

## MINUTES

### EUROPEAN ROUND TABLE ON COAL

#### *Energy Roadmap 2050: efficient and flexible back-up from coal*

European Parliament (Brussels), 21 March 2012

**Participants** numbered over 70 and included:

Mr. Bogdan MARCINKIEWICZ MEP (chair); Mr. Claude TURMES MEP; Mr. Roger HELMER MEP; Ms. María MUÑIZ DE URQUIZA MEP (part); former MEP Dr. Jan RZYMEŁKA and MEPs' assistants; Mr. Josef ZBOŘIL, EESC Member and former EESC Member Mr. Wilfred ASPINALL; European Commission officials (Mr. Jan PANEK, Dr. Jörg KÖHLI, Dr. Marion WILDE and Mr. Kilian GROSS); representatives from the national and regional permanent representations to the EU; EURACOAL committee chairs Dr.-Ing. George MILOJCIC and Mr. Nigel YAXLEY, Secretary-General, Mr. Brian RICKETTS and members; and other representatives of the European coal and lignite industries, utilities, power equipment suppliers, NGOs, trade associations and research institutes.

#### **1. Introduction and welcoming remarks – Mr. Bogdan Marcinkiewicz MEP**

Mr. Marcinkiewicz MEP welcomed participants to the 16th European Round Table on Coal which he chaired for the first time. He thanked EURACOAL for helping with the organisation and apologised for the cramped space before introducing the three speakers.

#### **2. Energy Roadmap 2050: a view from the utility industry – Mr. Alan Svoboda, Executive Director – Sales & Trading, CEZ Group**

Mr. Svoboda outlined the activities of CEZ in Central and Eastern Europe – a vertically integrated utility with interests in coal mining and with a new coal-fired plant under construction. Mr. Svoboda showed that the age profile of coal-fired plants in the EU includes many over 30 years, so with great potential to improve performance and reduce emissions.

He noted that of those EU countries that relied on coal for electricity generation, many were also significant coal importers and had to compete for supplies with, for example, China and India. Nevertheless, today's low CO<sub>2</sub> prices created a "sweet spot" for coal – indigenous and imported – especially when used at written-down assets. But Mr. Svoboda warned that this short-term situation was incompatible with EU climate policy, so he proposed four key steps for coal:

- an efficient market in CO<sub>2</sub> allowances that gives some certainty to investors in low-emission technologies of all types: unsubsidised renewables, state-of-the-art coal and eventually CCS, when the technology was ready;
- plant modernisation and renewal to improve efficiency and reduce emissions, including the cogeneration of heat and power;
- biomass co-firing to reduce emissions – this being more efficient than burning biomass at small dedicated plants; and
- more flexible coal-fired plants to provide spinning reserve and reserve capacity to balance intermittent renewables during periods of short-term volatility and longer-term periods of no wind.

CEZ believes coal plants have a place in the future generation mix, but warns that investment is needed today to secure that future. Mr. Svoboda foresaw the need for capacity payments to keep enough back-up capacity on line. On CCS, he said that although its deployment looked uncertain today, industry should stay on the path towards CCS demonstration, even though the challenges were significant.

### **3. Power Plant Efficiency and Flexibility – Mr. Wolfgang Dirschauer, Head of Climate Policy, Vattenfall Europe**

Mr. Dirschauer began by passing on the apologies and good wishes of EURACOAL President Dr.-Ing. Zeiss, also of Vattenfall, who regretted that he could not attend. Mr. Dirschauer questioned the “back-up” title of the Coal Round since coal was the “backbone” of electricity supply in Germany, the Czech Republic, Poland and other member states. He reminded everyone that coal provides reliable electricity supply at competitive prices 24/7.

He explored the challenges of introducing intermittent renewables, notably wind and solar PV. The days of base-load coal were over, with grid services becoming the prominent role for coal, he said. He portrayed Europe as an ageing even stagnating continent that was becoming less significant in the global energy game. EU climate policy needed to reflect the rising power of far more populous nations and recognise that future prognoses were unlikely to be accurate, he observed. So, he called for a rational approach with a better informed debate on the need to balance industrial competitiveness with climate and energy policy. He noted that if coal plants were as inflexible as presented by many, then the lights would have gone out years ago – especially in Germany with 17% of electricity from intermittent renewables. Mr. Dirschauer quoted from the Federal State of Brandenburg’s new energy strategy to 2030, “with the increasing share of renewable energies, the controllability of conventional power plants has to be substantially improved in order not to endanger power line frequency and hence supply security”. This new challenge is being met today by coal- and lignite-fired power plants, and less so by gas-fired plants which are more expensive to operate so tend to be off line during night hours. He showed examples of coal plants achieving ramp rates of 90 MW/min over a 3,000 MW range – offering very significant balancing capability, as significant as costly pumped storage. Vattenfall is working to make their plants even more flexible. Without this, a high share of renewables would be impossible, he concluded.

