

## International conference “Clean Coal, Smart Grids: Possible Czech Contribution to the EU’s Energy Security”

### Executive Summary

The PSSI in cooperation with Europeum-Institute for European Policy and with kind support of the Czech Ministry of Foreign Affairs and the US Embassy in Prague organized the international conference “Clean Coal, Smart Grids: Possible Czech Contribution to the EU’s Energy Security” which took place on November 5, 2009 at CERGE Institute in Prague. The aim of the conference was to explore political, security, environmental and economic dimensions of the clean coal and smart grids technologies. The conference was attended by more than 60 participants - diplomats, government officials, journalists, representatives of think-tanks and universities and students. It has provided an opportunity for several stakeholders to network and establish partnerships

In his opening remarks, Václav Bartuška, Czech Ambassador at Large for Energy Security, identified the most crucial challenges to the Czech government in terms of energy policy: energy is widely considered to be a basic human right and government is seen as the ultimate guarantor of energy supplies, though it cannot do much. According to Amb. Bartuška, it is not difficult to define what needs to be done in energy policy, but it is very difficult to implement it. Energy is still a very cheap commodity for Europeans and customers are not ready to pay more for low-carbon resources.

The first panel “Challenges and Consequences of Coal Revival” focused on the future of coal in the Czech (and European) energy mix. Petr Pudil, President of Euracoal, pointed out that the latest (2<sup>nd</sup>) EU’s Energy Strategic Review mentioned coal as an important energy source, but stressed that carbon capture and storage technology was not economically viable at this moment. Pavel Šolc, Chief Advisor to the Minister of Industry and Trade introduced the draft of the Czech National Energy Strategy, that implies the smooth transition from the coal based energy mix which will not be feasible without the removal of limits on coal mining and application of modern technologies (CCS etc.). Furthermore, the extended use of coal will help to fulfill other important goal of the National Energy Strategy: maintaining the share of natural gas in the total energy consumption at 20%. The last speaker, Martin Kabrna of the Brown Coal Research Institute presented a detailed historical overview of the coal production in the Czech Republic.

The next panel, “Carbon Capture and Storage: Too Good to Be True?” investigated the feasibility of wider implementation of CCS in the EU and the Czech Republic. According to Giles Dickson of Alstom, introduction of CCS faces two important challenges: regulation and public acceptance. Only large-scale implementation of CCS will make the technology more economically viable. Kalliopi Kalesi of European Commission (DG TREN) informed about the EU financial support for CCS pilot demonstration plants and discussed existing regulation policy. Vít Hladík of Czech Geological Survey analyzed the geological condition of several Central European countries in terms of possible locations for carbon dioxide storage sites (Poland seems to be the only country in the region with relevant CO<sub>2</sub> storage potential).

In his keynote speech Giles Dickson of Alstom emphasized the importance of both CCS and smart grids in the transition to the low-carbon economy. These technologies could significantly lower the emissions from power generation (currently 41% of global CO<sub>2</sub> emissions). However, the EU’s energy sector will need more than EUR 300 bn of new investments by 2030 to meet the future demand and environmental targets. According to Mr Dickson, the business investment decisions will depend on the price of CO<sub>2</sub> auction permits.

The speakers at the third panel “Smart Grid: Different Viewpoints” covered a broad range of topics related to major technological upgrade of the electricity grid. Colin Imrie of Scottish Government highlighted the potential of smart grid for better demand management, greater energy efficiency and the better incorporation of intermittent energy resources. Mr Imrie also introduced the energy policy of the Scottish government, whose environmental targets are in several aspects more ambitious than those adopted by EU. Miroslav Vrba of Czech Transmission Operator (ČEPS) pointed out that there is currently none European grid but rather interconnected national grids. Moreover, these grids will need substantial investments to meet the challenges of future change of demand (e.g. widespread use of hybrid cars). The stability of European grids is further endangered by growing power generation capacity from intermittent renewable resources (wind, solar). Ondřej Žák of IBM emphasized the fact that smart grids will empower final consumers, who will obtain greater control over energy consumption and its more efficient use. Smart grids will also introduce new unique functions (identification of power outages, self-healing), which will make the distribution grid more stable.

The last panel was designed to address costs and risks of smart grids. Lawrence E. Jones of University of Washington and AREVA T&D Inc. examined the multifaceted nature of the smart grids (system of systems). According to Mr Jones, the most risky factor influencing the smart grids is the regulation policy. He mentioned several cross-cutting issues for the smart grid technology: interoperability and standards, security, infrastructure, planning and cost allocation. Jaromír Beran of EGÚ Praha Engineering presented the ongoing research program conducted in the framework of The European Technology Platform Smart Grids. He also identified the opportunity for innovation by respective stakeholders, introduced the advanced modeling techniques and mentioned the concept of islandization of energy grids. The last speaker, Ivan Beneš of CityPlan, focused mainly on the grave consequences of a blackout for the society and economy and the tools to prevent an energy crisis. The implementation of islandization of electric grid concept will greatly increase the population’s resilience against the blackouts. The concept of (super) smart grids will enable the more efficient and safe use of distributed energy sources and long-distance transport of electricity from renewable sources (windfarms in Northern Europe, solar power plants in Sahara)

*Partners:*

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