CAN THE GAS POTENTIAL BE HARVESTED IN THE ELECTRICITY MARKET?

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CEZ GROUP IS AN INTERNATIONAL UTILITY WITH A STRONG POSITION IN CEE

CEZ Group in Poland
(100% stake in Skawina, 100% in Elcho)
- Electricity generation, gross (TWh): 2.2
- Market share: 1.4%
- Installed capacity (MW): 730
- Market share: 2.0%
- Number of employees: 421
- Sales (EUR million): 115

CEZ Group in the Czech Republic
- Electricity generation, gross (TWh): 63.3
- Market share: 72%
- Number of connection points (million): 3.6
- Market share: 61%
- Installed capacity (MW): 12,814
- Number of employees: 20,559
- Sales (EUR million): 6,601

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CEZ Group in Romania
(100% stakes in CEZ Distributie, CEZ Vanzare, Tomis Team, Ovidiu Development, TMK Hydroenergy Power)
- El. sales to end customers (TWh): 3.5
- Number of connection points (million): 1.4
- Market share: 16.1%
- Installed capacity: 318 MW
- Number of employees: 1,975
- Sales (EUR million): 400

CEZ Group in Bulgaria
(67% stake in CEZ Razpredelenie Bulgaria, CEZ Electro Bulgaria, 100% in TPP Varna)
- El. sales to end customers (TWh): 10.0
- Number of connection points (million): 2.1
- Market share: 40%
- Installed capacity (MW): 1,260
- Market share: 11.9%
- Number of employees: 3,910
- Sales (EUR million): 840

CEZ Group in Turkey
(50% stake in SEDAS through AkCez, 37.36% stake in Akenerji)
- El. sales to end customers (TWh): 6.1
- Number of connection points (million): 1.3
- Market share: 6.5%
- Installed capacity (MW): 715
- Market share: 1.1%

Source: CEZ, national statistics, data for 2011, CZK/EUR 24.59
AGENDA

- What have power companies seen in 2008?
- What has then happened?
- What needs to happen so that gas potential in power production can be harvested?
- What can the gas TSOs do to help harvest the potential?
IN 2008 POWER COMPANIES FACED A PROBLEM OF AGING CONVENTIONAL EUROPEAN POWER GENERATION PORTFOLIO

European Portfolio Age Structure
EU 27 countries, Net Capacity

- 65% of conventional plants have exceeded half of their lifecycle
- More than third of thermal plants need to be replaced or repowered within 10 years

Source: Platts, Eurelectric, CEZ
EU 2020 TARGETS: 3x20%

- Cover 20% of final energy consumption by renewable sources
- Reduce GHG emissions by 20% compared to 1990
- Increase energy efficiency by 20%

- RES target for power industry itself higher than 20%
- RES target introduced significant amount of intermittent power that needs to be compensated
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DUE TO FINANCIAL CRISIS A LARGE EUA OVERSUPPLY IS EXPECTED ...

CO₂ balance for the second and third phases of the EU ETS

*Indicative numbers
... WHICH BRINGS EUA PRICE TO ALMOST ZERO

EUA Price (EUR/t)
Source: ICE
The generation from RES should according to German plans cover almost 40% of total generation in 2020.

The target achievement is uncertain but Germany remains on track so far.
Consumption and Price (Mar 2, 2011)
MW, Germany

Consumption after deducting PV generation
In 4 hours 12 GW of capacity has to ramp up

Generation from photovoltaics

Eur/MWh, EEX

... AND POWER PRODUCTION FROM PHOTOVOLTAICS HAVE REMOVED DAILY PEAKS AND DECREASED THE PEAK PRICE
INTERMITTENT POWER HAS BEEN COMPENSATED ALSO BY LIGNITE AND NUCLEAR POWER PLANTS

- Under strong wind production coal and gas plants run only at minimum
- Lignite output drops by 50%
- Nukes start to regulate its output under strong wind production

Source: EEX
SHALE GAS IN US HAS STARTED TO PUSH US COAL TO EUROPE AND ITS PRICE DOWN

Coal API2, Y+1 (USD/t) Source: EEX

Natural gas NCG, Y+1 (EUR/MWh) Source: EEX
ALL THIS HAS LEAD TO THE NEGATIVE PEAK CLEAN SPARK SPREAD NOT ALLOWING A MASSIVE POWER PRODUCTION FROM GAS, ...

Clean Spark Spread PEAK, Y+2, Net Efficiency 56% (EUR/MWh)
Source: EEX, ICE
Illustrative German CCGT production hours in 2014 (hours/month)*

- Production based on fwd prices
- Weekday peak production

* 56% net efficiency, 2014 fwds
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THERE ARE VARIOUS SCENARIOS THAT CAN BOOST POWER PRODUCTION FROM GAS

Market changes

- Gas price
- Coal price
- EUA price (EU ETS reform)
- If more RES, than more wind, but not photovoltaics (substantially more expensive than wind)

Regulatory changes

- Capacity remuneration mechanism (but currently would have just minor effect on gas consumption)
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THERE ARE MANY COST-EFFICIENT MEASURES THAT CAN HELP UTILIZE GAS FOR POWER PRODUCTION

- No new pipelines due to power plants, if any then just cost-effective (short) interconnectors to increase flexibility of the gas supply
- Increase flexibility of the network
- Allow efficient access to the short-term capacity of the pipelines, but also of the storages
- Efficient congestion management espec. on short-term basis
- Bundled capacity products
- Daily balancing + as late as possible renomination to react to changing gas offtake due to renewables
- Support interplay of gas and power markets
THANK YOU

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