Mr. Dirschauer explained that power supply quality and stability (voltage and frequency) are maintained by strategically located power plants with large spinning components, acting as a flywheel to keep the whole electrical system stable. Solar PV and today's wind turbines do not perform this function – in fact, they add load-side disturbances to the demand-side disturbances that must be both accommodated. If not, power outages lead to massive economic and social disruption, because, as Mr. Dirschauer observed, electricity is the life blood of modern society.

With coal being the fastest growing source of energy over recent years, and with the remarkable growth rates in renewables, these two energy sources simply had to work together around the world to ensure an energy system that is clean, efficient, flexible and smart during the transition to a low-carbon economy that will take some time (*e.g.* Eurelectric's vision for carbon neutrality by 2050). For coal, Mr. Dirschauer differentiated between "quantity" in the emerging Asian economies and "quality" in Europe. To achieve quality, he said a two-track development of more efficient plants and then plants with CCS (and CCU) was still the right route forward, despite recent setbacks. He referred to the political and regulatory difficulties in Germany which forced Vattenfall to cancel the Jämschwalde CCS project – a disappointment after the company had invested a total of €200 million in CCS. He was optimistic that other countries would make progress, and that those regions with coal mining interests – jobs and investment – would take a realistic view that allows CCS to move forward.

#### **4. Saving CO<sub>2</sub> – a proposal to renew coal-fired power plants – Mr. Bogdan Janicki, Senior Advisor, Central Europe Energy Partners (CEEP)**

Mr. Janicki spoke about energy in general, but presented from the perspective of industry in Central Europe where he noted that GDP per capita was much lower than in the EU-15, with no sign of this gap closing. He called on the EU to pay attention to this fundamental issue. Because of this gap, per capita CO<sub>2</sub> emissions and energy consumption are also lower in Central Europe. The coming growth in energy consumption will present a new challenge, but, as he pointed out, the massive drop in CO<sub>2</sub> emissions from Central Europe after 1990 – not matched by the EU-15 – show that this is about catching up, not overtaking.

On the ETS, he was pleased that CO<sub>2</sub> prices were so low (€8/tCO<sub>2</sub>): legally agreed targets are being met at a price that leaves the EU competitive. However, looking to the future, he said investments in new coal-fired power projects were impossible because banks assume a much higher future CO<sub>2</sub> price (€50/tCO<sub>2</sub> or more), based on their assessment of EU policy. And yet, he showed that coal-fired generation elsewhere in the world would grow massively according to the IEA. Mr. Janicki and CEEP could not accept the EU approach, especially since coal compares favourably with natural gas on a life-cycle basis and in terms of trade balances. He could not understand why the EU would wish to move away from competitive indigenous and imported coal, citing the example of Denmark where 48% of electricity is generated from coal.

More efficient power plants are the route to lower CO<sub>2</sub> emissions, Mr. Janicki continued, and proposed that new 45% efficient plants are built today, with the option to fit CCS in the future when it is available. He called for a 20-year derogation from the ETS for these plants, a derogation that would end when CCS was commercially available. Otherwise, he said, industry in Central

Europe is stuck – unable to raise project finance and with a requirement for CCS that cannot be delivered.

Mr. Janicki showed that the EU was alone in the world with its ambitious climate policy and called for more realism.

## **5. Discussion with Mr. Claude Turmes MEP – chaired by Mr. Bogdan Marcinkiewicz MEP**

Mr. Turmes (rapporteur for Energy Efficiency Directive), saw energy efficiency and indigenous energy production as ways of bring back added value and jobs to the EU and reducing the growing trade imbalances associated with energy imports from countries such as Russia. He also foresaw efficiency measures would reduce electricity demand, although he admitted that electricity demand would go up in Eastern Europe. Overall, he anticipated less investment would be needed in new capacity, adding that investment in energy efficiency was cheaper.

