

THE EMISSION REDUCTION ACTION PLAN OF THE CEZ GROUP

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Agenda

1. Introduction – implementing EU ETS in a company strategy
2. Profits from the sale of saved EUAs
3. An outline of the Emission Reduction Action Plan



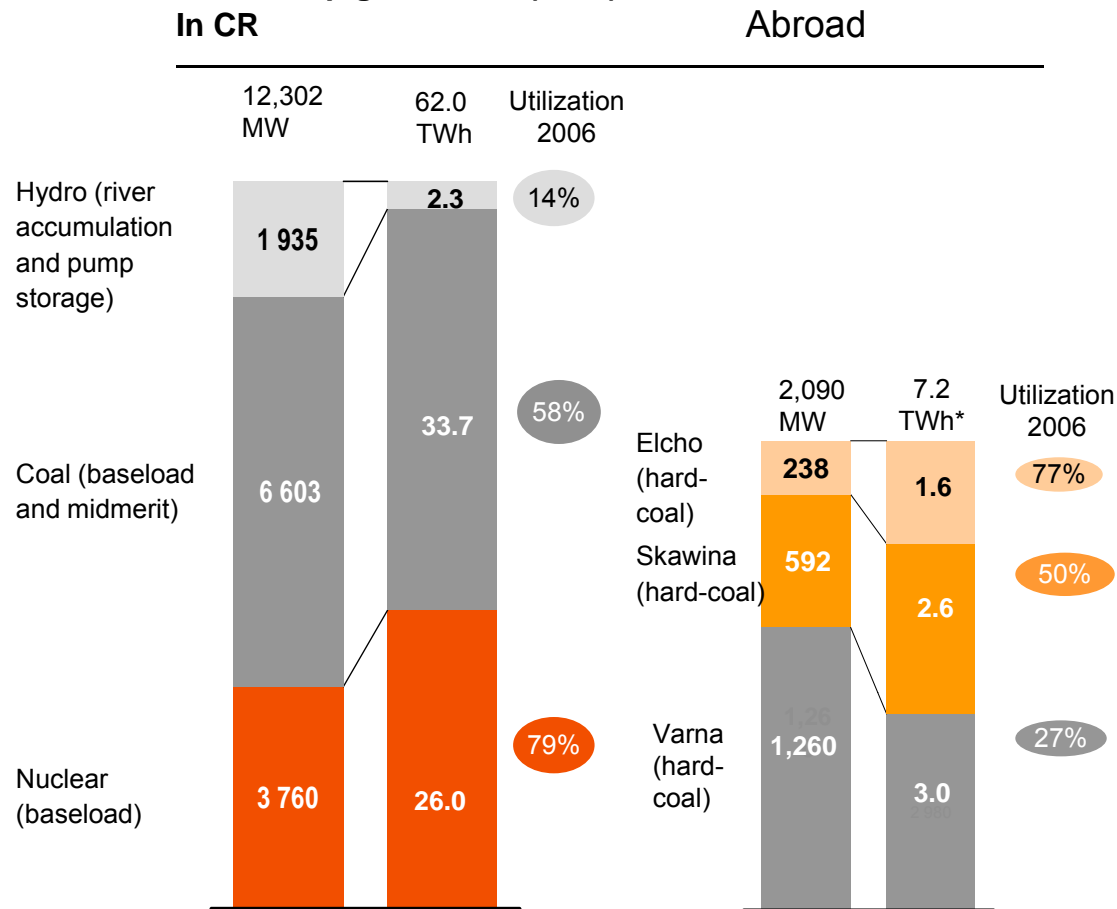
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CO₂ is an important topic for CEZ as it operates a large coal fleet both on domestic market and abroad

CEZ Group generation (2006)



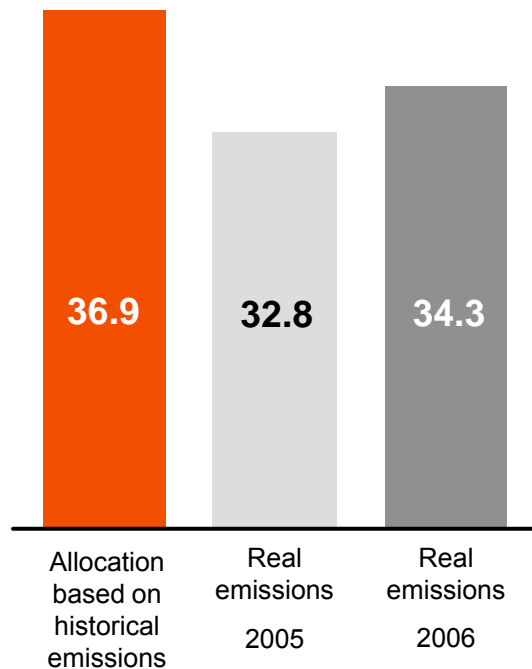
* Annual production, consolidated only from the acquisition date

