Internationale Konferenz

ALTERNATIVEN

in der tschechischen Stromversorgung

Český Krumlov
14. - 15. 11. 2002

Evropské fórum pro efektivní využití energie
Europäisches Forum für Energieeffizienz
European Forum for Energy Efficiency

EFEE

Electricity Exports from the Czech Republic

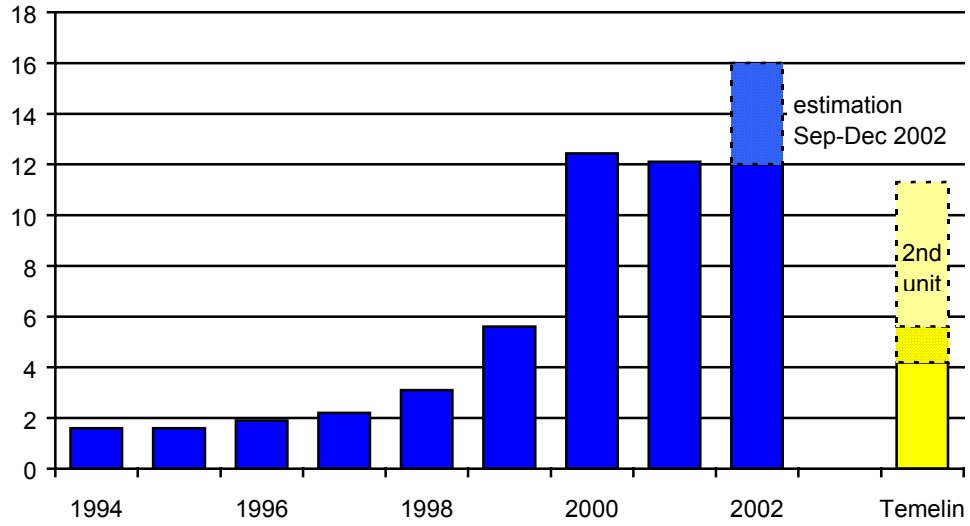
Jan Beránek

Electricity Exports from the Czech Republic

1. Trends in Czech Electricity Exports

- The Czech Republic became heavy electricity exporter in year 2000, and the amount of exports still grows.
- From EU countries, only France exports more than the Czech Republic. Considering the volume of exported electricity *per capita*, Czech Republic exceeds all EU countries.
- CEZ – the dominant electricity Czech utility – exports significantly larger amount of electricity than the controversial Temelín nuclear power plan can produce.
- In the first half of 2002, CEZ exported 32 % of its overall electricity production. (In 2001, it was only 25 % during the same period).

Graph 1: Growing exports of CEZ electricity, with a comparison to capacity of Temelín NPP (in TWh/year)

