Memorandum For Poland Minister of Finance, Mr. Andrzej Domański

Subject: Funding Strategies for Poland's Just Energy Transition

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1 Executive Summary

This memo recommends securing funds from the EU Just Transition Fund as the short-term strategy to support Poland's energy transition. This approach is favored due to the immediacy and substantial grant funding it provides, which does not incur significant fiscal liabilities for Poland. The fund is uniquely positioned to assist regions heavily dependent on fossil fuels, offering a crucial safety net during the transition period, including job creation in the green economy and support for small and medium enterprises. While acknowledging the challenges and unpopular aspects of committing to the EU's energy transition agenda, the advantages of aligning with EU policies—such as access to a larger financial resource pool and enhanced international credibility—are deemed to significantly outweigh these concerns. The recommendation aims to ensure Poland navigates its economic transition effectively to reach long term economic benefit, not ignoring the impacted communities, while leveraging EU support to mitigate immediate challenges.

2 Background

The transition of a nation's economy towards more sustainable practices is not merely a trend compelled by the climate crisis but also a pathway to expedite economic growth. A greener, more sustainable economy has the potential to rectify market failures that Poland may encounter, such as the inclusion of previously overlooked costs by profit-driven private entities (externalities). Additionally, it could enhance labor productivity through the improved health and welfare of the population, which, in turn, would contribute to a more sustainable economic impact[1]. Notably, out of the 50 most polluted cities in Europe, 36 are located in Poland, contributing to approximately 43,000 premature deaths annually[2].

Fossil fuels, particularly coal and oil, constitute the majority of Poland’s energy mix overall, as well as Poland’s electricity generation specifically. Nevertheless, Poland has decreased its reliance on fossil fuels since its peak in the 1990s. Coal accounts for 97 TWh of power or more than 60% of all power generated (Figure 2). This places Poland at the forefront among EU member states in terms of coal dependency. In contrast, only 21% of Poland's electricity comes from renewable sources, one of the lowest ratios in the EU. These facts underscore the urgency for Poland to reduce coal usage and associated emissions as swiftly as possible.

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[1] Stern, Nicholas, and Joseph E. Stiglitz. “Climate Change and Growth.” *Industrial and Corporate Change*, vol. 32, no. 2, Apr. 2023, pp. 277–303. *Silverchair*, https://doi.org/10.1093/icc/dtad008.

[2] Elkind, Jonathan, and Damian Bednarz. “Warsaw, Brussels, And Europe’s Green Deal: Challenges and Opportunities In 2020.” *CGEP*, July 2020. *Zotero*, https://www.energypolicy.columbia.edu/publications/warsaw-brussels-and-europe-s-green-deal-challenges-and-opportunities-2020/.

Based on the abovementioned problem, Poland set the EPP2040 plan which primarily involves reducing coal-fired electricity generation. The plan aims to decrease the share of coal in electricity generation from 68.5% in 2020 to between 37.5% and 56% by 2030, and to between 11% and 28% by 2040. The plan expects to replace coal with natural gas, renewable energy, or nuclear generation. In doing so, it targets achieving 32-50% renewable energy penetration by 2030, a goal that falls significantly short of the RePowerEU plan, which aims for 69% renewable energy by the same year[3]. Moreover, the plan must address Poland's insufficient generation capacity, as Poland has been a net importer of electricity since 2014, importing around 10% of its electricity demand in 2020[4]. This may necessitate a revision of the renewable energy installation targets to be more ambitious.

The bulk of the coal used in Poland is sourced domestically. In 2020, Poland was responsible for 96% of the EU's hard coal production and was the second-largest lignite producer in the EU. Although Poland has traditionally been a net exporter of hard coal, imports, mainly for electricity generation, have been increasing due to the decline in domestic thermal coal production. In 2008, Poland became a net importer of hard coal for the first time, with imports exceeding 10 million tons in 2020, primarily from Russia.

A major challenge in reducing coal usage is the potential loss of employment within the coal industry, both coal power plants and mines. The direct employment in the coal mining industry is 84,528 people or equivalent to 136 million manhours. In addition, there are 60,574 employees or 94 million manhours employed in the electricity generation sector which majority are in coal plant[5]. Renewable energy options typically require fewer employees compared to coal plants, therefore another job creating business should be generated promptly for this people. The primary hard coal mining companies in Poland are state-owned, with the largest being the Polish Mining Group. For lignite mining, the main players include the state-owned utility PGE and two private companies. The transition may adversely impact these companies and their employees. A prompt solution is required to prevent or at least ameliorate the adverse impact of the transition, particularly for the population facing a risk of unemployment.