- CEZ has significant exposure to CO₂ due to 6,600 MW in lignite and hard coal on domestic market and up to 2,000 MW abroad
- CEZ has quickly adopted the EU ETS concept and its logic and implemented it fully in corporate strategy and internal processes
- EU ETS represents to CEZ an efficient mechanism motivating to greater ecology through transparent economic means



With early actions CEZ managed to reduce CO₂ emissions...

CO₂ Emissions Million tons



Percent saved

+11%

+7%

Key measures taken

Trading

- Priority dispatch of units with low CO₂ emissions
- Reduction of export where below opportunity cost

Plant maintenance

- Increased availability of nuclear plants
- Increased focus on plant efficiency
- Increased renewable generation

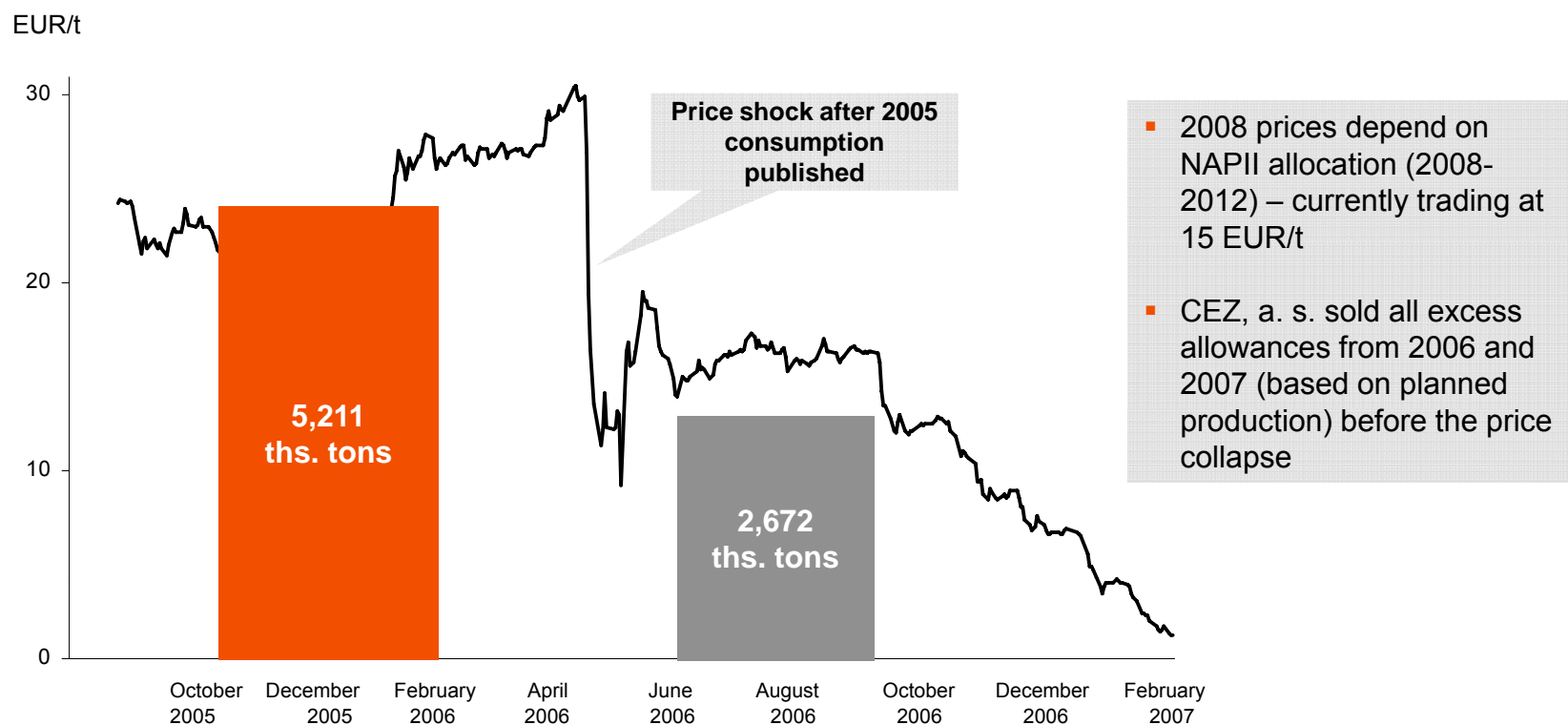
Monitoring Management

- Implementation of more accurate monitoring systems
- Improvements in efficiency



CEZ hedged its CO₂ position before the price collapse

Cumulative sale of CO₂





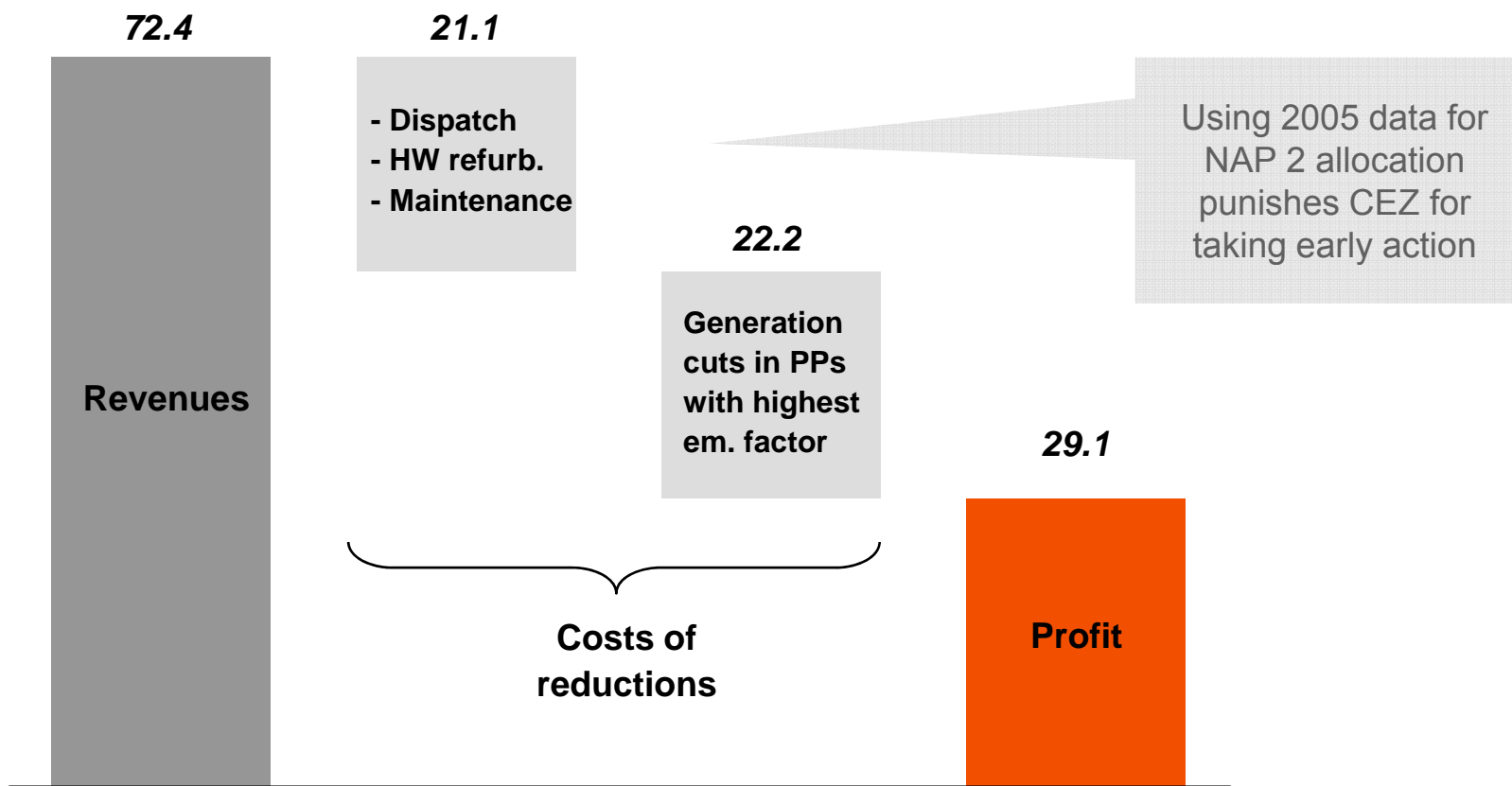
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CEZ reduced emissions and made a profit

