

PRO-ENERGY FORUM

NUCLEAR PERSPECTIVES IN THE CZECH REPUBLIC

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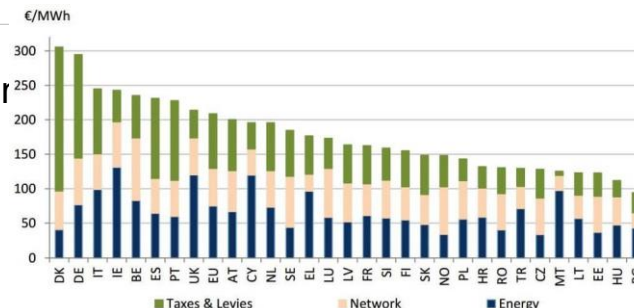
CZECH ENERGY SECTOR STRATEGIC GOALS



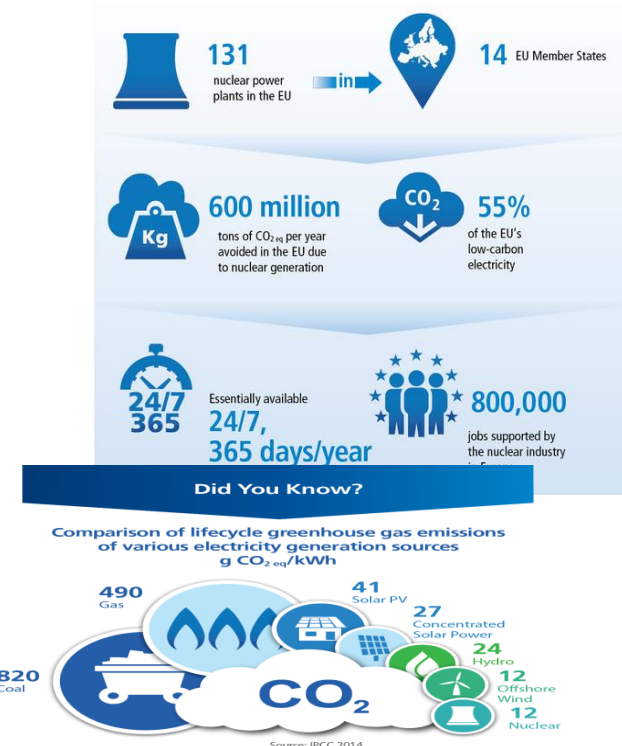
Security of supply – provision of necessary power supply for consumer in regular operation and at leap change conditions (failures supplies prime sources, variations in prices on markets, disturbances and attacks) in the EU context;

Competitiveness (energetics and social acceptability) – final costs of electricity for industrial consumer and for homes comparable at region and next straight forward competitors + power utilities able in the long term create economic added value;