[3] European Commission. “Joint Statement by the Director-General of the International Renewable Energy Agency La Camera and EU Commissioner Simson: ‘The Time for Speeding up Renewables Is Now.’” *News Announcement*, 30 Mar. 2023, https://energy.ec.europa.eu/news/joint-statement-director-general-international-renewable-energy-agency-la-camera-and-eu-commissioner-2023-03-30_en.
[4] IEA. *Poland 2022 Energy Policy Review*. 2022nd ed., IEA, 2022. *DOI.org (Crossref)*, https://doi.org/10.1787/2075436d-en.
[5] Eurostat. *Annual Detailed Enterprise Statistics for Industry (NACE Rev. 2, B-E)*. Eurostat, 3 Jan. 2024, https://doi.org/10.2908/sbs_na_ind_r2.

3 Key Information

Addressing the employment issue necessitates a just transition mechanism, which, despite uncertainties, requires an estimated investment of $14 billion per year. This cost represents 1-2 percent of Poland's GDP and totals $412 billion until 2050[6]. This investment would be equivalent to 10-12 percent of Poland's current annual investment in the economy, bringing it in line with the EU average investment of around 22 percent of GDP[7]. The investment would be used to construct renewable energy plants, creating a significant number of temporary and permanent jobs. It would also fund retraining programs, targeted job-matching programs for younger populations, retirement programs for older individuals, and support for small and medium-sized businesses that can create employment in affected regions. These programs should be implemented promptly, as older populations may be more resistant to retraining and thus more challenging to transition to greener jobs.

Currently, Poland's fiscal condition is relatively conservative, with its debt-to-GDP level sitting below 50%, far below the EU average of 84%[8]. This factor, among others, contributes to Poland's decent credit ratings of A- by S&P and A2 by Moody's. However, Poland's current government budget of $214 billion already faces a deficit of about $45 billion, or equivalent to 5.1 percent of GDP[9]. This deficit primarily resulted from previous populist policies such as military overspending due to the Russian invasion, significant coal subsidies and compensations, and the 2023 election[10].

From 2010 to 2019, Poland's fossil fuel subsidies increased from $1.25 billion to $1.91 billion per year, with most of the growth attributed to a significant rise in coal subsidies in 2018[11]. In 2019, $1.46 billion of fossil fuel subsidies were allocated to coal, followed by oil ($0.43 billion) and a mere $3.4 million for natural gas[12]. The OECD report highlighted that Poland's fossil fuel subsidies mainly consist of compensations for the decommissioning of coal mines and the termination of long-term power purchase agreements with coal-fired power plants. The RFF report also identified subsidies aimed at delaying the closure of unprofitable coal mines to

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[6] Hauke Engel, et al. *Carbon-Neutral Poland 2050: Turning a Challenge into an Opportunity*. McKinsey, 16 June 2020. *Zotero*, https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/carbon-neutral-poland-2050-turning-a-challenge-into-an-opportunity.

[7] CEIC. “Poland Investment: % of GDP.” *Poland Investment*, June 2023, https://www.ceicdata.com/en/indicator/poland/investment--nominal-gdp.

[8] Rafal Benecki and Adam Antoniak. “Poland’s Fiscal Space after the October Elections.” *Articles*, 30 Oct. 2023, https://think.ing.com/articles/polands-fiscal-space-after-october-elections/.

[9] AP News. “Poland’s Lawmakers Vote in 2024 Budget but Approval Is Still Needed from pro-Opposition Presiden.” *World News*, 18 Jan. 2024, https://apnews.com/article/poland-budget-lawmakers-government-president-d36d618b50cb60afc90580f02668735a.

[10] Florkiewicz, Pawel, et al. “New Polish Government Inherits Troubled Budget Legacy.” *Reuters*, 13 Dec. 2023. *www.reuters.com*, https://www.reuters.com/world/europe/new-polish-government-inherits-troubled-budget-legacy-2023-12-13/.

[11] Using 1.08 USD to EUR exchange rate on February 25th, 2024.

[12] OECD. *Poland: Inventory Of Estimated Budgetary Support and Tax Expenditures For Fossil-Fuels*. Country Report, OECD, p. 10, https://www.oecd.org/fossil-fuels/pol.pdf. Accessed 7 Mar. 2024.

mitigate the transition's impact.[13]. Notably, Polish mining companies are not required to cover the costs of mine closures or remediation; the state-owned SRK assumes ownership of non-productive mines and is responsible for all decommissioning costs, ultimately borne by taxpayers.

