

ANALYSIS OF CZECH ATTITUDE TO NUCLEAR ENERGY DEVELOPMENT

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It started off so well...



- Czechia was under enormous interest of global superpowers. Mr Obama, Mr Medvedev and Mr Sarkozy visited Prague, Czech leaders welcomed in the USA, France and Russia

- Years 2008 - 2012
- right-wing governments of Mr Topolánek and Mr Nečas backed 2 new units of Temelin NPP
- ČEZ started a tender with 3 participants (Rosatom, Westinghouse, Areva)
- High price of electricity: it makes sense even without nonmarket measures

...with an infamous end



- **RESULT WAS:**

April 10, 2014 ČEZ ended the tender without choosing a winner (after the government refused to give state guarantees)

- Summer of 2013: Nečas government fell, power prices fell, profitability of ČEZ Group fell
- There are no reference units working („Don't buy pig in a poke“)
- Tactless disqualification of Areva; they took it to the court and to EC
- Too complicated rules of public tenders

Looking back in time

- Rosatom & Škoda JS
 - + strong drive to succeed, offering very reasonable price (ca 230 bln CZK)
 - + they promised 70-75 % share of Czech companies
 - politically sensitive thing after Crimea annexation and international sanctions (spring 2014)
- Westinghouse
 - + strong drive as well, price almost the same
 - + in interim assessment (March of 2013) they got more points – mainly for technical criteria and licencing
 - impact of Westinghouse bankruptcy (spring 2017) ???

Wasted years 2014-17



- „We must simply build these two units. Questions are when and where,“ said Mr Babiš in an interview for Ekonom weekly (July of 2014)
- 2 units in Dukovany NPP?
- 2 units in Temelín NPP?
- 1 in Temelín and 1 in Dukovany?
- Will there be a public tender? Intergovernmental agreement? Direct contract letting?
- ČEZ or 100% state owned company should be the investor?
- Good news: Korean and Chinese participants showed an interest

Meanwhile, in the machinery branch

- 2015:
bankruptcy of 2
companies:
Chladicí věže
Praha and
Modřany



- 2016: ČKD
Praha DIZ went
bankrupt,
ended in
liquidation

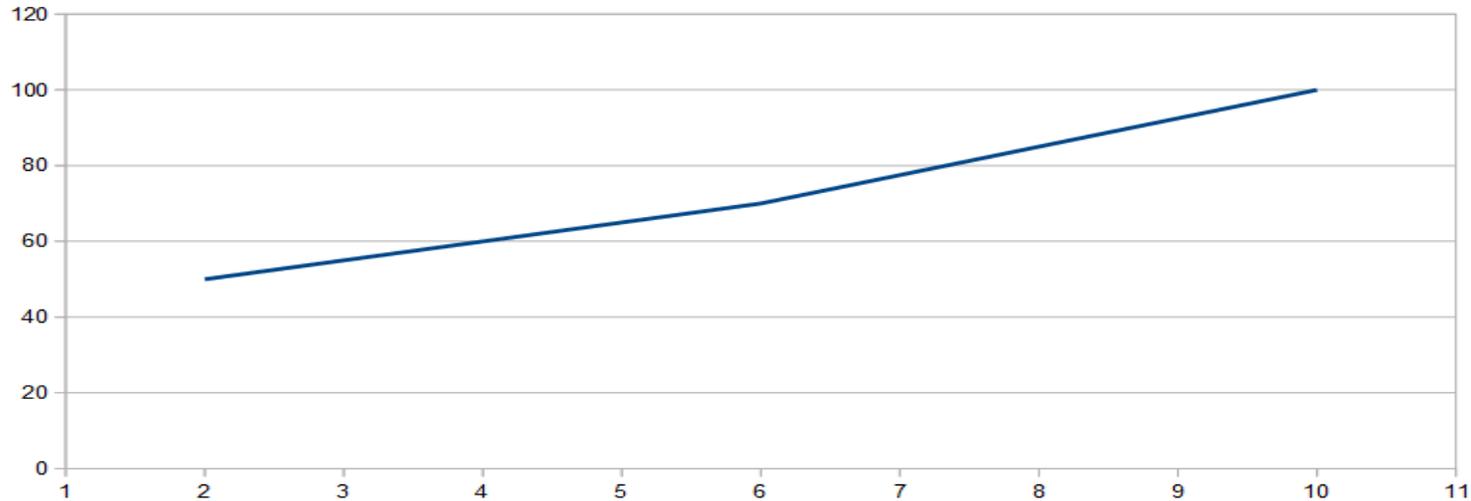
2016: Vítkovice
Power Engin-
eering went
bankrupt, in
liquidation now

- 2017: collapse
of company
Královopolská
RIA (which
spoiled job in
Chvaletice)
- Who will be the
next one?

ČEZ and nuclear

- ČEZ top management is missing enthusiasm for their task to build new nuclear units, preferring the expansion in wind energy, energy services etc.
- „Catch 22“ - ČEZ bosses want to have a Contract for Difference or similar guarantee, Czech PM Babiš refuses this
- New Business Corporations Act (from 2014): more responsibility for statutory assigned persons for their decisions
- Partial solution: activities related to new nuclear units transferred to subsidiary firms Elektrárna Dukovany II and Elektrárna Temelín II (October of 2016)

That's it!