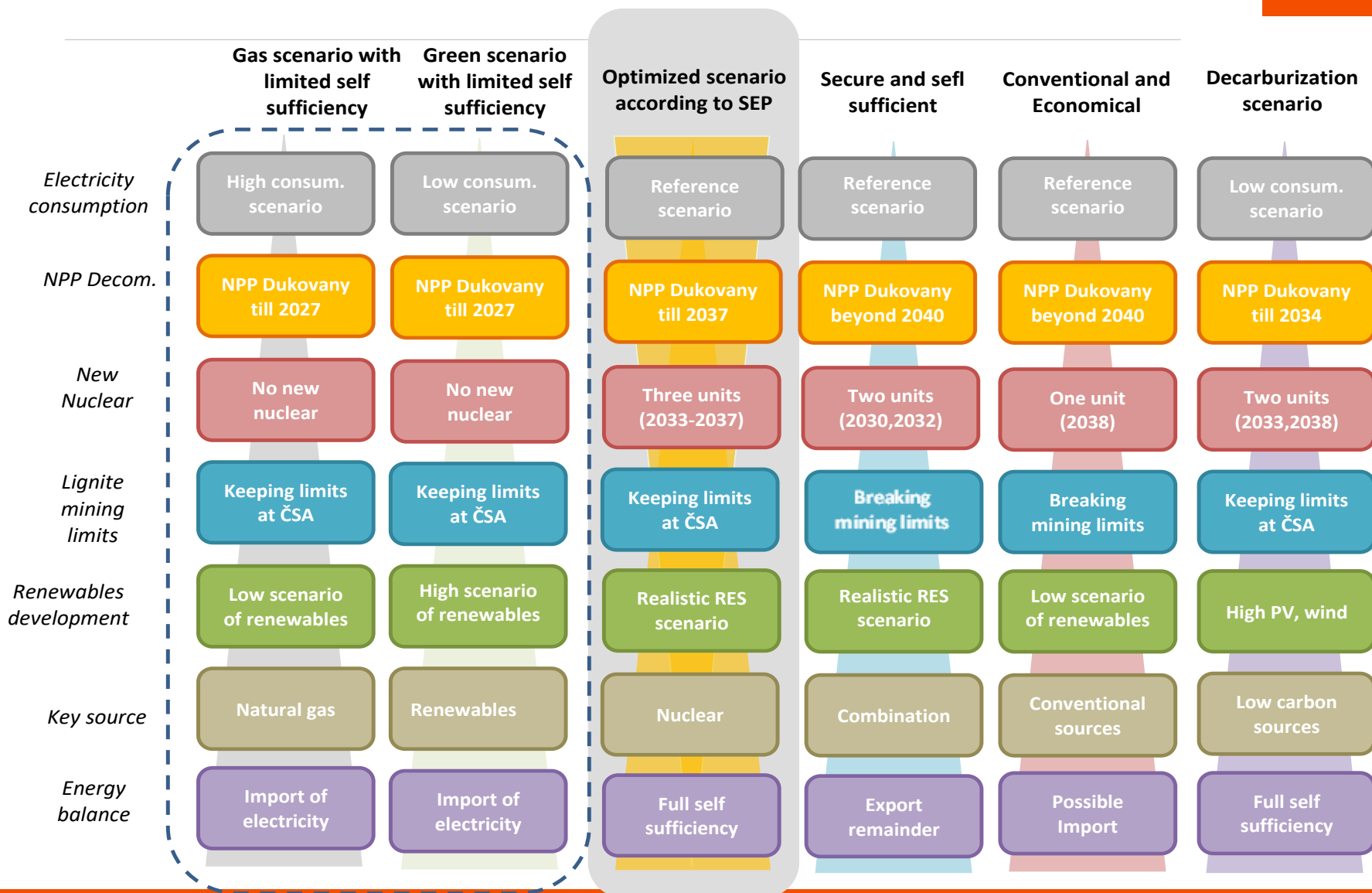
Sustainability (sustainable development) – structure energy industries, that is in the long term sustainable from the point of view of environment (no worsening qualities of environment), moneywise - economic (financial stability power companies and ability ensure needed investment in renewal and development), human resources (intelligence) and social impact (employment rate) and primary resources (accessibility).



