



WWF Polska

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Reference number assigned to the case by the Contracting Authority: RES/01/01/2021/OK

ANNEX 1

Description of the subject of the contract

The Contracting Authority calls for offers in the inquiry on the optimisation of the electricity generation mix in Poland on a climate-proof renewables development path within a 2030, 2040 and 2050 timeframe with an aspirational '100% renewables' target.

To limit the mean global temperatures growth to 1.5 degrees Celsius, which will protect humanity against most of the disastrous effects of climate change, climate neutrality must be achieved globally by mid-century at the latest¹. It will not be possible to achieve this goal without changing the way energy is obtained, stored and used. The decarbonisation of the energy sector will be needed in the first place. Due to the various constraints and environmental challenges related to the generation of electricity from fossil fuels, waste, biogas, nuclear and hydropower, energy storage options will play an increasingly important role in cooperation with wind and photovoltaic power sources.

At the same time, the debate on decarbonisation in Poland is highly reliant on scenarios in which electricity currently generated from coal (bituminous coal and lignite) is replaced by gas and nuclear power sources. In the public debate there is also a deep concern about the costs of decarbonisation to the society. Moreover, the challenge of balancing electricity generation from renewable energy sources is consistently raised.

In the energy mix debate in Poland, WWF Poland has identified several analytical and policy gaps on a "coal to clean" pathway, especially when combining them. These include:

- How to design a coal phase-out with an aspirational 2030 goal?;
- Mitigating the risk of a fossil gas lock-in (also due to the rapid coal phase-out);
- Building up a high share of renewable energy sources (RES) until 2030 and further: leaning towards a "100% RES" energy mix by mid-century;
- Extremely high investment costs of nuclear power, an investment that will bring potential climate benefits by the mid-2030s at the earliest;
- Building up a (nearly) net-zero energy mix in line with climate targets (2040 at the latest);
- An insufficient inclusion of energy storage solutions in existing modelling for Poland;
- Not sufficiently addressing the environmental, social and spatial challenges of RES development which includes i.a.: the distance of wind farms from settlements, the maximal sustainable amounts of bioenergy, the impact on Natura 2000 areas, bird migratory routes or the destruction of rivers by large- and small-scale hydropower.

¹ <https://www.ipcc.ch/sr15/>



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Given the above description, Fundacja WWF Polska is seeking a Contractor that is ready to provide a publication in Polish and English, with an executive summary and presentation of its results in Polish and English, **on the optimisation of the electricity generation mix in Poland in order to achieve a high share of renewables by 2030, climate neutrality in the 2040s and an aspirational target of 100% renewables by 2050.** This should take into account the electrification of other sectors such as a heating and cooling, transportation, and industrial production, at the lowest possible cost per MWh of energy supplied.