits)¹⁴.

This indicates that Polish-German cooperation in the fields of climate and energy does indeed exist, but it seems to come about as a result of ad hoc action of a reactive character, rather than being a well-thought out and planned exchange with targets and a support structure. A structured framework that supports the development of long-term two-way communication channels and green transition cooperation between both countries is lacking. This is reflected, for example, in the respective National Energy and Climate Plans up to 2030 (NECPs) prepared by Poland and Germany, which say surprisingly little about the possible measures that both neighbours could jointly undertake. Both countries mention each other but primarily in the context of the EU's internal market when referring to existing or planned cross-border interconnectors¹⁵.

In contrast, the document submitted by the German Federal Ministry for Economic Affairs and Energy often mentions fruitful cooperation with West European countries as an important component for the domestic success of the “Energiewende”. Close cooperation with France is particularly described as crucial and exemplary in this regard. Meanwhile, the Polish NECP focuses on cooperation with the Visegrád Four or with ‘pro-nuclear like-minded states’. Some analysts suggest that Poland should strengthen energy cooperation even further away from the West, for example through the Three Seas Initiative¹⁶ – a forum of twelve CEE member states, along a north–south axis from the Baltic Sea to the Adriatic Sea and the Black Sea (although Germany’s involvement in this forum is growing as well¹⁷).

The current Polish-German climate and energy relations, despite not being organised in a formalised and structured way, can serve as a promising starting point for further action. The implementation of strategies included in the European Green Deal and the steps outlined in the “Fit for 55” package can boost the bilateral climate and energy cooperation. On the one hand they correspond with specific interests and objectives of Poland and Germany in these fields of policy, and on the other hand they are in line with the technological, market and social drivers influencing climate and energy policy developments around the world.

¹⁴ Andrzej Ceglarz (2021), Untapped horizons and prevailing domestic beliefs. Bilateral climate and energy relations from a Polish perspective, in Elżbieta Opiłowska and Monika Sus, (eds.), *Poland and Germany in the European Union. The Multi-dimensional Dynamics of Bilateral Relations*. Routledge, Abington, pp. 167-185.

¹⁵ Federal Ministry of Economic Affairs and Energy (2020), *Integrated National Energy and Climate Plan*; Ministry of National Assets (2019), *The National Energy and Climate Plan for 2021-2030*.

¹⁶ Christian Schnell et al. (2017), *Mapa Drogowa Polskiej Elektroenergetyki 2030+*, Związek Przedsiębiorców i Pracodawców Sektora Energii, Warszawa.

¹⁷ Łukasz Janulewicz and Tomasz Żornaczuk (2019), *Niemcy wobec Inicjatywy Trójomorza*, Polski Instytut Spraw Międzynarodowych; Kai-Olaf Lang (2021), *Die Drei-Meere-Initiative: wirtschaftliche Zusammenarbeit in geostrategischem Kontext. Deutschland sollte sein Engagement auch aus außenpolitischen Gründen verstärken*, SWP-Aktuell 2021/A, Stiftung Wissenschaft und Politik, Berlin.

3 Goals and drivers of Polish and German climate and energy policy

Close bilateral cooperation in the field of climate and energy policies is in line with the national interests of Poland and Germany and corresponds with the increased EU's GHG reduction target by 2030, as well as with current technological developments and environmental pressures.

According to the most recent version of Poland's Energy Policy by 2040 (PEP 2040), Poland's main aim is to ensure energy security while safeguarding the competitiveness of the economy, energy efficiency, and reducing the impact of the energy sector on the environment through the optimal use of the country's own energy resources¹⁸. These goals have been translated into concrete targets:

- Reduce the use of coal in electricity generation to no more than 56% in 2030
- Renewable energy sources (RES) to make up at least a 23% share in gross final energy consumption in 2030
- Introduction of nuclear energy in 2033
- GHG emissions reduction of around 30% by 2030 compared to 1990 levels
- 23% increase in energy efficiency by 2030

The German national climate and energy policy goals are formulated as follows:

- At least 55% GHG reduction by 2030, compared to 1990, and GHG neutrality in 2050
- An increase in the share of RES in gross final energy consumption: 30% by 2030, 45% by 2040 and 60% by 2050
- A reduction in primary energy consumption and an increase in energy efficiency of 30% by 2030 and 50% by 2050
- Coal phase-out at latest by 2038
- Nuclear phase-out by 2022
- Competitiveness
- Reliability of supply¹⁹.

Thus, apart from their different approaches to nuclear energy, both countries' energy policy goals are increasingly convergent, albeit expressed in different levels of ambition. Two points here, however, could be aligned. Firstly, although PEP 2040 does not mention Poland phasing-out coal, the Polish government is currently preparing a plan, in which 2049 is to be defined as an indicative date for closing the last coal mines. Secondly, the targets presented in PEP 2040, especially those related to the use of coal and the RES share in gross final energy consumption, may

¹⁸ Ministry of Climate and Environment (2021), [Polityka Energetyczna Polski do 2040 roku](#), Warsaw.

¹⁹ Bundesministerium für Wirtschaft und Energie (2021) [Die Energie der Zukunft. 8. Monitoring-Bericht zur Energiewende – Berichtsjahre 2018 und 2019](#). It should be noted that following the EU 2030 target increase, the German domestic climate and energy goals are currently subject to a debate.

be achieved more quickly, due to independent technological, market and social processes. An illustrative example of such changes is the rapid development of photovoltaics in Poland over the last two years – at the beginning of 2021 the number of micro-installations was estimated at more than 420,000, an almost eightfold increase compared to 2019²⁰. A different example concerns a dynamic increase in the EU emissions trading system's (ETS's) CO₂ price, which could substantially accelerate the phasing out of coal energy production in both countries²¹.

Such developments will be strengthened by the European Green Deal, climate neutrality objective as well as by general global trends which are shaping the future climate and energy policies. In addition to decreasing the costs of renewables or the electrification of other sectors, an important role will also be played by the decarbonisation, digitalisation, decentralisation and democratisation of energy²². These phenomena are interrelated with each influencing the other.

As countries around the world experience the negative effects of climate change, calls for the deep decarbonisation of national economies are widespread. Poland and Germany are no exceptions in this regard: more frequent extreme weather events, such as droughts and fires, interfere with their citizens' lives and negatively influence their health, water supplies, economic growth and food security. At an international level, the decarbonisation process will be reinforced in the years to come. The United States returning to the Paris Agreement and China declaring climate neutrality by 2060 bears testament to this.