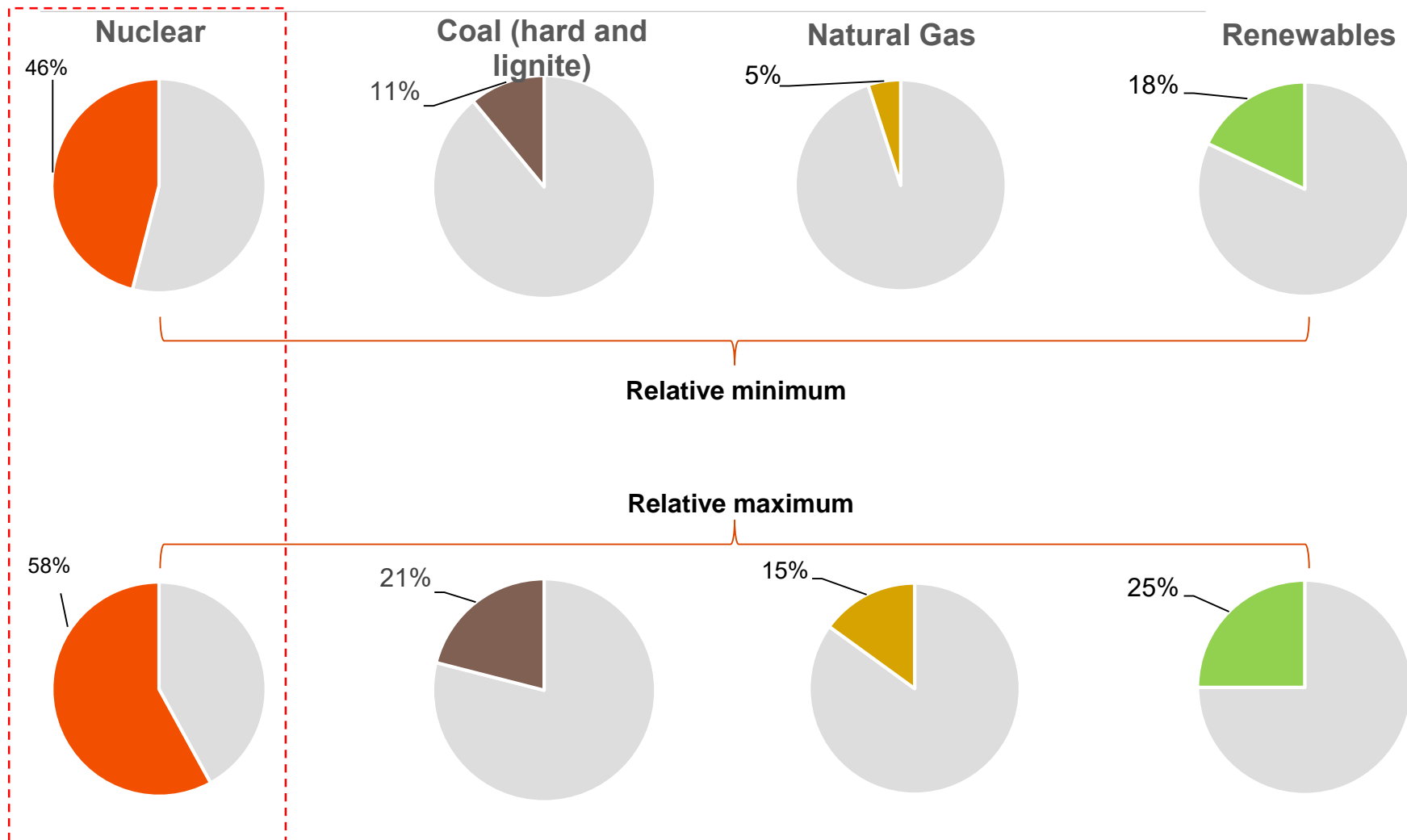
The nuclear industry in Europe



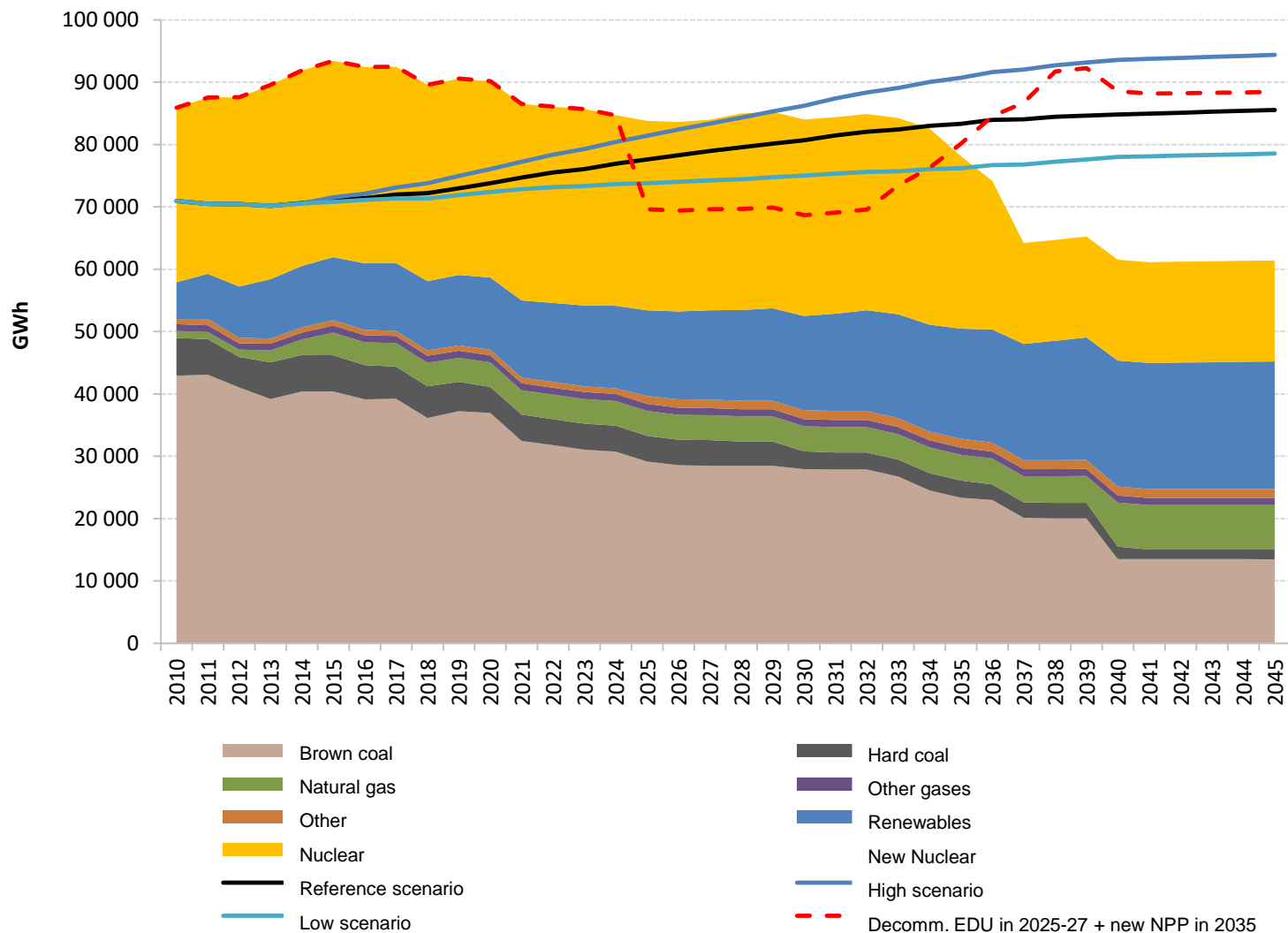
STATE ENERGY POLICY HAS BEEN APPROVED IN 2015



