

Energy Policy of Poland until 2050

Poland needs a sustainable energy system, which will boost the national economy and fully serve the needs of Polish people and business. The system should be secure, economically viable, and environmentally sound.

The new Polish energy strategy until 2050 intends to achieve these goals through a predominantly coal-based economy. In this response, Sandbag shows that fundamental changes need to be introduced into the policy package in order to ensure the strategy is cost-effective, and mitigates climate change.

The Polish energy system can be economically sound without taxpayer support.

To achieve this objective the 2050 roadmap should:

- **minimise financial support mechanisms for mining and conventional generation industries;**
- **ensure all costs of the proposed energy strategy – such as mining restructuring costs, capacity mechanism payments, etc. – are reflected in electricity prices;**
- **keep costs of adequate energy supply low for consumers. The capacity mechanism should encourage all forms of capacity in the system. The strategic plan should not give preferential treatment to coal capacity.**

There are feasible options to reduce the environmental impact of the Polish energy system.

To achieve this objective the 2050 roadmap should:

- **include an action for closures of 6.4 GW of coal capacity as foreseen by the Strategic Plan until 2020;**
- **focus on R&D and investment activities on Carbon Capture Storage & Utilisation (CCS&U) technologies, which aim at large scale CO₂ abatement.**

Implementation of our recommendations will increase the chances for success in achieving the strategy goals. Detailed evidence for our suggestions follows in the Polish Ministry of Economy consultation format.

Priority projects, pp. 11 – 15 (Main document)

Comment

The national energy system should function without the support of the Polish taxpayer. To ensure that the strategic plan should:

- stop financial support mechanisms for mining and conventional generation industries,
- ensure all costs of the proposed energy strategy – such as mining restructuring costs, capacity mechanism payments, etc. – are reflected in electricity prices.

Justification

These actions will:

- **Ensure the proposed solutions are economically viable.** In Q1 2015 Polish hard coal production recorded [\\$389 million net loss](#). Planned restructuring activities may improve the profitability of the sector, but in face of declining coal prices it is highly unlikely Polish coal will become a competitive fuel. In order to avoid burdening the Polish consumer, Poland’s energy policy should not be separated from the market.
- **Allow Polish energy consumers to make informed decisions.** Subsidising mining activities by the Polish treasury hides the real cost of the proposed energy package. The latest report by the Warsaw Institute for Economic Studies (2014) “[The Hidden Coal Bill](#)” indicates that between 1990 – 2012 the mining sector alone received PLN 135.944 billion (€32.368 billion) in direct and indirect government subsidies. Shifting the cost of the proposed energy package from government subsidies onto electricity prices will allow Polish consumers to make informed decisions about their energy supplier preference.

Priority projects, pp. 11 – 15 (Main document)

Comment

The costs of ensuring adequate capacity on the market should be kept low for consumers. The capacity mechanism should encourage all forms of capacity in the system by both its design and implementation. The strategic plan should not give preferential treatment to coal capacity and place a cap on the amount of new coal capacity.

Justification

Encouragement of all types of capacity will:

- **keep electricity prices low for consumers.** The capacity mechanism design and implementation that provides a level playing field for all forms of capacity will restore the generation capacities at the lowest possible cost. Such solution will not increase the cost to Polish consumers, according to [Professor Andrzej T. Szablewski](#), working at the Economic Department of the Polish Academy of Science.
- **prevent capacity oversupply.** Polskie Sieci Elektroenergetyczne S.A. data shows there is 6,871 MW of hard coal capacity and 496 MW of lignite capacity scheduled to be built in Poland till 2025, even without incentives from the proposed capacity mechanism. Such a mechanism, combined with the lack of a clear action plan for the closures of 6.4 GW of old coal capacity foreseen by the plan (p. 16) and a cap on new built, will lead to large coal capacity oversupply. As such, coal power generation will become even less profitable than today.
- **reduce the risk of incompatibility of Polish energy strategy with the future EU regulation.** The European Commission is currently conducting an investigation into the use of capacity market mechanisms in European countries. There is a high risk that the plan favouring a particular type of capacity will have to be revised in the coming years in order to adapt to coming EU regulations. Designing a level playing field in capacity market now will help Poland to avoid costly legislative and administrative changes in the future.

Minimising ecological burdens generated by energy sector, pp. 53 – 54 (Document 3)

Comment

The action plan under *Intervention III. 2. 1. Reducing emissions of pollutants* should include an action for closures of 6.4 GW of coal capacity, as foreseen by the strategic plan till 2020 (p. 16).

Justification

Ensuring closure of 6.4 GW of coal capacity will:

- **decrease negative health impacts disproportionately stemming from old coal capacity (40+ year old plants).** Old coal capacity produces significantly more air pollution than new capacity. The 51 year-old Adamów coal plant, which is scheduled for closure, produces three times the cost of health impact per tonne of coal burnt than the 22-year-old Opole coal plant. Projection 1 of this package coupled with EEA data foresees decrease in health cost to €30 – 85 billion in 2020 (from €44 – €125 billion in 2010) subject to closures of 6.4 GW capacity.

Energy policy directions, pp. 9 - 11 (Main document)

Comment

The plan should focus on R&D for innovative technologies, which are capable of lowering the impact of conventional fuels on environment, namely CCS&U technologies.

Justification

Investment in CCS&U technologies will:

- **give Poland the opportunity to lead European climate mitigation on its own terms.** Poland could provide a positive response to climate change, which is in line with its own energy policy priorities.
- **ensure the strategic plan meets its economic and environmental operational objectives.** Rising CO₂ prices and the overall direction of EU climate policy make CO₂ abatement indispensable; a fact recognised in this document (see pp. 45-46). CCS is particularly attractive CO₂ abatement technology in conjunction with other cleaner coal technologies foreseen by the plan. Combined with coal gasification it allows plants to avoid the costs of separating CO₂ from other waste gases - which comprises the majority of CCS marginal costs. New generation coal gasification plants, such as Mississippi Power's Kemper County energy facility and Hydrogen Energy California (HECA) are designed to capture 65% of CO₂ and 90% respectively, according to the generators.
- **attract funding for R&D from industrial operators.** Industrial operators have a great deal to gain on CCS technology development: CO₂ abatement in their own operations, which will increase their competitiveness on international markets by reducing the impacts of the carbon price, as well as lowering the carbon footprint of their products. When the carbon price per tonne of CO₂ exceeds the cost of CSS use the energy prices will become significantly lower.

New energy technologies development, pp. 56 - 63 (Document 3)

Comment

The action plan for years 2015-2018 should include and prioritise CCS&U technologies.

Justification

Early investment in CCS&U technologies will:

- **allow enough time for the pre-development stage in CCS deployment.** CCS typically involves front end engineering and design (FEED) studies, raising funds for development, planning infrastructure, obtaining storage appraisal and agreements on public-private risk allocation - all of which results in a lengthy planning processes. Once deployed, CCS systems may take years to reach full potential as geological storage reservoirs require long term testing with periods of no injection for the purpose of monitoring storage integrity. CCS technology will be indispensable in the 2050 horizon, which means it needs to kick-off now.

About this briefing

We are grateful to European Climate Foundation for helping to fund this work. Full information on Sandbag and our funding is available on our website (www.sandbag.org.uk).

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The logo for Sandbag, featuring the word "sandbag" in a bold, lowercase, blue sans-serif font.