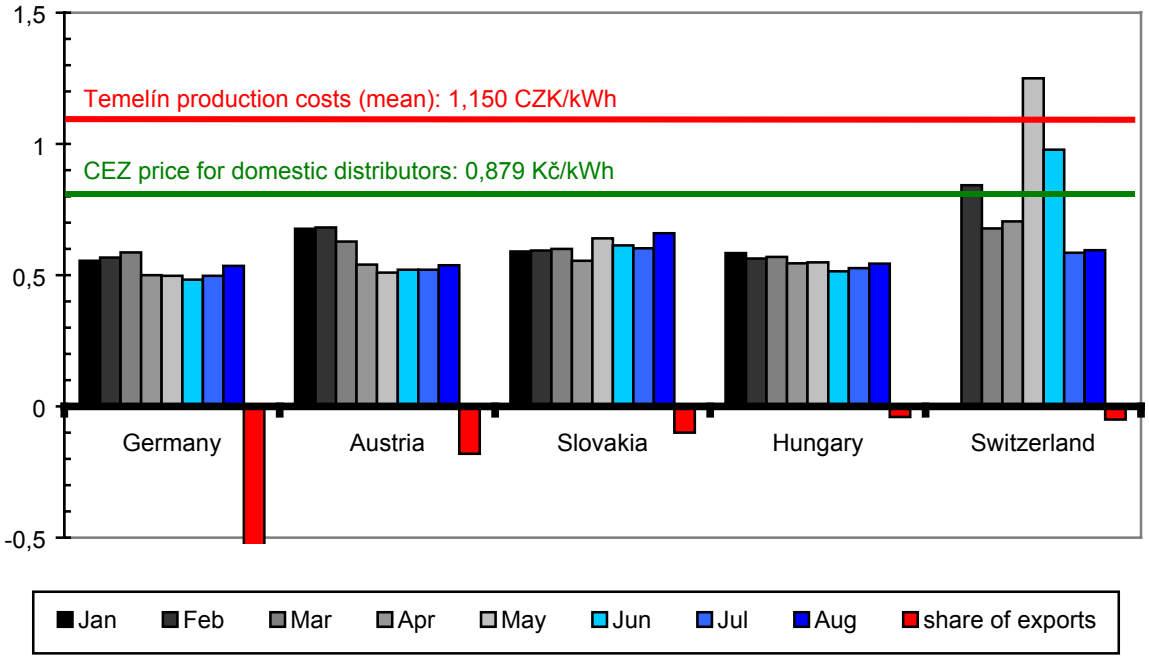


- In 2002, almost two thirds of exports go to **Germany** (in the period from January to August 2002, the total was **6,8 TWh,** i.e. **62 %**).
- Other importers of Czech electricity are:
  - **Austria** (2,1 TWh – 19 %)
  - **Slovakia** (1,1 TWh – 10 %)
  - **Switzerland** (0,58 TWh – 5 %)
  - **Hungary** (0,4 TWh – 3 %)

2. Economics of electricity exports

- CEZ exports electricity for an average price of **0,580 Kč/kWh** (as officially declared during 2002).
- At the same time, the same product is sold to domestic Czech distributors for **0,879 Kč/kWh**.
- Production costs at Temelin NPP are, according to official figures, between **1,060** and **1,240 Kč/kWh**. (Final Report of the Expert Team For Independent Evaluation of the Finishing of Temelin NPP, Prague, 1999)
- „Costs of supplies from Temelin NPP will be slightly above 1 Kč/kWh, which makes its electricity a highly competitive produce both in the Czech Republic and at the newly emerging European market." *(ČEZ, Temelínské noviny, May 1999)*
- „Recently, we can expect the possibility of exports to Germany of about 4 TWh/year, with an annual financial income of about 4 billion CZK." *(Miroslav Grégr, Návrh postupu řešení situace jaderné elektrárny Temelín, Ministerstvo průmyslu a obchodu, April 1999)*