DETERMINATION OF GOAL CORRIDORS OF FUTURE POWER GENERATION ACCORDING TO SEP



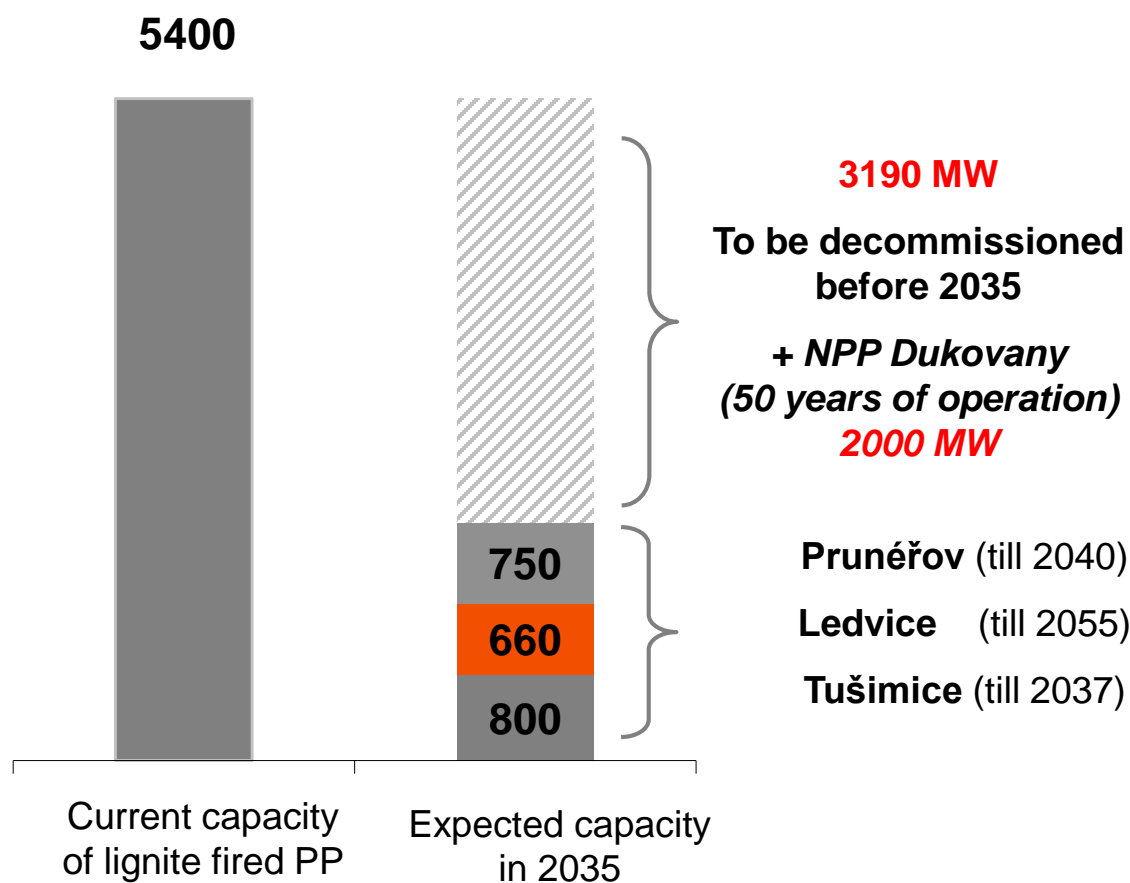
THERE WILL OCCUR SIGNIFICANT ENERGY DEFICIT LATEST IN 2035 (EVEN WITH EXPECTATION OF STRONG DEVELOPMENT OF RES)



