

# Structural limits of Czech energy policy

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# Czech energy sector

Installed Capacity and Gross Electricity Production in the Czech Electricity Grid on December 31, 2020				
Type of Power Station	Installed Capacity (MWe)	Percentage (%)	Electricity Production (GWh)	Percentage (%)
Thermal	10,058.3	47.1	35,197.6	43.2
Gas Combined Cycle	1,363.5	6.4	6,041.3	7.4
Gas Fired	962.2	4.5	3,790.1	4.7
Hydropower	1,093.9	5.1	2,143.9	2.6
Pumped-storage Hydropower	1,171.5	5.5	1,293.1	1.6
Nuclear	4,290.0	20.1	30,043.3	36.9
Wind	339.4	1.6	699.1	0.9
Photovoltaic	2,071.3	9.7	2,235.1	2.7
Geothermal Power	0	0	0	0
Total	21,350.3	100	81,443.4 (gross) 76,126.2 (net)	100 93.5
Source: Energy regulatory office				

# State energy policy 2015

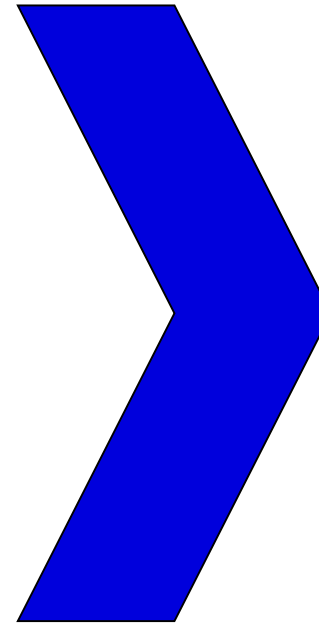
- nuclear power will gradually replace coal power as the main pillar of electricity generation
- general reduction of importance of liquid fuels and coal
- transition from lignite combustion to other fuels in the heating industry
- renewal, transformation and stabilization of heat supply systems based mainly on indigenous sources (nuclear, coal, RES, secondary sources) supplemented with natural gas

Indicative Corridors for Czech Republic's Energy Sector in 2040			
Structure of Brutto Electricity Generation		Structure of Energy Mix	
<b>Nuclear</b>	46 – 58 %	<b>Nuclear</b>	25 – 33 %
<b>RES and secondary sources</b>	18 – 25 %	<b>RES and secondary sources</b>	17 – 22 %
<b>Natural Gas</b>	5 – 15 %	<b>Gaseous fuels</b>	18 – 25 %
<b>Coal</b>	11 – 21 %	<b>Solid fuels</b>	11 – 17 %
		<b>Liquid fuels</b>	14 – 17 %

Source: Ministerstvo průmyslu a obchodu, 2014, p. 44

# 2021-2022 reality

- Green Deal and Green Taxonomy
  - low emission or renewable gases from 2035
- Natural gas prices
  - low emission or renewable gases from 2035
  - high prices of natural gas – geopolitics
- Nuclear power plants
  - new nuclear with construction permit only until 2045
  - construction of deep underground repository until 2050
- Russian invasion to Ukraine
  - short term negative financial effects
  - acceleration of transition efforts



SEP plans not feasible  
Major revisions expected  
Change of minds

# Reasons for structural limits

## – Tradition

- century of usage of coal and hydro, later nuclear

## – Path dependence

- i.e., education of cadres (e.g., more than 80 % of ministers of industry have education or experience in traditional heavy energy/industry sector)
- generational issues, lack of imagination

## – Structural changes in 1990s

- privatization, economic reforms, EU accession, liberalization

## – Reality of available sources

- coal, uranium, water, limited potential for „standard“ renewables

Thank you for your attention.