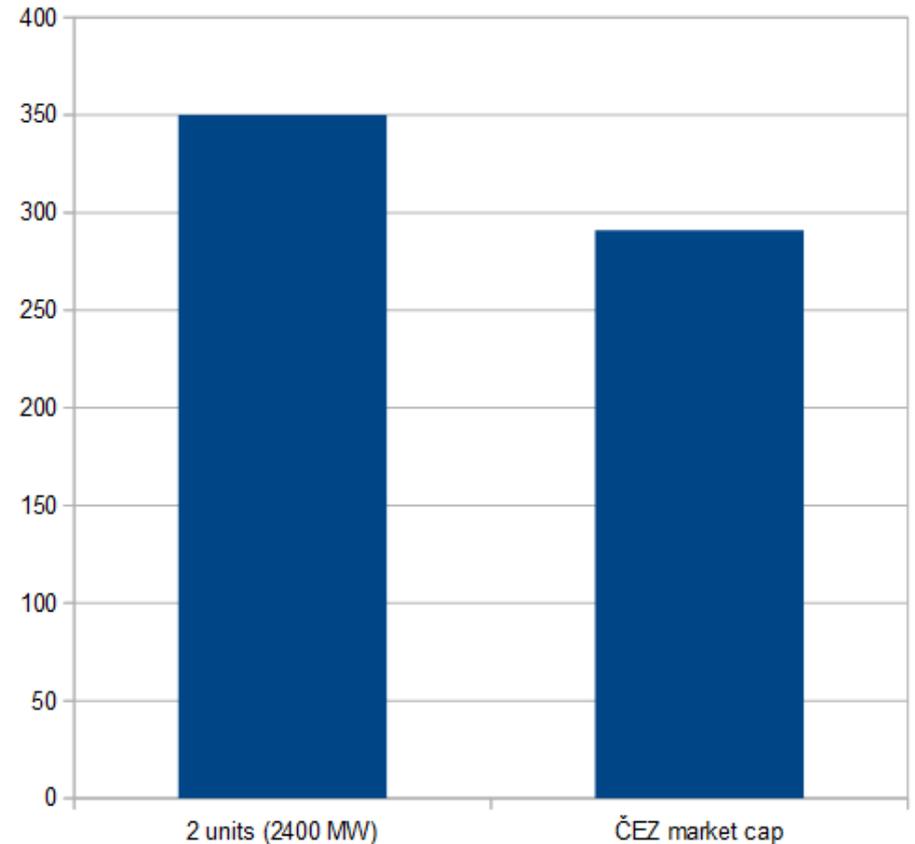
- long-term project, very high investment costs
- => price is linked to WACC (average cost of capital)
- At 4 % WACC means the price of electricity ca 50 EUR per MWh, at 10 % the result is close to 100 EUR per MWh
- The main reason why a state entity should be the investor

ČEZ splitting is worthwhile

- There is an „middle ground“ solutions – the example of RWE / innogy splitting
- Green and smart energy business, sale of energies and power grid transfered to „a green subsidiary“
- ČEZ shares held by minority shareholders can be swapped for the green company shares
- Czech state would be 100% owner of ČEZ with nuclear and coal power plants (and coal mines); now the state can build new nuclear units with energy security as a priority instead of profit maximalization
- The project could be financed partially by dividends from „the green subsidiary“

Why not public listed company

- Bigger project than ČEZ market capitalisation (negative impact on the debt, rating, etc)
- Extremely long-term project: how to deal with power plant running from 2035 to 2115
- It's too risky – unclear attitude of EU, obstructive acts of anti-nuclear Austria and Germany



Four future scenarios for the nuclear power (and new projects in the Czech Republic)

CHEAP POWER PRICE

The price will stay around or under 50 EUR per MWh

New nuclear units won't be cost-effective

ENERGY DEFICIT

EU countries are missing reliable power sources, high price

New nuclear units are cost-effective within market price

DISABLED NUCLEAR

Majority of EU countries will push through the nuclear phase-out

Would we choose the Czexit as a solution?

FAST DECARBONISATION

Climate change fears will speed up the diversion from fossil fuels

Nuclear power will be recognized as a part of the solution

Infamous end Nr 2?

UPDATE 1-Minister: Czechs may delay plan to boost nuclear power capacity -Bloomberg

3 MIN READ



* Industry minister: state may delay nuclear power expansion

* Minister: buying out CEZ minorities least preferred option (Adds quotes)

PRAGUE, Oct 29 (Reuters) - The Czech government may delay its decision on building new reactors at state-controlled utility CEZ's two nuclear power plants, Industry Minister Marta Novakova was quoted as saying on Monday.

"The decision about building nuclear units can't be done under pressure and we don't want to be put under pressure from suppliers or other entities," Novakova said in an interview published by Bloomberg.

"The finance ministry is also analysing the risk of potential court disputes," she added.

The project to expand CEZ's nuclear power plant fleet is the biggest ever Czech energy investment. CEZ operates two plants at Dukovany and Temelin that together covered 38 percent of Czech energy needs last year.

Earlier in October, Novakova told Reuters that the government aimed to pick the best

UPDATE 1-Czech PM sees Dukovany extension an option in nuclear plans

3 MIN READ



* PM Babis: Dukovany could be extended by 10 years

* Extension cost CZK 20 bln, fraction of new unit

* CEZ: future regulatory, economic conditions part of assessment

* Govt may decide this year on massive nuclear power expansion (Adds CEZ comment, shares, details)

PRAGUE, Oct 30 (Reuters) - The lifespan of Czech utility CEZ's Dukovany nuclear power plant could be extended by 10 years at a cost of 20 billion crowns (\$878 million), a fraction of the price of a new unit, Prime Minister Andrej Babis said on Tuesday.

The government has been considering how to fund a multi-billion dollar expansion of CEZ's nuclear power plants, before some units reach the end of their lifetime. It had aimed to make a decision this year.

Thank you
for the attention