Continued digitalisation will have a crucial impact on the development of future energy and transport systems – new information and communication technologies can reduce costs and improve productivity, efficiency and safety²³. The electricity sector is at the heart of this revolution: digitalisation helps in coordinating supply and demand, drives the system with increasing numbers of small-scale and variable energy sources, and it integrates different energy sectors while at the same time making them more flexible. However, digitalisation also brings additional challenges such as those related to cybersecurity²⁴.

Decentralisation is directly linked to both of the previously mentioned trends: it is based on the use of RES which contribute to decarbonisation; and digital technologies are required for managing and coordinating RES. Moreover, the application of small-scale solutions opens up the market to new business models,

²⁰ Polskie Towarzystwo Przesyłu i Rozdziału Energii Elektrycznej (2021), [Mikroinstalacje w Polsce](#).

²¹ Maciej Pyrka et al. (2020), [Zmiana celów redukcyjnych oraz cen uprawnień do emisji wynikająca z komunikatu Europejski Zielony Ład](#), Instytut Ochrony Środowiska - Państwowy Instytut Badawczy (IOŚ-PIB), Warszawa.

²² Maria Luisa Di Silvestre et al. (2018), [How Decarbonization, Digitalization and Decentralization are changing key power infrastructures](#), *Renewable and sustainable energy reviews* 93, 483-498.

²³ International Energy Agency (2017), [Digitalization & Energy](#).

²⁴ WBGU – Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen (2019), [Unsere gemeinsame digitale Zukunft](#), WBGU, Berlin.

technologies and actors, whose roles are being redefined as the power relationships between them change.

That leads to another feature of the future energy system, namely democratisation²⁵. An increase in decentralised energy systems is transferring power to the citizens. By switching to e-vehicles or by organising themselves in cooperatives, millions of individuals have become active players in the field of energy. Many of them have become 'prosumers', consuming the energy which they produce themselves. At the same time, expanding energy infrastructures clearly impacts people's everyday lives; across Poland and Germany there have been local protests regarding, for example, new power lines, wind turbines, biogas stations or storage facilities²⁶. In order to come to a consensus new fair, participatory, and inclusive approaches to decision-making will need to be developed and applied.

Thus, successful Polish-German cooperation in the fields of climate and energy can contribute to achieving national goals – including the goal of making energy more reliable and improving energy security in both countries (understood as power system security and energy supply security). Cooperation can also assist in achieving the national sustainability targets such as the goal of minimising environmental impacts and delivering cleaner air to citizens. Furthermore, cooperation can support competitiveness by boosting research and innovation, supplementing the internal energy markets and making energy more affordable. As energy is at the heart of an economy, a shrewd Polish-German cooperation could be a driver of economic development and create jobs in both countries.

Furthermore, successful Polish-German cooperation in climate and energy policies can create room for trust-building between the two nations with regard to the stability of the electricity systems (Poland was exposed to risks caused by blackouts in August 2015 and Germany in June 2019). Or with regard to natural disasters (floods, fires or extreme weather events). The geographical proximity of the two countries could be mutually beneficial if their energy systems were cohesive.

²⁵ Kacper Szulecki (2018), [Conceptualizing energy democracy](#), *Environmental Politics* 27, pp. 21-41.

²⁶ Maria Bednarek-Szczepańska and Karolina Dmochowska-Dudek (2017), [Syndrom NIMBY jako wyzwanie dla jednostek samorządu terytorialnego](#), *MAZOWSZE Studia Regionalne*, pp. 103-114.; Nadejda Komendantova and Antonella Battaglini (2016), [Beyond Decide-Announce-Defend \(DAD\) and Not-in-My-Backyard \(NIMBY\) models? Addressing the social and public acceptance of electric transmission lines in Germany](#), *Energy Research & Social Science* 22, pp. 224-231.

4 The dimensions of Polish-German cooperation in climate and energy policy

This section will discuss ideas and projects organised around five dimensions, which could each activate the untapped potential of Polish-German relations in the field of climate and energy policies. Each of these ideas has been designed to correspond with the actions foreseen either as parts of the European Green Deal or the “Fit for 55” package. These thematic dimensions encompass: (i.) Research and innovation; (ii.) Electricity infrastructure; (iii.) The social dimension; (iv.) The local dimension; and (v.) The institutional dimension.

The complexity and interrelatedness of climate and energy issues lead to a situation in which many of the proposed cooperation possibilities overlap and correspond simultaneously to various energy and climate policy goals. Hence, the synergies between these dimensions should become complementary and offer opportunities for cross-fertilising.

4.1 Research and innovation

The nexus of **Research and Innovation (R&I)** and **energy** requires special attention, since it not only constitutes one of the pillars of the European Energy Union, but it also drives economic development as a whole.

There is a significant asymmetry between Poland and Germany in research and innovation dedicated to climate and energy science. Boosting collaboration in this area would be especially beneficial for Poland, which lacks good-quality and innovative research in these fields, especially in the technology development and implementation stages²⁷, whereas many leading global research entities are based in Germany.

The gap between both countries is reflected in their involvement in developing the energy research and innovation agenda laid out in the European Strategic Energy Technology Plan (SET-Plan)²⁸. Germany is involved in twelve SET-Plan Implementation Plans²⁹, whereas Poland has participated in only two

²⁷ This weakness, together with a need to foster international research exchange and collaboration, has been outlined in the Polish National Energy and Climate Plan. For further descriptions see: Jakub Sawulski (2017), [Structural analysis of the offshore wind innovation system in Poland](#), IBS Working Paper 06/2017, December 2017, The Institute for Structural Research, Warsaw; Szymon Malinowski (2015), [Czy leci z nami klimatolog? Nauka o klimacie](#).

²⁸ European Commission (2021), [Strategic Energy Technology Plan](#).

²⁹ Federal Ministry of Economic Affairs and Energy (2020), [Integrated National Energy and Climate Plan](#).

implementation working groups³⁰. This discrepancy is visible also in other European R&I related activities. For example, in the membership in the European Energy Research Alliance, where Germany is represented by thirty entities and Poland only by five³¹.

The biggest asymmetry, however, concerns participation in the flagship research and innovation programme, Horizon 2020 (H2020). German entities participate in the most H2020 projects of all EU member states, constituting over 13% of all involved organisations. Poland is fifteen in that ranking, with only 1.8% of Polish institutions among all participating in H2020 projects³².

Thus, Poland and Germany could prioritise joint R&I in two energy and climate-related streams: future-oriented technologies and socio-ecologic-technological systems.

First, Poland and Germany should focus on those **technological areas of the future**, which are in line with their national priorities as underlined in official documents³³, and which could take advantage of the pre-existing synergies between both countries. These are: the development of different RES technologies (including recycling their components) with a special emphasis on offshore wind³⁴ and undersea cables; perovskite solar technology; components of PV rooftop installations; smart grids; e-mobility and batteries and storage technologies related to it; green hydrogen; and the circular carbon economy.

