

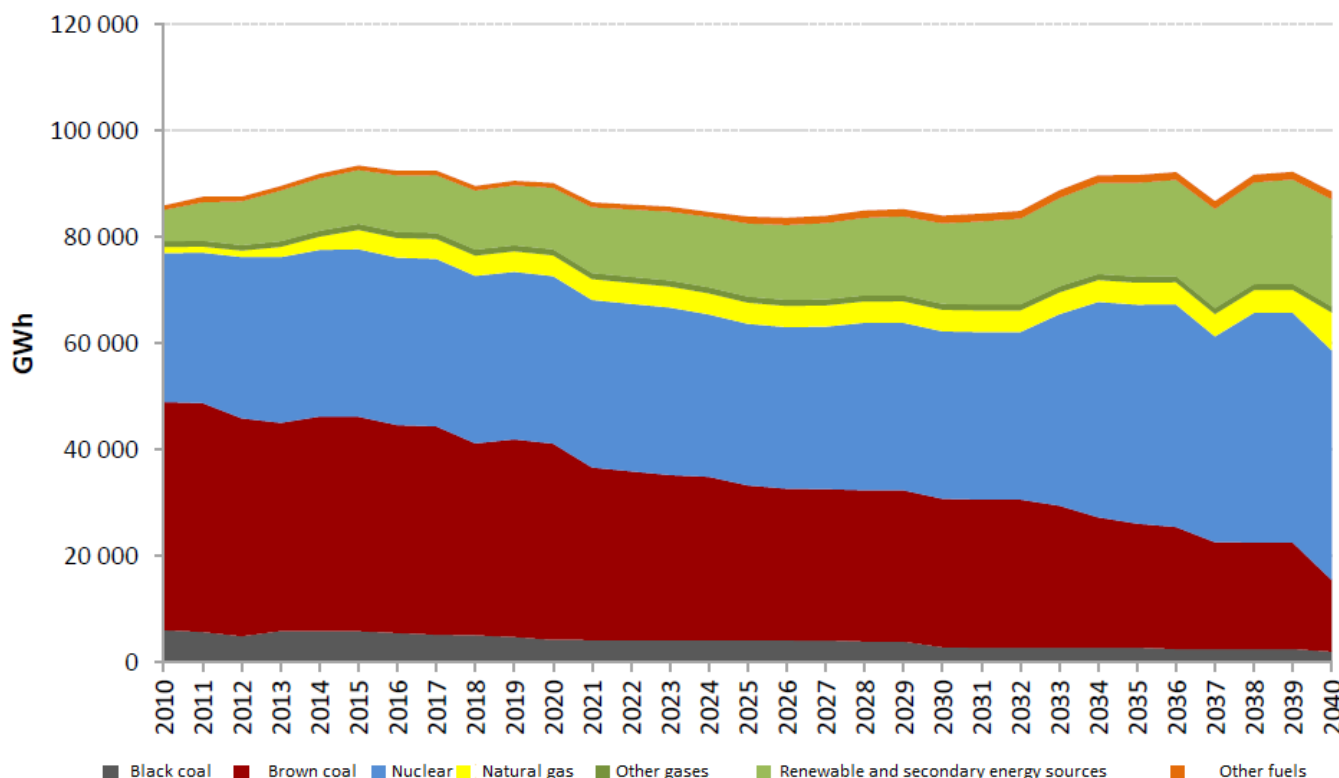


# CZECH REPUBLIC NUCLEAR EXPERIENCE AND NEW DEVELOPMENT

**24 September 2020**  
**UNECE Nuclear Energy Task Force**

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# DEVELOPMENT AND STRUCTURE OF GROSS ELECTRICITY PRODUCTION IN THE CZECH REPUBLIC



Source: 2015 State Energy Policy

- Coal 44 TWh (50%); nuclear 28 TWh (33%); biofuels & waste 5.1 TWh (6%); natural gas 3.7 TWh (4%); hydro 3.0 TWh (3%); solar 2.2 TWh (3%); wind 0.6 TWh.
- Coal power plants need to be phased-out. At the same time, aging nuclear power plants will be decommissioned.
- CEZ coal fired capacity will decrease by half from 7.8 GW in 2016 to 3.9 GW by 2025 and further to 2.5 GW in 2035, full decommissioning envisaged by 2050.