On the future of coal, Mr. Turmes saw shorter running hours, lower load factors and lower revenues from electricity sales for coal-fired plants in the EU as more renewables came online. He agreed that flexibility would be key and thought that improving flexibility was a good strategy for existing coal, with the benefit of earning revenue in the balancing market.

There was some disagreement about how Germany had replaced the lost generation from closed nuclear plants. Mr. Turmes believed that renewables had filled the gap, but others pointed to imports which Mr. Turmes said would have been from plants at the margin and not from nuclear plants outside Germany. He pointed to the French electric heating load of 60 TWh a year as having the biggest destabilising impact on the EU grid. He went on to suggest that new hard coal-fired power plants were losing money in Germany, so was not surprised that financing new plants was impossible.

On the proposal to allocate free ETS allowances to high-efficiency coal-fired plant, Mr. Turmes looked back to the burden-sharing agreement of 2008 which saw the transfer of wealth to Eastern Europe, and did not believe that a similar transfer would be made a second time. The change of baseline from 1990 to 2005 – and the implicit cost of that change to member states with “hot air” – was taken into account then, Mr. Turmes said, which will result in the transfer of 10-12% of EU-15 auctioning revenues.

On CCS, Mr. Turmes reflected that back in spring 2008, the coal lobby was heavily promoting CCS, but that dream look more difficult today. He said he was not against R&D into CCS and pilot projects, especially for industry, so that costs could be better understood, since CCS may be needed to achieve long-term climate objectives. He linked Denmark’s dependence on coal to the country’s relationship with OPEC in the early 1970s which obliged it to switch away from fuel oil for power generation. Today, Mr. Turmes said Denmark was pursuing a very green energy strategy. He then turned to Poland and accepted that there needed to be a better dialogue to explore the issues presented during the meeting so that the country can manage the promised energy transition. Improving resource efficiency – in terms of energy use per unit of GDP – was a first step that would also help maintain Eastern Europe as an attractive place to invest, he concluded.

Mr. Roger Helmer MEP agreed that energy efficiency was important, but had less time for CCS which he saw as a vastly inefficient way of getting energy out of coal. From what he had heard, he believed that CEZ and Mr. Turmes were also of the same opinion. Turning to back-up, he questioned why such a double investment was needed, given that the conventional plants alone could meet demand without any renewables. He was pleased to hear that coal could be as flexible as gas, especially given the projections that show the EU to remain heavily dependent on fossil fuels for electricity generation in 2035. He warned that the EU's de-carbonisation strategy was nothing more than a de-industrialisation strategy, and linked the issue to other EU directives that are forcing large power plants to close. On the ETS, he fully understood the investment uncertainty that this created, alongside the regulatory uncertainty in the EU. Overall, he did not see how investment in back-up would happen, leaving us with a vulnerable system.

Mr. Dirschauer replied on CCS – a technology which he said was needed only for climate policy reasons. Countries which wanted to maintain an industrial base with jobs and wealth creation would need CCS since fossil fuels will remain the most competitive energy source for some decades (apart from large hydro and some biomass), he continued – the alternative of political-determined energy mixes would not be competitive. At €30-40/tCO<sub>2</sub>, CCS would be viable at industrial scale, which was why Vattenfall had invested so much over the last 12 years to develop the technology, according to Mr. Dirschauer. He was disappointed that there had been some recent setbacks with CCS demonstration in Europe, but believed that, in a well-designed liberalised electricity market, both CCS and renewables would have a place in a transition to a low-emission energy system over the coming decades. He called for an open discussion on the EU electricity market since its current direction of guaranteed returns on investments in politically popular renewables did not address what would form the backbone. Mr. Turmes believed that existing gas plants could perform this role, but Mr. Helmer disputed this since the early closure of nuclear plants and the forced closure of some coal-fired plants over the coming years, because of EU directives, would leave a capacity shortage and not allow flexible operation of gas plants. Mr. Wilfred Aspinall reminded participants that the electricity consumer was assumed to be willing to pay for a transformation that looked to be increasingly expensive. He warned that the consumer might not, in fact, be so willing.

Mr. Marcinkiewicz thanked all the speakers and participants for such an interesting and informative round table discussion and promised more space for future meetings.

\* \* \* \* \*

Annexes: Presentations by Messrs. Svoboda, Dirschauer and Janicki.