The second research stream, **socio-ecologic-technical systems**, could focus on research in the social sciences and humanities related to climate change and energy transition. Areas in the interest of both countries concern, for example, public acceptance, energy poverty and localised formats of cooperation, such as energy communities or energy clusters³⁵.

Both R&I streams can benefit from various kinds of **EU funding**. Horizon Europe – the H2020 successor that started in 2021 will remain the most powerful funding programme. It is aimed at fostering new technologies, sustainable solutions and disruptive innovations, whereas 35% of its spending will be dedicated to climate

³⁰ European Commission & Joint Research Centre (2018), [SET Plan delivering results: The Implementation Plans. Research & Innovation enabling the EU's energy transition](#). However, it should be added that this report does not take into account the implementation plan dedicated to nuclear energy; Poland is involved in the working group for its implementation.

³¹ [European Energy Research Alliance](#) (2021).

³² European Commission (2021), [Horizon 2020 country profiles](#).

³³ Federal Ministry of Economic Affairs and Energy (2020), [Integrated National Energy and Climate Plan](#); Ministry of National Assets (2019), [The National Energy and Climate Plan for 2021-2030](#); European Commission & Joint Research Centre (2018), [SET Plan delivering results: The Implementation Plans. Research & Innovation enabling the EU's energy transition](#); Ministry of Energy (2017), [Innowacje dla Energetyki. Kierunki Rozwoju Innowacji Energetycznych](#), Warsaw; Ministry of Energy.

³⁴ Poland's potential for offshore wind innovation has been analysed in Jakub Sawulski (2017), [Structural analysis of the offshore wind innovation system in Poland](#), IBS Working Paper 06/2017, December 2017, The Institute for Structural Research, Warsaw.

³⁵ For more details see: Richard Hewitt et al. (2019), [Social Innovation in Community Energy in Europe: A Review of the Evidence](#), *Frontiers in Energy Research*.

action to foster the realisation of the European Green Deal³⁶. Other EU programmes and instruments, such as the Innovation and Modernisation Fund³⁷ (funding which Poland but not Germany can use), the NER300 Programme (money not used in this programme will be transferred to the Innovation Fund)³⁸, the Connecting Europe Facility³⁹ or Cohesion Funds⁴⁰ can financially support R&I into climate and energy in a complementary way⁴¹. They could be aligned with the funds foreseen in the Next Generation EU, which are aimed at recovering the social and economic damage caused by the COVID-19 pandemic⁴².

Regarding a concrete action in the shorter-term, Poland and Germany could join forces at the EU level to strengthen and further develop **Important Projects of Common European Interest (IPCEI)**: innovative commercial projects in areas of strategic importance for the European economy, which can be supported with state aid. While the revision of the current guidelines, foreseen for the fourth quarter of 2021, concerns the ambition dedicated to Europe fitting for the Digital Age, it is strongly related to the EU's climate and energy objectives. Thus, both countries could coordinate here on creation of IPCEIs dedicated to electric vehicles and low-carbon industries. Poland and Germany could use the experience gained during establishing the IPCEI on batteries and ongoing preparatory work on hydrogen technologies IPCEI⁴³.

Overall, given the large scope of the thematic areas and funding options, it would be worthwhile to launch a Polish-German energy and climate research **Implementation Partnership for Horizon Europe and related R&I programmes**. The first step could be to analyse academic and industrial strengths in both countries, to define specific topics from the research streams outlined above, where consortia including both Polish and German partners would pass Horizon's criteria of excellence, possibly with help of 'widening' instruments such as the new "hop-on" provision⁴⁴. A second step could focus on creating networks between relevant actors and providing assistance for applications.

Germany, as the country with more capacities and experience, should take an initiative and encourage its Polish partners to deepen scientific cooperation. This relationship should be based on principles of partnership, solidarity and trust. Both

³⁶ European Commission (2021), [Research and innovation for the European Green Deal](#).

³⁷ European Commission (2021), [Revision for phase 4 \(2021-2030\)](#).

³⁸ European Commission (2021), [NER 300 programme](#).

³⁹ European Commission (2021), [Synergies between H2020 and CEF](#).

⁴⁰ European Commission (2021), [Cohesion Fund](#).

⁴¹ Even if some of these programmes finance domestic projects, this does not exclude participation by partners from neighbouring countries at the planning, preparation and implementation stages, which would enable mutual learning and exchange of practices, and strengthen the networks.

⁴² European Commission (2021), [Recovery Plan for Europe](#).

⁴³ Marcin Szczepański (2020), [Important projects of common European interest. Boosting EU strategic value chains](#), European Parliamentary Research Service.

⁴⁴ The "hop-on" provision foresees that winning research consortia can secure additional funding if institutions in 'widening' countries join them at a later date. There are 15 'widening' countries: the "EU13" that joined after 2004 – 11 post-communist countries plus Malta and Cyprus – as well as Portugal and Luxembourg.

countries could benefit from such Implementation Partnership, but the emphasis would be on different points. By cooperating in competitive research groups Polish academia could improve its quality, mobility and levels of internationalisation. While sometimes Western European research institutions had limited interest in including Polish partners in long-established networks, such a coordinated “opening process” could not only improve the overall research quality, but also widen German access to talented researchers. Additionally, as a side effect of conducting applied research, it would encourage more German companies to conduct research and development activities in Poland.

One of the possibilities to strengthen R&I linkages between the two countries could be seen in an international “Climate University”⁴⁵ proposed by the German Federal Ministry for Economic Affairs and Energy. As a part of its structure, a separated entity (e.g., department) dealing specifically with **Polish-German scientific cooperation** in climate and energy field, could be created. On the one hand, its teaching portfolio could encompass lectures and seminars for students and researchers dedicated to historical developments of the energy system in both countries, underlining socio-political-economic aspects. This would foster a better mutual understanding of conditions that impacted both energy systems through the decades, beyond technological development. On the other hand, such entity could stimulate and finance the creation of double degree programs, including a PhD degree. In that case, to optimise its functioning, it could be modelled after the Franco-German University in Saarbrücken⁴⁶. Management of such an entity could be linked to the Polish-German Scientific Foundation, which would be well-suited to contribute to its activities (although the Foundation itself would probably need increased resources). Such institutionalised **Polish-German academic entity** would contribute to improving academic mobility and the ability of Polish researchers to apply for international funding.