Poland's current fiscal condition primarily stems from a historically right-leaning approach. This approach was not without rationale; Poland has long held the belief that excessive dependency on other countries could jeopardize domestic welfare. This was evidenced during the post-WW2 European recession when Latvia, upon affiliating with the Eurozone and pegging its currency to the Euro, experienced severe macroeconomic distress. In contrast, Poland chose to delay its Eurozone affiliation and maintain its monetary independence, resulting in a comparatively better overall condition[14]. Additionally, Poland managed to avoid the level of economic damage experienced by other European or OECD countries during the pandemic[15].

A similar philosophy has been applied to the electricity market, wherein Poland's previous government adopted a clear stance against the EU's electricity market integration agenda. This view, also shared by right-leaning supporters, including the current President, primarily concerns the risk of grid congestion from Germany's offshore wind projects utilizing Poland's transmission infrastructure. Energy policymaking must proceed without foreign intervention, especially regarding the energy mix.

Given the underlying socio-political dynamics in Poland, it is crucial for the government to successfully manage this transition. This is particularly important for domestic politics, especially in coal-dependent regions like Silesia, with 5.4 million voters. Securing these communities will ensure smoother politics in the future. This issue also holds significance for Poland's international affairs[16]. The new Polish government needs to position itself on this issue to the global community and gain support from more developed countries in terms of access to funding and partnerships.

Based on the above assessment of Poland's social, political, and economic conditions, three options have been identified to fund the just energy transition program: (1) tightening the existing government budget, particularly on coal subsidies, (2) promoting private investment through government-backed guarantees, (3) utilizing the EU Just Transition Fund, or (4) obtaining funds through the issuance of green bonds to domestic and foreign investors.

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[13] Śniegocki, Aleksander, et al. *Just Transition in Poland: A Review of Public Policies to Assist Polish Coal Communities in Transition*. 22–06, RFF, May 2022, p. 34. *Zotero*, https://media.rff.org/documents/Report_22-06_June_1_2022.pdf.

[14] Feenstra, Robert C., and Taylor, Alan M.. International Macroeconomics. United States, Worth Publishers, 2016.

[15] Paweł Bukowski and Wojtek Paczos. "Why Is Poland's Economy Emerging so Strongly from the Pandemic? A Comparison with the UK." *EUROPP*, 19 May 2021, https://blogs.lse.ac.uk/europpblog/2021/05/19/why-is-polands-economy-emerging-so-strongly-from-the-pandemic-a-comparison-with-the-uk/.

[16] Elkind, Jonathan, and Damian Bednarz. "Warsaw, Brussels, And Europe's Green Deal: Challenges And Opportunities In 2020." *CGEP*, July 2020. *Zotero*, https://www.energypolicy.columbia.edu/publications/warsaw-brussels-and-europe-s-green-deal-challenges-and-opportunities-2020/.

4 Options to Fund the Just Transition Program

4.1 Public Budget Adjustment

The government can improve upon the previous regime's policies and revise any measures that perpetuate the status quo. Improvements should be multifaceted, for example, by incentivizing the construction of renewable plants on the same sites as decommissioned coal plants/mines or by increasing the import tax on coal. These measures should generate additional budgetary resources that can be reallocated to the just energy transition program. The government should collaborate with private firms and experts to determine which budgets should be reallocated to mitigate long-term economic impacts.

4.1.1 Pros

- Aligns with the sentiment of coal-dependent regions against ceding strategic decisions to the EU, especially regarding the energy mix and power market.
- Decreases coal imports, potentially benefiting the domestic coal industry in the short term.
- Facilitates the government's ability to declare success due to the lack of foreign involvement.

4.1.2 Cons

- Requires years of preparation to implement new measures effectively.
- Might face public resistance due to higher coal prices affecting other goods.
- Increased goods prices could slow down economic growth temporarily.
- May paradoxically boost short-term domestic coal output due to the green transition.
- Unlikely to generate the needed $13 billion annually because the value of subsidies is just under $2 billion.

4.2 Public-Private Partnerships (PPPs)

The government could encourage private investment in just transition activities by offering guaranteed long-term revenue. This could include retraining platforms for affected miners and job search assistance, as well as the remediation of former coal mine sites. Private firms would benefit from long-term contracts with the government or state-owned entities, backed by payment guarantees.