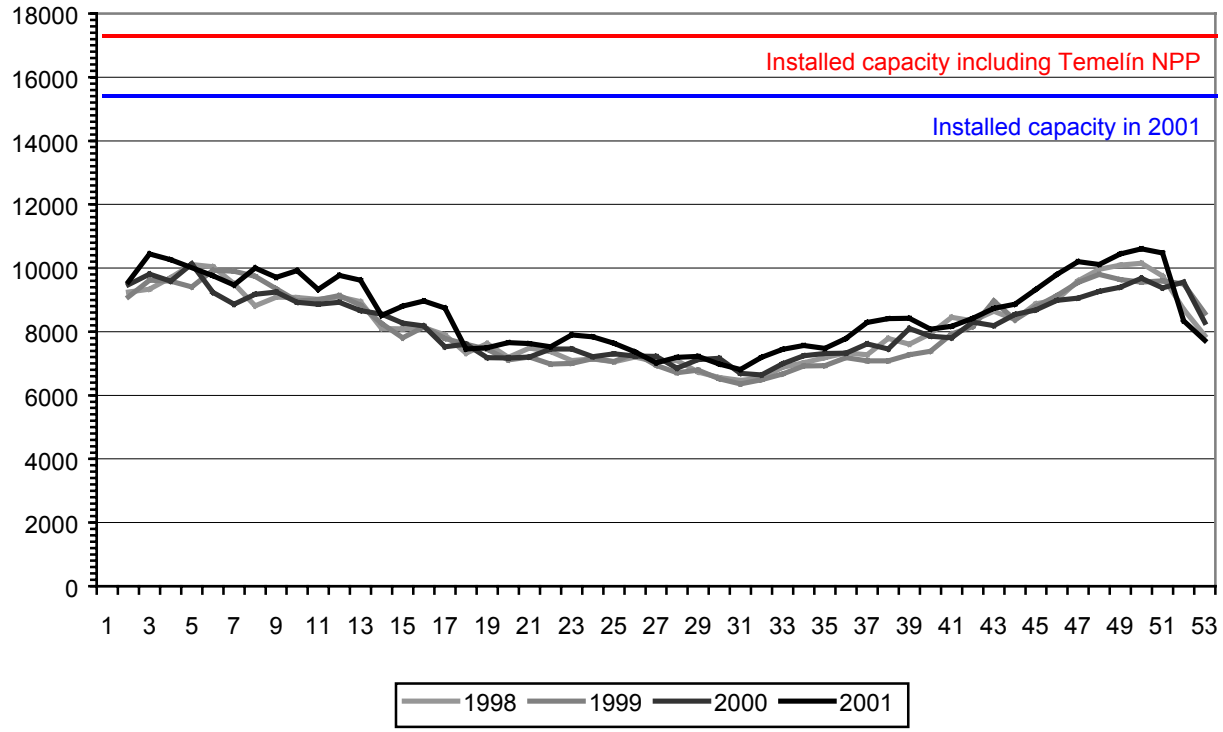
Graph 2: Average Export Prices of Czech Electricity in year 2002 (CZK/kWh)



3. Exports versus Stability of Czech Electricity Grid

- **Maximum peak demand** of the Czech electricity grid reached **10 604 MW** in 2001. Including necessary reserves, this requires an installed capacity of about **13 000 MW**.
- **Electricity exports** at the volume of 12,1 TWh (CEZ in year 2001) require additional installed capacity of **2 400 MW** (including reserves)
- In order to safely cover domestic peak demands *plus* exports in 2001, Czech Republic needed installed capacity of about **15 400 MW**.
- At the end of 2001, total installed capacity in the Czech Republic was **15 443 MW** (excluding Temelin NPP).
- This means that due to massive exports, the Czech electricity grid was near its capacity during the peaks of demand.
- When it comes to critical situations, CEPS – the daughter company of CEZ – prefers the interests of CEZ exports to domestic consumers.
- As the exports reached their maximum records during spring 2002, CEPS announced on 12th of July the first regulation level due to "lack of electricity", and warned that during winter the situation will again get critical:
    - „People should try to save energy, they should reduce the consumption…" *(Jana Matisková, spokesperson of CEPS, Deníky Bohemia, 23. 8. 2002)*

Graph 3: Weekly maximum peaks of demand in the Czech electricity grid (in MW).



4. Electricity exports versus environment

- **Because of 12 TWh annually exported, CEZ has to:**
  - Burn additional 9 million tons of coal
  - Consume additional 360,000 tons of quality lime stone
  - Consume 400,000 tons of uranium ore

- **Czech Republic has additional burden of (annually):**
  - 10 700 000 tons of CO2
  - 2 100 000 tons of ashes
  - 17 500 tons of SO2
  - 15 000 tons of NOx
  - 12 tons of spent nuclear fuel (containing approximately 120 kg of plutonium)
  - 100 m^3 of other solid nuclear waste

- **False promises of CEZ:**
  - „Every year, Temelin NPP will save 14 million tons of brown coal and a million ton of quality lime stone. It prevents production of 100 cubic kilometers of fumes and 5 million tons of ashes.“ *(ČEZ, Temelínské noviny, May 1999)*
  - „Finishing Temelin NPP… will prolong the lifetime of coal reserves in the Czech Republic, will save lime stone and reduce greenhouse gas emissions.“ *(ČEZ, Temelínské noviny, May 1999)*

Graph 4: Pollution from the electricity production by CEZ (in tons).s