4.2 Electricity and other infrastructure

The second dimension of cooperation could focus on the implementation of **infrastructure** that would build physical and technological bridges between Poland and Germany. This dimension is closely related to the previous one, since the implementation of innovative infrastructural investments will require additional research and substantial funding.

For many years the issue of **electricity interconnectors** on the German-Polish border has been high on the political agenda. While the systems’ interconnection is important from the security point of view and could be economically beneficial,

⁴⁵ Bundesministerium für Wirtschaft und Energie (2020), *Klima schützen & Wirtschaft stärken. Vorschlag für eine Allianz von Gesellschaft, Wirtschaft und Staat für Klimaneutralität und Wohlstand*.

⁴⁶ See: <https://www.dfh-ufa.org/>

the development of the necessary infrastructure has been constrained by several factors, not necessarily of a technological character⁴⁷.

Although Transmission System Operators (TSOs) from both countries have been implementing cross-border projects to increase electricity transmission capacities⁴⁸ (GerPol Improvements and GerPol Power Bridge I, classified as a Project of Common Interest⁴⁹), Poland did not meet the 10% interconnection target for 2020⁵⁰. This challenge opens up a space for joint actions related to both EU-level regulation and physical cross-border implementation.

Poland and Germany could work together at the European level on a **consistent regulatory framework for cross-border renewables projects**, possibly considering their inclusion under the European Cross-Border Mechanism⁵¹, which aims at overcoming legal and administrative obstacles hampering cross-border cooperation. In the case of cross-border RES projects, the current regulatory environment differs in every member state. That includes planning and permitting conditions, grid connection regimes, taxation rules and financing conditions, which influences the costs, and hence the profitability, of such projects⁵². That would fit into the workstream related to increasing the 2030 RES target, as a part of the “Fit for 55” package.

In a similar vein, the Polish and German governments could cooperate at the EU level on **regulatory aspects of the offshore connecting infrastructure**. While both countries have ambitious plans for offshore wind development, which will be developed in their exclusive economic zones, marine cables will be essential to connect, transport, operate and trade the electricity generated on the Baltic Sea.

That includes, for example, the implementation of the meshed undersea cable approach⁵³: while the technology required for its application is already available, legal and operational uncertainties need to be resolved, including the development of legal definitions, which could accommodate a greater number of meshed grid designs⁵⁴. It concerns also development of a robust methodology for allocating costs according to where the benefits accrue. Such cooperation would not only feed into the work which has been carried out in the Baltic Energy Market Interconnection Plan initiative⁵⁵. It could be also turned into undersigning of

⁴⁷ Lidia Puka and Kacper Szulecki (2014), [The politics and economics of cross-border electricity infrastructure: A framework for analysis](#), *Energy Research & Social Science* 4, pp. 124-134.

⁴⁸ Ministry of National Assets (2019), [The National Energy and Climate Plan for 2021-2030](#).

⁴⁹ European Commission (2019), [Projects of Common Interest](#).

⁵⁰ European Commission (2020), [Fifth report on the state of the energy union](#).

⁵¹ European Commission (2019), [European Cross-Border Mechanism: a practical explanation](#).

⁵² Ecofys and Eclareon (2018), [Cross-Border Renewables Cooperation](#). Study on behalf of Agora Energiewende.

⁵³ The meshed grid approach offers a different way to transport electricity from offshore windfarms – while traditionally it has a radial structure to transport the electricity to end consumers, some of the meshed undersea cables have a twofold use: they can serve as both interconnectors between the wind farms belonging to exclusive economic zones of different countries and export cables.

⁵⁴ Dàmir Belltheus Avdic et al. (2019), [Baltic InteGrid review: towards a meshed offshore grid in the Baltic Sea](#), Final Report, Baltic InteGrid.

⁵⁵ European Commission (2020), [Baltic Ministers endorse commitment for closer cooperation on offshore energy](#).

memorandum of understanding or an intergovernmental agreement, what would be fully endorsed by the European Commission, as indicated in the EU offshore renewable energy strategy⁵⁶.

In the longer term, Poland and Germany could initiate **cross-border RES pilot projects** aimed at system optimisation, based on smart-grids. Such projects would contribute to the creation of a European internal market, to efforts at decarbonisation, and to the provision of additional flexibility options. This is important from the TSOs' perspective, because while connecting renewable capacities usually takes place at the low-voltage distribution level, at the end of the day, the TSOs are responsible for the whole system's stability.

Development of **cross-border transportation infrastructure**, including railway electrification, e-highways for catenary trucks, and charging points for electric vehicles could be a second step strengthening Polish-German cooperation in the border regions. By implementing such projects both countries could develop intelligent networks, which is one of the priorities of the Polish energy innovation strategy and pursue the necessary investments at the electricity distribution level. Germany could include such projects under the umbrella of the SINTEG programme⁵⁷, which focuses on locally-based digitalised energy laboratories. Both countries could apply to include such demonstration projects on the PCI list, or to be classified as Important Projects of Common European Interest⁵⁸ and thus be eligible for funding from the Connecting Europe Facility or the Marguerite Fund⁵⁹. The German-Polish Governmental Commission for Regional and Cross-Border Cooperation would be an adequate body to overtake the responsibility for such projects.

4.3 The social dimension

Although the social consequences of the energy transition constitute a considerable pan-European challenge⁶⁰, the **social dimension** of energy transition has long been absent from climate and energy policies. As a response to its absence, the European Green Deal aims at “making sure that no one and no place is left behind”⁶¹. To this end, for example, the European Commission launched the Just Transition Mechanism, which aims to ensure that the transition towards climate-neutrality happens in a fair and inclusive way⁶².

⁵⁶ European Commission (2020), [An EU Strategy to harness the potential of offshore renewable energy for a climate neutral future](#).

⁵⁷ <https://www.sinteg.de/>

⁵⁸ See more: Julia Sack et al. (2018), *Projects of Common Interest and Energy Infrastructure Projects*, in: Leigh Hancher et al. (ed.), *State Aid and the Energy Sector*. Hart Publishing, Oxford, pp. 235-270.

⁵⁹ <https://www.marguerite.com/>

⁶⁰ Jacques Delors et al. (2018), [Europe needs a Social Pact for the Energy Transition](#), Policy Brief, January 2018, Jacques Delors Institute.

⁶¹ European Commission (2021), [A European Green Deal](#).

⁶² European Commission (2021), [The Just Transition Mechanism: making sure no one is left behind](#).

Similarities in social issues between Polish and German settings could give impetus to concrete actions at the EU level. For instance, citizens from regions whose economy is based on the **coal industry** have voiced their fears related to losing their jobs and the lifestyle they know. In Germany this has been one of the drivers of populist movements⁶³. In Poland, it creates a risk of social incoherence, as in the case of the Wałbrzych region, where an unsuccessful transition from coal has led to structural unemployment and a range of social issues⁶⁴.