4.2.1 Pros

- Attracts private investment, easing the short-term fiscal burden by spreading financial obligations over time.
- Stimulates innovation and competition, offering new job opportunities and promoting economic growth.
- Simplifies the government's success claim due to minimal foreign involvement.
- Poland's decent credit rating may attract superior firms.

4.2.2 Cons

- Dependence on the profit-driven private sector could misalign with public interests.
- Short-term implementation is challenging due to lengthy legal and contractual processes of PPP.
- Incurs higher costs compared to traditional public procurement.
- Competitive limitations, with few large firms capable of managing complex PPP processes, likely foreign entities.
- Unpredictable impact due to high reliance to private firms.

4.3 EU Just Transition Fund

The government can propose the allocation of the EU Just Transition Fund for Poland. The fund was created in 2019 to support economic diversification in regions reliant on fossil fuels that will be the most affected by decarbonization and to help local workforces in these areas acquire new skills. The fund has a total budget of around EUR 17.5 billion, which will be directed to regionally developed transition plans. Poland is expected to receive the largest share of funding (EUR 3.85 billion). The fund focuses on the 6 most impacted regions in Poland (Figure 3)[17].

4.3.1 Pros

- Shares the fiscal burden of transition with the EU Commission and member states.
- Demonstrates a clear commitment to international transition efforts.
- Offers access to more substantial financial resources than alternative options.
- A significant part of the fund is grants, not impacting the fiscal stability.
- Promote private firms' involvement since they can also access the fund.

4.3.2 Cons

- Requires a clear commitment to the EU's energy transition agenda.
- May be unpopular due to potential ceding of national decision-making to the EU.
- Challenges with the EU's rigid green taxonomy, especially regarding coal decommissioning.
- May necessitate the liberalization of certain domestic laws, like onshore wind siting.

4.4 Poland Sovereign Climate Transition Bonds

The government could issue sovereign transition bonds to raise capital from both domestic and international investors, akin to green bonds for climate-related projects. This approach might offer lower capital costs than traditional bonds. A similar bond has been issued by Japan to fund their transition project in January 2024[18].

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[17] European Commission. *Overview of Investment Guidance on The Just Transition Fund 2021-2027 per Member State*. Country Report, 2020, European Commission, 2020, https://commission.europa.eu/document/download/d28fd6ef-4363-4d5f-a4c0-370c0aa28b7c_en?filename=annex_d_crs_2020_en.pdf.

[18] Junko Fujita. "In Tokyo, World's First Sovereign Transition Bonds Make Their Debut." *Reuters*, 14 Feb. 2024, https://www.reuters.com/sustainability/climate-energy/tokyo-worlds-first-sovereign-transition-bonds-make-their-debut-2024-02-14/.

4.4.1 Pros

- Appeals to a wide range of investors, broadening the funding base.
- Facilitates the government's ability to declare success.
- Poland's strong credit rating may boost bond demand.

4.4.2 Cons

- Market volatility and fluctuating investor interest in green bonds.
- Potential to displace private investment.
- Could impact the Polish currency, affecting export competitiveness.
- Risks promoting greenwashing without strict oversight.
- Adds to fiscal liabilities, impacting debt sustainability.
- Poland’s unproven measure in transition may reduce investor’s confidence.

5 Recommendation

Given the analysis of various funding options, it is recommended that the Polish government pursue the EU Just Transition Fund as a viable short-term solution. One important aspect that differentiates this fund from the others is the speed of implementation. The EU Just Transition Fund is specifically designed to support regions heavily reliant on fossil fuels. While other options rely on a more market approach which requires active private investors to take the initiative. The budget reallocation strategy requires a lengthy assessment before implementation to prevent adverse impacts. Moreover, budget cuts will only give a partial amount of capital needed for the program.

It is crucial to acknowledge that while this approach requires a firm commitment to the EU's energy transition agenda, a rather unpopular policy, the benefits of accessing substantial grant funding without incurring significant fiscal liabilities for Poland are considerable. Various jobs will be created from the green economy. While it cannot promise any ideal and prompt job transition for the affected population, the fund provides the social safety net required during the turbulent period. A specific budget is allocated for small and medium enterprises that can absorb employment from this group of people, while targeted job matching will also be done.