Profit from the sales of EUAs in 2005 (mil. €)



Note: CZ installations only



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A closer look at the targets (2005 \Rightarrow 2020)

Emission Reduction Action Plan

Triple the annual renewable energy production from **1,7 TWh** to **5,1 TWh**

Lower the emission intensity of electricity production in CZ by **15%** from **0,55 t/MWh** to **0,47 t/MWh**

Contribute to the achievement of the national energy efficiency target **23 TWh/year**

Save **30 million** tCO₂ outside CZ through emission reduction projects



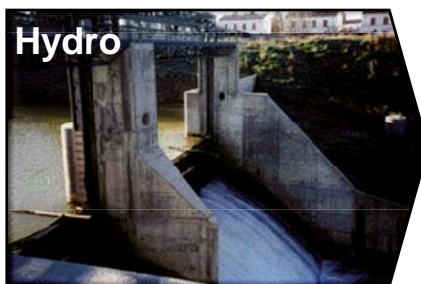
Renewable energy



- Realistic wind power potential in CZ: ~800 MW by 2020
- CEZ indicative target: 500 MW
- Projects in the pipeline: WP Dukovany, WP Dlouhe Pole (>100 MW)
- Further origination underway



- Currently – forestry and agricultural residues ~ 0.2 Mt/yr (1t ~ 1MWh)
- Co-firing as a stimulation of the market \Rightarrow pure biomass combustion next
- Projects underway: Dvur Kralove, Hodonin (>10 MWe)
- Potential in growing energy crops in CZ (~300,000 ha @ 10-15t/ha)
- Working with the CZ govt. and farmers on a complex energy crops program



- No new large hydro opportunities
- Increasing efficiency in large hydro ~3 %
- Small hydro limited potential (<10 MW)



Emission intensity of coal power plants



Emission reductions before 2020

- Accelerating refurbishments (~3-4 years), installing BAT technologies
 - At least 3 power plants – approx. 2,200 MW in total
 - Improvements also in NO_x, SO₂ and other emissions
 - Where possible reserving space for CCS

Emission reductions after 2020

- Develop expertise in Carbon Capture and Storage (CCS) technologies
 - Participate in a pilot CCS project
 - Participate in the EU ZEP (Zero Emission Power) platform
 - Participate in EU R&D CCT/CCS projects



Energy efficiency in the Czech Republic

Target: contribute to ntl. energy efficiency target 23 TWh



- **Working with energy consumers (underway)**
 - Educating the public (active marketing, support of behavioral change, cooperation with other utility providers)
 - Advisory services for customers (general/subject-specific information, optimization of electricity consumption, online calculation of savings)
 - Direct cooperation with customers (energy auditing, financial services, project management, measuring energy efficiency of appliances)

- **Origination of investment projects (under consideration)**
 - Energy savings in buildings
 - Small-scale combined heat and power (CHP) portfolio





Emission reduction projects outside CZ



- The JI/CDM program of CEZ
 - Direct JI/CDM contracting for primary ERUs/CERs (mainly Eastern Europe)
 - Through carbon funds (e.g. Multilateral Carbon Credit Fund of EBRD)
 - Acquisition of CERs on secondary markets

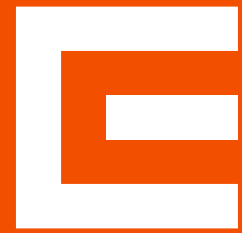
- Preferred types of projects: energy efficiency, energy savings, fuel switch, renewables, landfill...

- Expected to extend beyond 2012 when legislation ready



Summary

- **The Emission Reduction Action Plan is a response to the new environmental legislation and markets:**
 - ⇒ Carbon-constrained economy is becoming a reality
 - ⇒ While debates about the magnitude of the climate change and the influence of human being continue, we cannot wait...
- **The EU ETS is to stimulate investments in emission reductions, but long-term stability and predictability is a key**



Thank You