Additionally, millions of Poles and Germans are at risk of **energy poverty**. In Poland 12.2% (4.6 million) of citizens live in energy poverty⁶⁵; in Germany this number is not precisely defined, although almost 344,000 households experienced power cuts in 2017 because they were unable to pay electricity bills⁶⁶. Often, households in deprived or rural regions and pensioners are most vulnerable to the risk of energy poverty⁶⁷.

Sometimes the unevenly distributed effects have other than material grounds. For example, in the past, the need to build energy infrastructure, has been justified as being essential to completing the European project. Yet, citizens have often been left with the feeling of being excluded from **participating in decision-making** and ignorance of their local contexts⁶⁸. Thus, they had to bear part of the intangible costs of such decisions and their local needs, concerns and knowledge were often not as much considered as they could have been. Given that the success of the European energy transition is only possible with the support of the whole of society, such situations should be urgently avoided.

Therefore, Poland and Germany should undertake joint efforts to address the social constraints of energy transition. Both governments should show that they are taking responsibility for their citizens, are prepared for social risks of climate action and energy transition and will not respond in only a reactive manner.

The social dimension can jointly be addressed in two parallel areas: on the level of EU support for transitions in coal regions and through a cluster of bilateral best practice-sharing.

First, at the European level, both countries should strengthen the **Initiative for coal regions in transition and the Just Transition Platform**⁶⁹. One example of this

⁶³ Jury Caspar Iser (2019) *Wo die AfD von der Klimadebatte profitiert*, ZEIT Online.

⁶⁴ Jan Baran et al. (2018), *Coal transitions in Poland - Options for a fair and feasible transition for the Polish coal sector*, IDDRI & Climate Strategies.

⁶⁵ Jan Rutkowski et al. (2018), *Jak ograniczyć skalę ubóstwa energetycznego w Polsce?* IBS Policy Paper 1/2018, January 2018, The Institute for Structural Research, Warsaw.

⁶⁶ Bundesministerium für Wirtschaft und Energie, (2019), *Kleine Anfrage der Abgeordneten Sven Lehmann, Dr. Julia Verlinden, Dr. Wolfgang Strengmann-Kuhn, weiterer Abgeordneter und der Fraktion BÜNDNIS 90/DIE GRÜNEN betr.: „Ausmaß und Auswirkungen der Energiearmut“*.

⁶⁷ Jan Rutkowski et al. (2018), *Jak ograniczyć skalę ubóstwa energetycznego w Polsce?* IBS Policy Paper 1/2018, January 2018, The Institute for Structural Research, Warsaw.

⁶⁸ Andrzej Ceglarz (2019), *Współpraca między operatorami sieci przesyłowych a organizacjami pozarządowymi na przykładzie Renewables Grid Initiative*, ELEKTROENERGETYKA - współczesność i rozwój, 1(20), pp. 51-58.

⁶⁹ European Commission (2021), *Just Transition Platform*.

would be the prioritisation of topics of particular relevance for Polish and German regions, to which the Platform's Secretariat would deliver its assistance. Additionally, both countries could act together to ensure that available funds (for example in the European Social Fund Plus, ESF+⁷⁰) are dedicated to re-skilling the workers, training local youth and fostering social inclusion in the transforming coal regions. The **European Globalisation Adjustment Fund**, reinforced at the end of 2020 as a part of the 'Recovery Plan for Europe', could be a second source of finance for such measures⁷¹.

Second, Poland and Germany can gain from sharing experiences in three areas:

- **Coal regions:** bilateral exchange could focus on how to manage existing technological stocks and the infrastructure of coal-fired power plants, electric grids and coal mines, including their environmental and spatial effects. The exchange could also concentrate on how to create investment areas at former mining sites. While altogether eighteen German regions and nine Polish regions have been eligible to receive support from the Just Transition Fund⁷², seven German regions located in the the Lausitzer Revier and the Konin region⁷³ in Poland could serve as model regions, since both are strongly dependent on the lignite mining. Such cooperation would enable the development of bilateral pilot projects and best practices, but also new business ideas on how to mobilise public and private funds, including the InvestEU scheme or a new loan facility of the European Investment Bank⁷⁴.
- **Energy poverty:** although addressing energy poverty is primarily the responsibility of states and regions, creating bilateral links between entities responsible for implementing concrete measures (such as energy audits, awareness-raising or providing household appliances) can reinforce mutual learning and improve current solutions. While the most effective measures are at the same time the most expensive⁷⁵, joint proposals from such entities could then be leveraged to higher governance levels and used at the European level to enable suitable allocation of resources. In that context, Poland and Germany could cooperate to guarantee funds directly targeting energy poverty during the revisions of the Energy Efficiency Directive and the Energy Performance of Buildings Directive, which, as the elements of the "Fit for 55" package, will be

⁷⁰ European Commission (2019), [European Social Fund](#).

⁷¹ European Commission (2021), [Commission welcomes political agreement on EGF for displaced workers](#).

⁷² European Commission (2020), [2020 European Semester: Overview of Semester Guidance on the Just Transition Fund 2021-2027 per Member State \(Annex D\)](#).

⁷³ For a detailed socio-economic analysis of this subregion see: Aleksander Szpor and Daniel Kiewra (2018), [Transformacja węglowa w subregionie konińskim](#), IBS Research Report 06/2018, December 2018, The Institute for Structural Research, Warsaw.

⁷⁴ European Commission (2021), [Just Transition Funding Sources](#).

⁷⁵ Jan Rutkowski et al. (2018), [Jak ograniczyć skalę ubóstwa energetycznego w Polsce?](#) IBS Policy Paper 1/2018, January 2018, The Institute for Structural Research, Warsaw.

revised in 2021⁷⁶. Furthermore, Germany could support Poland in preparation of its Long-Term Renovation Strategy (LTRS). This document should outline steps and measures to renovate building stock to become a highly energy efficient and decarbonised by 2050, as well as enabling the alleviation of the energy poverty. At the time of writing this paper, the Polish LTRS has still not been published⁷⁷.