SIGNIFICANT PART OF LIGNITE CAPACITY WILL BE DECOMMISSIONED IN NEXT TWO DECADES



ČEZ - lignite (brown coal) capacity (MW)



- Low cost of domestic lignite
- Thermal power plants next to mines – only costs of internal logistics
- Replacement of old units with more efficient new technology (20 % lower CO₂ emissions, from 1t CO₂/MWh to 0.8 CO₂/MWh)
- Secured lignite supplies for the investment lifetime
- Majority of coal fired power plants will disappeared from the electricity market till 2035
- Additional 1410 MW to be decommissioned till 2040
- Furthermore it is expected that NPP Dukovany 1-4 (2000 MW) will be decommissioned between 2035 - 37

Electricity production from power plants of approx. **7 GW** shall be replaced by new build power plants

LONG TERM ROLE OF NUCLEAR ENERGY SECTOR



- **The transition to a low/zero carbon energy sector** in 2050 in the context of meeting the Czech international obligations.
 - *Communication of EU: 2050 – 80% - 95% emissions of GHG compare to 2005 (zero emission energy sector).*
 - *Strengthening the role of the nuclear energy in the energy mix of the Czech Republic, compensation for decreasing production from thermal/coal power plants => up to 50% share on electricity generation.*
 - *Promote and accelerate the process of preparation of new nuclear units at existing locations with a total capacity to 2,500 MW, (annual production of around 20 TWh) in the period of 2030-2035.*
 - *Creating the conditions for extending the operational period of Dukovany NPP up to 50 (or 60) years.*
- **Ensuring energy security** (ability of long-term electricity supply even in the absence of external supply sources).
 - *Creating reserves of uranium fuel for 4 or more years.*
- **Industrial production and export potential.**
 - *Nuclear energy industry and infrastructure – 15 000 people, 2 % GDP, potential to double this share.*
- **The knowledge base of the economy** (the leader of hi- tech industrial production, organizational and structural skills).
 - *High value added, with significant multiplication to other (material R&D, engineering etc.).*

ČEZ IS OPERATING 6 NUCLEAR UNITS ON 2 SITES



DUKOVANY NPP 4 x 500 MWe

- *In operation since 1985*
- *Type of reactor: VVER 440 type V 213*
- *Power uprating from 440 MW to 500 MW*
- *Dukovany NPP among top NPPs world-wide as per operational and safety performance indicators*
- *Safety long time operation program*
- *Total electricity production over 400 TWh*

TEMELÍN NPP 2 x 1000 MWe

- *First connection to the grid 2000*
- *Type of reactor: VVER 1000 type V320*
- *Installed capacity 2 x 1000 MW*
- *Temelín NPP is the largest energy source in CR*
- *Temelín NPP is built and designed at the highest level of safety*
- *Power uprating up to 1080 MW*
- *Total electricity production over 200 TWh*



ČEZ NUCLEAR NEW BUILD PROJECTS



New NPP Temelín

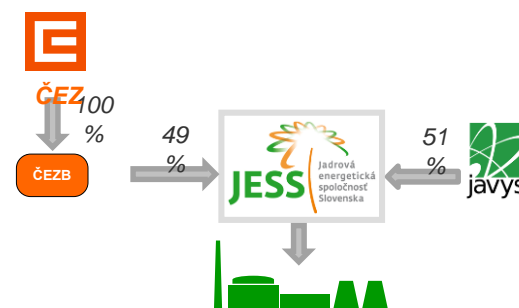
- SPV (Special Purpose Vehicle) established
- Fulfilment of conditions from permission and licenses issued (EIA, Initial Safety Report/nuclear siting, ...)
- Related investments (at site, in the region)
- Other preparatory works (ČEPS, ...)

New NPP Dukovany

- SPV (Special Purpose Vehicle) established
- Feasibility study approved
- EIA process started
- Site investigation under progress

New NPP Jaslovské Bohunice (SK)

- JV company (JESS) established in 2009
- Joint Czech / Slovak team established
- Feasibility study approved
- EIA process completed
- Site investigation under progress



THANK YOU FOR YOUR ATTENTION

