

Mapping CCS in the Czech Republic Report Summary August 2009

Energy production and emission breakdown from different fossil fuels

	% of power generation	GWh (electricity)	CO2 emissions (million tonnes) from electricity
Coal	59 %	49649	52,26
Gas	4 %	3 288	1,80
Oil	0,30 %	258	0,44
Total	63,30 %	53195	54,50

Scenarios for different greenhouse gas reduction trajectories

Title	Organisation	Years Covered	Brief description
Energy Policy of the Czech Republic	Government of the Czech Republic (mainly MIT, MoE, and Ministry of the Interior)	2003 - 2020	There is no government scenario beyond 2020 yet. Furthermore, all recent governments have not even stuck to the official energy policy called Energy Policy of the Czech Republic (for executive summary in English see http://www.iea.org/textbase/npsum/CzechRep2005SUM.pdf) agreed in 2003 which counts mainly with using more nuclear.
National plan on reducing impacts of climate change	Ministry of Environment	2004 - 2020	The National Programme To Abate the Climate Change Impacts in the Czech Republic presents the climate protection strategy of the Czech Republic. The Programme has been developed in accordance with the requirements of Council Decision 99/296/EC and approved by Czech Government Resolution no. 187 of 3 March 2004. The Programme maps the impacts of climate change on the various sectors and defines a national strategy leading towards a mitigation of the negative impacts. The Programme contains data on the greenhouse gas emissions in the Czech Republic, including projections of future development, and presents proposals for concrete measures to reduce the greenhouse gas emissions and for adaptation measures.
Politika ochrany klimatu v České republice	Ministry of Environment	?	The Ministry of Environment has recently produced a plan on reducing CO2 emissions and fighting climate change which is at the state of debate within the government and has not yet been made public. The plan is ambitious yet realistic but its form and extend will depend on the constellation of the new government in October. The draft has not yet been consulted within the government and has, therefore, not been made public yet.
Big Ask	Hnutí Duha (the Rainbow)	until 2050	Hnutí Duha (the Rainbow movement) has produced a national plan for the future called Velká výzva (the Big Ask) targeted at reducing

	movement)		emissions by 2 % a year steadily, fighting climate change, changing the whole economy into low carbon and creating green jobs (see http://www.velkavyzva.cz/) with a horizon of 2050. This plan is basically inspired by the UK Climate Change Bill and adapted to Czech reality. Its main aim is to reduce energy intensity of Czech industry, insulate houses and thus create jobs, increase energy efficiency and thus cut CO2 emissions.
	ČEZ	Until 2050	ČEZ predicts the Czech Republic will have less than 50 % coal in its energy mix by 2035 – 2050. No further information is publicly available.
Title	Organisation	Years Covered	Brief description

Thermal Power Plants¹

From 2010 on, the coal power plants installed with sulphur capture during the 1990s will slowly be closed as they are coming to the end of their life cycle. These coal power plants represent, however, a full half of ČEZ's production. Some of them will be retrofitted, some closed totally and the remaining share of electricity production will be filled by building new sources (coal and nuclear). This investment will cost about 100 bil. CZK (roughly 4 billion Euros.). Retrofits are to prolong operation of existing power plants by another 25 years, new blocks are to operate for 40 – 50 years.

Retrofits			
Name	Type	Power MW	Goal year
Tušimice II	Coal	4 x 200 MW	2015
Pruněřov II	Coal	5 x 210 MW	2015-2020
Počerady (new plant)	Gas-steam (natural gas combined cycle)	3 x 200 MW or new 660MW block.	
To be closed			
Pruněřov I	Coal		2015-6
Mělník III	Coal		2015-2020
Chvaletice	Coal		2020
<i>Tušimice</i>	Coal		<i>already closed in 1998</i>

In total, ČEZ will close 14 blocks. Their list is not readily available to the public.

¹ For a list of existing ČEZ power plants see <http://www.cez.cz/en/power-plants-and-environment/coal-fired-power-plants/cr/ledvice.html>. So far, ČEZ is operating 3 coal power plants abroad: Elcho (PL, 220MW), Skawina (PL, 492 MW), Varga (BG, 6x210 MW – the largest ČEZ plant). There are plans for new, mainly gas-steam power plants but this information is not public.

CEZ has studies on CO2 storage in two existing coal power plants in Hodonín and Levice (these blocks would be rebuilt to use CCS technology) which include a transport options study. No plans are for new power plants.

Nuclear Power Plants

There are 2 existing nuclear power plants and there are plans to build new blocks in them + build 1 completely new to meet demand for electricity after 2025-2030 when the CR will no longer have enough electricity from existing sources.

Name	Year of opening	Power MW
Dukovany I - IV	1985	4 x 440 MW
Temelín I – II	2002	2 x 1000 MW
New blocks or power plants		
Dukovany V - ?	asap ²	No data, probably as much as current blocks
Temelín III - IV	asap ³	No data, probably as much as current blocks
Blahutovice	2019?	No data

Note: Plans for the Blahutovice site are on paper since the 1980s.

State of regulatory process for CCS

The transposition of the CCS directive (due 2011) is in preparatory phase. A working group has been established at the Ministry of Environment but it doesn't seem to be hasting very much.

Contact list:

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² As soon as permission is given.

³ As soon as permission is given.

National CCS supporting programs and plans for full-scale CCS

In 2009 the Ministry of Industry and trade launched a big national research project focused on CCS. The project is lead by the Nuclear Research Institute in Řež, with participation of the Czech Geological Survey and the Czech Technical University in Prague. The project involves both capture and storage oriented research and is supported by ČEZ.

There are no plans to use structural funds for CCS support as this technology fits in none of the priority axes of the Operational Programme Environment.

ČEZ proposed to use **AAU** credits to finance CCS but this was rejected by the Ministry of Environment for political reasons (political decision of the previous minister of the environment). There may be space for re-negotiation after the October elections but ČEZ does not intend to demand such re-negotiation (this was confirmed by two interviews with ČEZ). The reason behind is probably the unwillingness of ČEZ to “risk” to invest into an untested technology.

AAU credits sold to Japan amount to 10 billion CZK (372 mil. EUR) and will be used solely for **insulating private housing**. Public buildings and companies may use resources from the European structural funds (Operational programme Environment, priority axis 3, chapter 3.2), which amount to 310 million EUR for the period 2007 – 2013.

There is little space for funding CCS-related projects from the EU **structural funds** as the Operational programme Business and Innovation, under chapter Innovation in technology demands strictly that the supported technology increases energy efficiency which is in direct opposition to CCS technology.

Other

In May-June 2009 a group of deputies lead by ex-ministers of Industry and Trade Milan Urban (ČSSD) and Martin Říman (ODS) have managed to send 85 bil. CZK (roughly 3,3 bil. EUR) to ČEZ by amending the law on the excise duty with an amendment to the **EU ETS credits plan** (“Czech national plan of investments into modernisation of technology and promotion of use of clean technologies”). Under this amendment, energy companies (read “ČEZ” will get free credits until 2013 on the condition that they use the credits to re-new their technology (which ČEZ already intends to do). This amendment will most likely be contested by the European Commission as well as by the Czech Constitutional Court. President Václav Klaus, a well-known climate sceptic, then signed this amendment within 6 weeks’ time, whereas his usual delay is about 1 year. Ex-minister of environment Martin Bursík called this amendment an open theft.