- **Stakeholder participation:** usually, large energy companies are responsible for building energy infrastructure on the ground. In the face of public opposition, they have developed new approaches to engage stakeholders and citizens, and to minimise the environmental and social impacts. However, a regulatory recognition of stakeholder engagement has been lacking. Considering that the lack of appropriate regulatory frameworks combined with public opposition are the main barriers to energy infrastructure expansion⁷⁸, Poland and Germany could initiate horizontal coordination between the relevant ministries and regulatory authorities on the topic of stakeholder participation. This could be elevated to a bilateral working group and to the European level at a later stage. A maritime spatial planning could serve a testing ground for such approach, because it requires recognition of interests of specific groups such as fishermen, local communities, scientists and environmental NGOs. Since Poland plans to develop offshore windfarms in the Baltic Sea, Germany's experience in that manner could be helpful. Furthermore, both governments could work with the European Commission to develop high-level pilot projects aiding social acceptance of energy infrastructure, for example high-voltage electricity power lines equipped with sensors for detecting forest fires (possibly classified as Projects of Common Interests). Finally, the involvement of impact investors can be considered, as with Citizens Energy in the US⁷⁹.

An ambitious project could involve sharing **coal transition expertise** at the central level. Germany can share its experiences of establishing the Commission for Growth, Structural Change and Employment⁸⁰, which has proposed phasing out coal by 2038 at the latest, and structural change framework for the effected regions. This could be politically challenging, since it is currently the Polish government that is negotiating the conditions of the coal-phase out with coal mining unions. Nevertheless, those discussions neither involve the representatives of all Polish coal mines nor the representatives of social actors other than trade unions. Thus, the lessons from this particular body in Germany could supplement the ongoing

⁷⁶ LIFE Unify (2020), Tackling energy poverty through National Energy and Climate Plans: Priority or empty promise?.

⁷⁷ European Commission (2021), Long-term renovation strategies (as of February 2021).

⁷⁸ Antonella Battaglini et al. (2012), Perception of barriers for expansion of electricity grids in the European Union, *Energy Policy* 47, 254-259.

⁷⁹ Citizens Energy Corporation (2019), Citizens Transmission.

⁸⁰ Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit (BMU) (2019), Kommission "Wachstum, Strukturwandel und Beschäftigung".

work concentrated on coal regions in general, and also build up a knowledge base on how to involve interested stakeholders, and how to organise their work.

4.4 The local dimension

The local and the social dimensions are strongly intertwined: no matter what kind of decisions are taken on energy policy, their physical implementation takes place at the **local level** and, as demonstrated above, it can have serious social repercussions. Lower levels of governance are and will be crucially responsible for the development and success of the decentralised energy system, and it is they who will be dealing with the effects of climate change. They also substantially reinforce climate and energy policy mechanisms at the EU level⁸¹.

In fact, regions, cities and communities across Europe have been undertaking their own plans for energy transformation, climate change mitigation and adaptation measures, which are often more ambitious than the national ones⁸². In this context, the idea to turn 100 European cities carbon-neutral by 2030 is not unrealistic⁸³. However, the lower levels of governance need legal and regulatory flexibility to apply such measures, because contextual differences could significantly affect implementation.

Energy and climate measures at the local level are in line with one of the investment priorities for 2021-2027 that could be funded by EU funds, namely “supporting locally-led development strategies and sustainable urban development”⁸⁴. Bearing this in mind, Poland and Germany could team up at the European level in order to promote **flagship missions**; these would be applicable in the local context, but could also be transferable to other member states. Three examples include⁸⁵:

- Adding ten million solar rooftops
- Supporting the decarbonisation of municipal heating and cooling networks
- Renovating one million buildings on an industrial scale⁸⁶.

⁸¹ Martin Jänicke and Rainer Quitzow (2017), *Multi-level Reinforcement in European Climate and Energy Governance: Mobilizing economic interests at the sub-national levels*. *Environmental Policy and Governance* 27, pp. 122-136.

⁸² See: <https://www.eumayors.eu/en/>; <https://www.rescoop.eu/>; <https://energy-cities.eu/>

⁸³ Mariana Mazzucato (2018), *Mission-Oriented Research & Innovation in the European Union. A problem-solving approach to fuel innovation-led growth*, European Commission, Brussels.

⁸⁴ European Commission (2021), *New Cohesion Policy*.

⁸⁵ Agora Energiewende (2019), *European Energy Transition 2030: The Big Picture. Ten Priorities for the next European Commission to meet the EU's 2030 targets and accelerate towards 2050*, Berlin, Agora Energiewende.

⁸⁶ It should be noted that these actions can be financed in Poland by resources provided in the Modernisation Fund. For more details see: Marcin Gałczyński et al. (2019), *Reforma EU ETS: Jak nie zmarnować kolejnej szansy na dekarbonizację polskiej gospodarki*, ClientEarth, Warsaw.

While economically and socially disadvantaged households should be prioritised in implementing these missions⁸⁷, one target group for the solar rooftops programme could be primary and secondary schools. Solar rooftops could be installed as part of exchange programmes between Polish and German youngsters coordinated by the **German-Polish Youth Office**. The initiative could also be coordinated with young leaders and schools involved in the Fridays for Future movement, so they can jointly decide how such projects can be implemented in their environment.

As regards municipal heating and cooling networks as well as energy efficiency in municipal buildings, **Polish-German municipal partnerships**⁸⁸ could be used to transfer knowledge and initiate joint projects. Those partnerships who have a record of successful cooperation in the climate and energy field (e.g. Ritterhude & Sztum or Rosbach & Ciechanowiec⁸⁹) could serve as pilot examples by sharing their experiences and implementing new, multilateral projects.

Polish and German municipalities could also cooperate on improving local transportation systems, including walking, biking, the use of public transport and building charging points for electric vehicles. Such a programme could also include the development of interurban transportation systems based on electric vehicles⁹⁰. Altogether these actions would contribute to improving the ambient air quality and the fight against smog that especially in Poland is a burning environmental and health policy problem⁹¹.

Bilateral exchanges could also involve best practices on climate change adaptation (e.g., local water management plans or the establishment of community cooling centres) and measures of cross-border relevance, such as addressing the growing number of fires or preventing flood risk (especially in the Oder basin).

A different idea that could be materialised at the local level is a coordinated plan to participate in the New European Bauhaus initiative, which is an interdisciplinary component of the European Green Deal⁹². It would not only encompass a climate- and environmental-friendly action, but it could also trigger a substantial creativity component. In Poland and Germany there are numerous outstanding entities specialising in architecture and design. They could jointly contribute to developing this concept at the European scale in terms of combining art and culture with science and technology, to eventually apply in calls for proposals, which will be launched by the European Commission. A coordination would require: first, a

⁸⁷ Citizens Energy Corporation (2021), [Joe-4-sun](#).

⁸⁸ Związek Miast Polskich (2021), [Współpraca miast partnerskich](#).

⁸⁹ Camille Serre and Lisa Schneider (2018), [Municipalities: working together for a low-emission economy. Experiences and prospects for a new form of European cooperation](#), Field report, Adelphi.

