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RECOMMENDATIONS

The recommendations presented below are the result of considerations of the issues raised in the report. They include insights, conclusions, and key information on nuclear power.

1. Nuclear power is a proven zero-emission energy source that should be implemented in Poland

In Poland, it is necessary to make a decision on the construction of new generation capacities based on technologies that guarantee safety and reliability of energy supplies. Nuclear power uses mature and proven technologies that enable decarbonization of the electricity sector without the need to make revolutionary changes in the way it operates. The large-scale light-water reactor (LWR) designs (conventionally referred to as Generation III) offered today are an evolutionary development of solutions that have been in use for many years, which makes them refined and reliable. Although there are numerous proposals for different solutions in the market, in terms of both the mode of operation (e.g. high-temperature reactor (HTR)) and the power (small modular reactor (SMR)), these technologies are not ready for implementation on a significant scale in commercial power generation at present, which does not allow the energy transition plans currently under development to be based on them.

2. Nuclear power uses safe technologies

The operating experience gained since the 1950s proves that nuclear power is one of the safest ways to generate electricity. Further safety improvements continue to be a priority for development of nuclear technologies and this is reflected in the current designs on offer. Industry transparency and international oversight play an important role in ensuring continued safety of nuclear power plants. In addition, the nuclear industry provides full oversight of the waste generated at all stages of power plants’ life and fuel cycle (including uranium mining and processing), which is a unique approach compared to other industries. In addition, due to the small volume of nuclear fuel (which, among other things, makes it possible to store

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supplies for several years in advance) and flexibility in the choice of the source of supply, nuclear power has a positive impact on the country's energy security, among other things.

3. Nuclear power is essential for Poland to achieve climate neutrality

Poland should work towards achieving climate neutrality and adapting to the ongoing regulatory changes and environmental requirements.
The participation of nuclear power in the energy transition guarantees a lower cost of transition to a zero emission energy system and ensures a rapid increase of stable and zero-emission capacity in the system, thus ensuring its effective and deep decarbonization. Continued use and dynamic development of nuclear energy are necessary in order to meet the climate neutrality targets.

4. Nuclear power has a positive impact on the economy

It can be estimated that implementation of a project of construction and operation of nuclear power plants in Poland with the total capacity of 6 to 9 GWe will create tens of thousands of jobs, directly and indirectly, depending on the pace and the final scope of the Polish Nuclear Power Program (PNPP). Additional jobs created by the emergence of a new industry and increased consumer spending could double those numbers.
Research indicates that regions attractive for tourists in which a NPP is located can reap additional benefits from its presence in their territory. By implementing a nuclear power program, Poland would have a chance to stimulate its economy and make it resilient in the event of future economic crises similar to the one that has occurred in connection with the C0VID-19 pandemic.

5. Nuclear power plants supply cheap electricity

Basing the transition of the Polish power sector on nuclear power plants, which are the cheapest energy sources, should be a priority for the government, and decisions on investments should be made immediately. Each year of delay causes measurable and significant economic losses, leads to gradual disappearance of industry and jobs, increases the risk of a socio-economic crisis, and weakens the country's defense capabilities. The reason for this state of affairs are the rapidly rising energy costs for industrial consumers and the progressive loss of competitiveness of Polish companies in EU and global markets. The business model for Polish nuclear power plants must be well thought-out, comprehensive, acceptable, and socially just, as it will determine Poland's development for the next 100 years.

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6. There is a stable high social support for nuclear power in Poland
There is a stable high support for nuclear energy in Poland, both on the national level and locally. Polish public
opinion remains sensitive to arguments related to economy, safety, and energy independence, as well as to the argument related to the prestige resulting from development of the nuclear power sector. The experience of other countries shows that consistent implementation of nuclear programs by the government makes public support even stronger. In the case of Poland, this means a need to make decisions quickly and to pursue
target consistently. At the same time, extensive communication activities will be needed to provide reliable information on the benefits of nuclear power.

7. Polish industry has experience with nuclear projects and will benefit from development of nuclear power in Poland
It is also necessary to start activities related to construction of technical facilities for the new industry as soon as possible. In Poland, there are about 70 companies that have competencies and newly acquired experience in construction of nuclear facilities abroad, and several hundred more Polish companies are in a position to acquire such competencies in a short time once the Polish Nuclear Power Program (PNPP) is launched

8. The business model for the Polish nuclear power should take into account the interests of both investors and energy consumers.
The government should develop a new business model for nuclear power that meets all of the following criteria:
• investment certainty (stability) and attractiveness for investors;
• guarantee of take-up of the electricity produced;
• guarantee of a fixed selling price for the electricity produced;
• ensuring low energy costs for consumers and certainty of supply;
• compliance with EU legislation and strategies, and the highest possible degree of resistance to possible
obstructionist actions by the EC;
• ease and speed of implementation;
• comprehensiveness and reproducibility – applicability to the entire PNPP;
• minimized burden on the state budget and public finances;
• flexibility; and
• social acceptability.
The adopted model should also help rebuild the Polish economy after the crisis

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caused by the COVID-19 pandemic. It should support reindustrialization of the country and development of Polish companies, and should use Polish capital as much as possible, so as to avoid excessive increases in foreign debt and deepening of the trade deficit

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