# THE CURRENT CONDITION OF THE NUCLEAR ENERGY SECTOR IN THE CZECH REPUBLIC



- Currently, there are six commercial reactors operated in the Czech Republic by CEZ.
- CEZ is 70% owned by the Czech government.
- The four Dukovany units were gradually commissioned in 1985 – 87 with a design basis service life of 30 years and the two Temelín units were commissioned in 2000 and 2002 also with a design basis service life of 30 years (40 years for buildings).
- CEZ has been providing measures so that both can be safely operated beyond this limit and obtained unlimited licences for Dukovany NPP and will ask for an unlimited licence for Temelín NPP in 2022, the Periodic Safety Review is already completed.
- The political environment has been mostly favorable in the long run and therefore the NPP's service life is given according to the natural ageing of the equipment and the costs related to its replacement.
- Public opinion supports an energy mix combining nuclear energy and renewable energy sources.



# WHY NEW NUCLEAR BUILD IN THE CZECH REPUBLIC?



- The Czech Republic will face a deficit in its electricity production, the first energy shortages are expected after 2025, the situation will reach a large scale after 2035.
- In the Central European region (CORE region for the calculation of transmission capacities), periods of electricity shortage in the system will occur in several countries at the same time.
- The Czech Republic is an industrial export-oriented country; the share of industry in GDP reaches approximately 33%.
- Due to the high share of industry, it is a strategic objective of the Czech Republic to ensure self-sufficiency in electricity production to cover all the needs of the Czech economy.
- Czech industry has a long record of activities in nuclear sector, in history 90% of NPP equipment were produced domestically.
- Nuclear is identified as a decarbonization tool in strategic materials (National Investment Plan of the Czech Republic for 2020 - 2050, the State Energy Policy of the Czech Republic, the State Environmental Policy of the Czech Republic, the National Action Plan for the Development of the Nuclear Energy Sector of the Czech Republic, and the Integrated National Energy and Climate Plan of the Czech Republic).
- When adopting the EU carbon neutrality commitment, the Czech Republic and Hungary were brought on board after assurances that nuclear energy could be included in the final mix.

# DUKOVANY II PROJECT



- On 8 July 2019, the government declared it would provide CEZ with loan guarantees to help secure financing for any new reactor. There is no support for the development of nuclear energy in the Czech legal framework yet.
- One 1,000-1,200 MW reactor will be built at Dukovany by 2036 to replace four existing units that are scheduled to be shut down between 2035 and 2037.
- The Project is part of a wider programme of low carbon generation sources, aiming at 50% share of nuclear power generation.
- On 27 April 2020, the government approved the main principles of the state aid measure and further details of a new reactor at the Dukovany II nuclear power plant.
- The beneficiary of the individual aid will be Elektrárna Dukovany II, a. s., the company established to be the Project owner CEZ.
- On 28 July 2020, the government, CEZ and Elektrárna Dukovany II, a. s signed first contracts (Master Agreement and First Implementing Contract) which accompany the draft Act on Measures for the Transition of the Czech Republic to Low-Carbon Energy.



- In July 2016, CEZ requested the Ministry of the Environment to conduct an EIA for max. 2 400 MWe at Dukovany and received a positive decision in August 2019.
- In July 2019, the government gave preliminary approval for Elektrárna Dukovany II to build at least one new nuclear power unit.
- In March 2020, CEZ filed its application to the nuclear regulator for two pressurised water reactors, each with a generating capacity of up to 1200 MWe, and published about 1600 pages of documentation that were attached to the application.
- In July 2020, the government sent a pre-notification note to the European Commission regarding an individual state aid which falls within the Euratom Treaty objectives.
- CEZ is aiming to announce a tender in December this year, draw up a preferred list of suppliers by 2022 and conclude a contract in June 2024.
- 2029 is target for construction to begin, 2036 to produce electricity.



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**Thank you for your attention.**

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