⁹⁰ These actions could also be combined with the Modernisation Fund. See: Marcin Gałczyński et al. (2019), [Reforma EU ETS: Jak nie zmarnować kolejnej szansy na dekarbonizację polskiej gospodarki](#), ClientEarth, Warsaw.

⁹¹ Łukasz Adamkiewicz and Natalia Matyasik (2019), [Smog w Polsce i jego konsekwencje](#), Polski Instytut Ekonomiczny, Warszawa.

⁹² European Commission (2021), [New European Bauhaus: Commission launches design phase](#).

dissemination of this initiative among entities suitable to participate; second, assistance in matching potential participants and developing the ideas; third, support in preparation of proposals. Since the timeline is narrow, realisation of this idea would need to be robust. The **German Passive House Institute**⁹³ seems to be an appropriate institution that could supervise the projects in terms of their technical quality and feasibility, whereas the **Foundation for German-Polish Cooperation** could take over the coordination work, what would elevate its activity in terms of cultural undertakings to a higher level.

Local dimension of the energy transition has not only an urban, but also a rural face and its potentials as well as problems have remained rather unexplored⁹⁴. It has been a shortcoming, since the reduction of greenhouse gases in the agriculture sector might cause negative effects on the affluence and well-being of the rural households⁹⁵. At the same time rural localities will play a pivotal role on the way to carbon neutrality, be it by providing space for renewable energy and accompanying infrastructure, or by serving with their natural resources and surroundings as carbon sinks. In that respect, the new focus of the “Fit for 55” package on greenhouse gas emissions and removals from land use, land use change and forestry (LULUCF) is an opportunity for Poland and Germany to act together. Both countries could start working on **a common position regarding the definitions and accounting methodologies**, which currently suffer from many inconsistencies⁹⁶. These could make stronger linkages to the common agriculture policy, for example, by emphasising the planting of additional forest areas on land previously unused or used for agriculture. A second step would be to develop a modelling tool calculating costs, benefits and trade-offs of different measures, combining the forestry and agriculture sectors. That could be linked to the R&D activities.

4.5 The institutional dimension

In order to achieve outcomes desired by both countries, overall coordination of strategies, policies and regulations at both the domestic and the European level should be improved. This would constitute a stronger bilateral governance framework.

First, both Poland and Germany should make a clear commitment to be actively involved in the **consultation of each other’s national energy and climate progress reports**. Previously, during the preparation phase of the NECPs, the

⁹³ See: <https://passivehouse.com/index.html>.

⁹⁴ Matthias Naumann and David Rudolph (2020), *Conceptualizing rural energy transitions: Energizing rural studies, ruralizing energy research*, *Journal of Rural Studies* 73, pp. 97-104.

⁹⁵ Adam Wąs et al. (2020), *Ocena wpływu polityki klimatycznej na sektor polskich gospodarstw rolnych. Podsumowanie*, Instytut Ochrony Środowiska - Państwowy Instytut Badawczy (IOŚ-PIB), Warszawa.

⁹⁶ Robert Mathews (2020), *The EU LULUCF Regulation: Help or hindrance to sustainable forest biomass use?*, The Research Agency of the Forestry Commission.

mutual involvement was not sufficient and reciprocal. For example, while the Polish representatives attended a consultation meeting organised by the German Federal Ministry of Economic Affairs and Energy to discuss the Germany's NECP draft⁹⁷, Poland did not receive written comments to the Polish NECP draft from the German counterparts, despite sending an invitation to do so⁹⁸.

Transparency and inclusiveness leading to the exchange of experiences, ideas and views not only foster the creation of new knowledge and implementation of projects, but also allow each country to understand and acknowledge the position of the other. Building such capital is a long-term activity, and it requires coherence and continuity. In the case of climate and energy policies, it is of special relevance, because the decisions taken today will influence infrastructural investments for decades, and thus, the lives of the generations to come. Furthermore, the principles of transparency and inclusiveness should also apply to external stakeholders, like NGOs, what cannot always be taken for granted. For example, during the preparation of the first NECP drafts, both countries organised their consultation procedures only after the drafts had been submitted to the European Commission⁹⁹.

Second, while the Council of the EU highlights the importance of external dimension of the European Green Deal and confirms that the EU climate and energy diplomacy will aim at accelerating the global energy transition¹⁰⁰, the work dedicated to the Carbon Border Adjustment Mechanism (CBAM) as part of the “Fit for 55” package opens an opportunity for Poland and Germany to cooperate in the **diplomatic sphere**.

Whether or not carbon leakage is a very serious threat to Polish and German industries, both countries should not treat the CBAM as an ‘easy’ source of money in the EU budget¹⁰¹, but should actively get involved in the process of designing this mechanism, strongly considering its external effects on low and middle-income countries, which will be vulnerable to CBAM implementation¹⁰². Instead of only increasing the levels of entry barriers for external actors, Poland and Germany could cooperate to guarantee that other countries are brought along, and their concerns will be heard, and thereby promote cleaner production methods outside the EU.

⁹⁷ Federal Ministry of Economic Affairs and Energy (2020), [Integrated National Energy and Climate Plan](#).

⁹⁸ Ministry of National Assets (2019), [The National Energy and Climate Plan for 2021-2030](#).

⁹⁹ Climate Action Network (CAN) Europe (2019), [Time to pick up the pace. Insights into the draft National Energy & Climate Plans](#), CAN, Brussels.

¹⁰⁰ Council of the European Union (2021), [Council adopts conclusions on climate and energy diplomacy](#).

¹⁰¹ Georg Zachmann and Ben McWilliams (2020), A European carbon border tax: much pain, little gain, Policy Contribution 05/2020, Bruegel.

¹⁰² Silvia Weko et al. (2020), [The Global Impacts of an EU Carbon Border Adjustment Mechanism](#), IASS Policy Brief, November 2020, Potsdam.

Against this backdrop, Poland and Germany could join forces bilaterally and engage their foreign services to encourage other countries to establish their own frameworks, thus incentivising cleaner production and offer capacity and financial support to achieve it. Both countries could support and advocate on the EU-level for climate partnerships with non-EU countries in Europe, the European neighbourhood and in the Global South, which will speed up the energy transition in the other parts of the world¹⁰³. Joint trainings for diplomats from both countries in the field of climate diplomacy would be a good start for launching such action¹⁰⁴.