Moreover, aligning with the EU's environmental and energy policies not only demonstrates Poland's commitment to sustainable practices but also facilitates access to a larger pool of financial resources than other options might offer. It can also bring better credibility among international communities as well as private companies concerned with this matter. If regulations can be reformed correctly, Poland should experience better economic outcomes in the long term. This is very important because the EUR 3.85 billion fund budgeted for Poland is still short of the required average of $13 Billion per year. Poland needs to consider other options, including options mentioned in this memo, for an additional long-term funding strategy to fully achieve its 2050 target.

In conclusion, while there are challenges and requirements associated with accessing the EU Just Transition Fund, the potential benefits for Poland far outweigh these considerations. The fund presents a strategic opportunity for Poland to address the immediate needs of its transitioning regions, including the technical support necessary to implement comprehensive and sustainable solutions. Therefore, it is recommended that the Polish government actively pursue this funding option as part of its short-term strategy for the Just Transition Program, while continuing to explore all available options for the long term.

6 Appendix

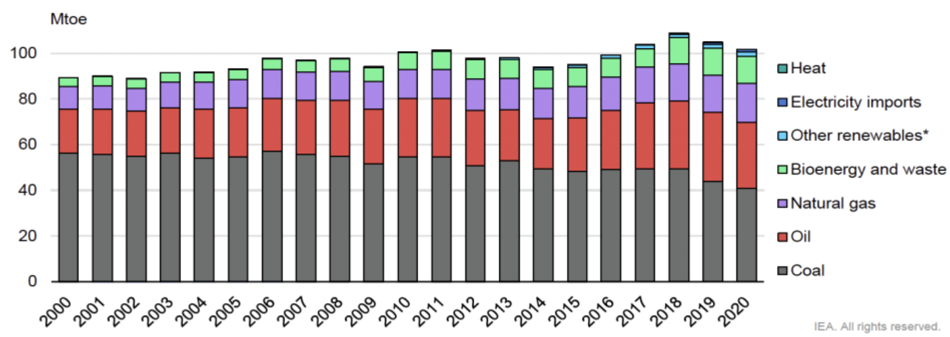

Figure 1 Energy supply and demand by source in Poland, 2000-2020 (source: IEA)

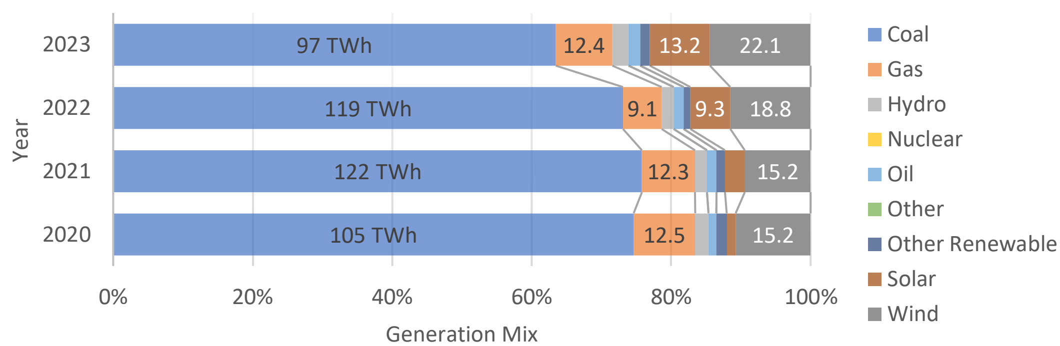

Figure 2 Power generation mix in Poland, 2023 (source: ENTSO-E)

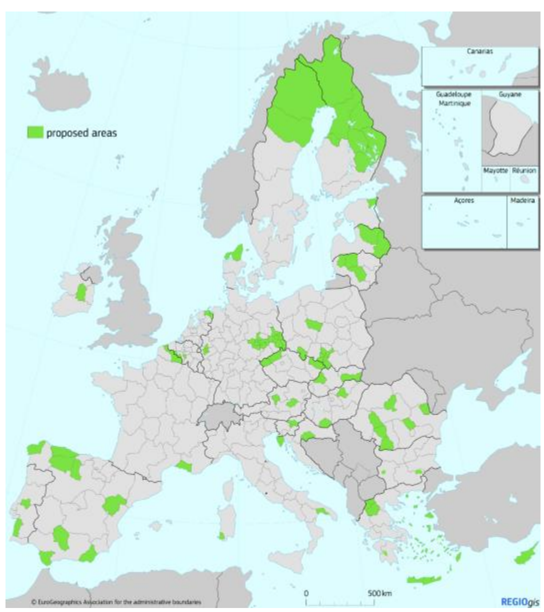

Figure 3 EU Just Transition Fund Proposed Regions