A concrete idea in that context could concern Ukraine, which is especially at high risk of being negatively affected by the CBAM, because of its carbon intensive industry. Considering the idea of Just Transition adapted to the foreign policy reality¹⁰⁵, such action would provide an opportunity to implement the principle of solidarity in relation to energy matters with Ukraine, so important in Polish and German public debates, however, often tackled from different angles. An exchange with and combined support by Polish and German experts in establishing a domestic emission trading scheme to avoid pressure coming from a planned CBAM could be a second step.

Both actions described above as well as most of the ideas presented in this paper require an institutional reinforcement. To properly consult and coordinate the climate and energy policies and endeavours of both countries a **permanent working group at ministerial level** should be established. Steps undertaken by such a working group could encompass various activities. It could start from drawing-up a general vision of Polish-German climate and energy cooperation that would position both countries as ambitious trendsetters not only in the EU context, but also in other regional and multilateral settings. It could work on creating common definitions and methodologies, which would allow to comparatively evaluate current and future climate and energy policies. Furthermore, this permanent working group could work closely with the **Polish-German academic entity**, as described in the Research and Innovation subchapter, to map and streamline current research projects and activities as well as to define joint future research and innovation priorities. Finally, its work could be complemented with a **German-Polish Office for the Energy Transition**, similar to the existing German-French Office¹⁰⁶, to collect information about past and ongoing projects, connect actors from both countries and exchange knowhow.

¹⁰³ Lutz Weischer et al. (2021), *Paris-Partnerschaften. Ein Beitrag zur Neuausrichtung der deutschen Klimaußenpolitik an den Zielen des Pariser Klima-Abkommens*, Germanwatch e.V., Berlin.

¹⁰⁴ See also: Daria Ivleva et al. (2017), *Climate Diplomacy. Foreign Policy Responses to Climate Change*, adelphi, Federal Foreign Office, Berlin.

¹⁰⁵ Florian Ranft et al. (2019), „*Brief Foreign Policy and the Just Transition*“, Policy Brief, Das Progressive Zentrum, GIZ, Berlin.

¹⁰⁶ See: <https://energie-fr-de.eu/>

5 Summary

At present, Polish-German relations in the area of climate change and energy have been burdened with the legacy of a number of controversies from the past few years. It would be beneficial for both countries - and the whole EU - if matters moved beyond such a state. As the divergences, with regards to climate and energy objectives, between Poland and Germany are decreasing, the European Green Deal and the “Fit for 55” package present numerous opportunities for multidimensional cooperation for these two EU member states. These opportunities could significantly accelerate the energy transition, improving energy security and system reliability, fostering sustainability and supporting competitiveness and job creation.

Successful Polish-German cooperation in the fields of climate change and energy would reaffirm both countries’ crucial position within the European Union. It would underline their aspirations to constructively contribute to the development of the overall climate and energy strategy and strengthen the EU’s policymaking process. Additionally, it would offer a model for other EU members for how to overcome diverging interests and pursue shared goals, while at the same time counteracting the symbolic division between the East and the West and the ‘two-speed’ decarbonisation approach. With this in mind, Polish-German cooperation should not be considered to present competition to existing regional initiatives or to Franco-German energy cooperation. In fact, the opposite is true – it could complement such initiatives and introduce the perspective of CEE countries to the climate debate in the West, also in the context of the Weimar Triangle¹⁰⁷.

Developing a Polish-German collaboration in the fields of climate and energy would strengthen overall relations between the two neighbours and further develop their economic ties. It would mean activating and involving numerous climate and energy stakeholders at multiple levels, including those that represent businesses, industry, civil society and science as well as increasing the scope of activities beyond the Polish and German national borders. The cooperation of both governments on climate and energy policies would increase their credibility in the eyes of their citizens’ and demonstrate the determination behind the decarbonisation measures which have been set out.

¹⁰⁷ See also: Sami Andoura (2010), [Energy cooperation under the aegis of the Weimar Triangle](#), Genshagen Papiere. Genshagen Foundation, Genshagen.

This paper has focused on five possible areas of the Polish-German cooperation.

(i) A **research and innovation dimension** could enhance joint activities in two streams of research: future-oriented technologies and socio-technological systems, underlined by an implementation partnership that would make use of any overlaps and synergies of the EU funding options. A more ambitious step would be to create a Polish-German **academic entity**.

(ii) An **infrastructural dimension** relates to building physical ‘energy bridges’, cross-border renewables projects and offshore-connecting infrastructure between Poland and Germany. An ambitious step could involve cross-border pilot projects on integrating RES into the energy system, and cross-border transportation infrastructure, including charging points for electric vehicles.

(iii) Considering the **social dimension** of the energy transition, Poland and Germany could strengthen the “Initiative for Coal Regions in Transition” and the Just Transition Platform. Both countries would also benefit from sharing their experience with coal regions, energy poverty and stakeholder participation. To take a cooperation to a higher level, exchanges between relevant ministries and relevant entities for phasing out coal could be arranged.

(iv) At a **local level**, Poland and Germany could implement EU flagship missions in cooperation with the Polish-German Youth Office and municipal partnerships. They could also jointly contribute to the development of the New European Bauhaus. Setting the bar higher, a Polish-German alliance could provide substantial input to Land Use, Land Use Change and Forestry Regulation and link it more strongly with agricultural policy.

(v) In order to improve the bilateral governance framework and coordinate all the described actions in a more structured and formalised way, Poland and Germany could strengthen their cooperation at the **institutional level**. A concrete and ambitious option would be to establish a permanent working group at a ministerial level, supported by a German-Polish Office for Energy Transition. Additionally, commitment to actively consult national energy and climate progress reports and launching joint diplomatic activities would be a further step forward.

These suggestions show that there are plenty of opportunities for Polish-German climate and energy cooperation, which could encompass multiple dimensions. Some of them could be realised “here and now” as a direct response to the “Fit for 55” package, some of them are focused on the medium-term to support the European Green Deal, and some of them are foreseen as long-term initiatives which will require patience, ongoing efforts and substantial resources, but with the positive outlook of better achieving climate neutrality by 2050.

The complexity and interlinkages of many of the five dimensions’ elements mean that discussions would be the advisable way to proceed in order to address the issues that have so far constituted ‘bones of contention’ between Poland and Germany. Concentrating on overlaps and opportunities would allow these two states to pursue their national energy policy goals while facing future challenges

together and, at the same time, growing mutual trust and a common understanding. By pursuing these initiatives Poland and Germany could maximise their existing synergies and elevate their relationship to a higher level.

However, the best of ideas can become redundant if there is no political will and no determination behind decision-makers. While this paper contributes concrete ideas to the debate on Polish-German climate and energy cooperation, it is hoped that it will also motivate key stakeholders to undertake specific actions so that such a collaboration may become a reality and work efficiently.

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