

8 July 2015  
Centre Albert Borschette

# ELEVENTH COAL DIALOGUE

*On the future role of coal in  
Europe and current challenges*



**EURACOAL**

# Programme

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Chair: Prof. Klaus-Dieter Borchardt, Director – Internal Energy Market, DG Energy

## Welcome and keynotes

Dr. Erich Schmitz, Chair EURACOAL Market Committee and Managing Director, Coal Importers Association (VDKi – Verein der Kohlenimporteure eV)

Dr. Renata Eisenvortová, Delegate, Consultative Commission on Industrial Change, European Economic and Social Committee (EESC) and European Affairs Manager, Severní energetická a.s.

## Session I: Innovative coal technologies and climate mitigation

“Status of coal-fired power generation and export potential for Europe’s re-industrialisation”

Prof. Emmanouil Kakaras, President, European Power Plants Suppliers Association (EPPSA) and Member of EURACOAL Executive Committee

“Research Fund for Coal and Steel: past successes and future developments”

Mr. Wolfgang Schneider, Research Programme Officer – Research Fund for Coal and Steel, DG Research and Innovation

“Coal in Poland’s energy mix – a need for investment and an action plan for the future”

Mr. Janusz Olszowski, President, Polish Mining Chamber of Industry and Commerce (GIPH – Górnictwo Izba Przemysłowo-Handlowa)

“The White Rose CCS project: a pathway to regional decarbonisation”

Mr. Richard Simon-Lewis, Finance Director, Capture Power Limited

Discussion

## Session II: Revisions to the “Best Available Techniques” Reference Document for Large Combustion Plants (LCP BREF) under the Industrial Emissions Directive (IED)

“Large Combustion Plants BREF review – outcomes from the final meeting of the Technical Working Group”

Ms. Marianne Wenning, Director – Quality of Life, Water and Air, DG Environment

“Overview of environmental standards for coal-fired power plants in major coal demand centres”

Dr. Małgorzata Wiatros-Motyka, Analyst and Author, IEA Clean Coal Centre

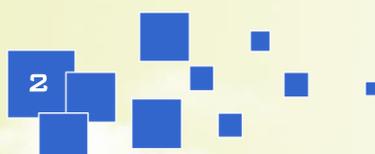
“European power sector comments on the LCP BREF revision”

Mr. Hans ten Berge, Secretary General, EURELECTRIC

“A view from Greece on the LCP BREF revision”

Dr. Marios Leonardos, Senior Mining Expert, Public Power Corporation SA

Discussion



## Session III: Coal industry restructuring

“Coal industry restructuring – energy policy from the social perspective”

Mr. Sylvain Lefebvre, Deputy General Secretary, industriAll (European Trade Union)

“EU rules for state aid support in the coal industry”

Ms. Céline Gauer, Director – Markets and Cases I: Energy and Environment, DG Competition

“State of the coal industry in Spain – restructuring and support for indigenous coal production”

Ms. Mercedes Martín González, Managing Director, CARBUNIÓN (Federación Nacional de Empresarios de Minas de Carbón)

Discussion

## Concluding remarks

Mr. Brian Ricketts, Secretary-General, EURACOAL

Mr. Jan Panek, Head of Unit B3 – Internal Energy Market: Retail markets; coal and oil, DG Energy



All presentations are available on the EURACOAL website ([www.euracoal.eu](http://www.euracoal.eu))  
– only selected slides are included in this summary report.

# Introduction

Article 11 of the Treaty on European Union contains various provisions to help promote a system of representative democracy in Europe. To that end, the European Commission maintains an open, transparent and regular dialogue with representative associations on topics of importance.

This, the 11<sup>th</sup> Coal Dialogue jointly organised by the European Commission DG Energy and the European Association for Coal and Lignite (EURACOAL), examined the future role of coal in Europe and current challenges, with sessions on new technologies, air pollution control legislation and coal industry restructuring.

## Welcome & keynotes

**Klaus-Dieter Borchardt**, Director – Internal Energy Market at DG Energy, highlighted significant new developments within the EU energy policy landscape since the last Coal Dialogue, including the adoption of new mitigation targets under the 2030 Framework for Climate and Energy Policies and of the Energy Union strategy. He confirmed that coal remained an important pillar of the EU's energy security and acknowledged the role of coal-based power generation and indigenous coal production for the EU economy, recalling also the importance that both Commissioners Šefčovič and Arias Cañete give to coal as an important part of the EU energy mix. However, Mr. Borchardt also noted that new climate targets for 2030 would affect coal production and use, making it necessary for the coal industry to better position itself within the new political environment and to proactively present its case.

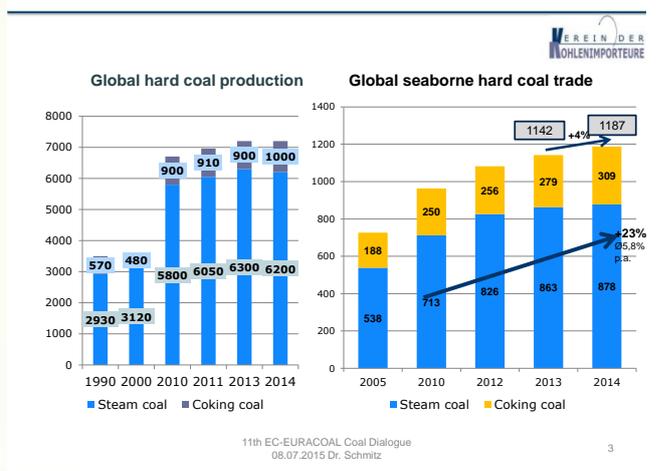
Mr. Borchardt urged the industry to develop a plan for coal in Europe. Stakeholders were assured that the Commission was open to strengthening its dialogue with the industry on the subject of the future role of coal in the EU, but a clear indication was also given that any action plan on coal would need to be an industry-led initiative. In light of current events, such as COP 21 in Paris, the coal industry must show how it can contribute to decarbonising the economy with breakthrough clean coal technologies, particularly CCS and CCU. Mr. Borchardt pointed to recent progress on CCS in

Canada, at Boundary Dam power station, however he also argued that Europe lacked the industry leadership necessary to get large-scale CCS projects on the grid.

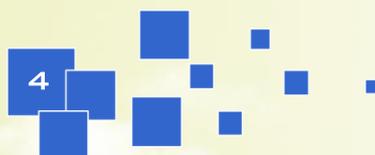
In introducing the agenda for the day, Mr. Borchardt was pleased to note that this year's Coal Dialogue would look into the subject of innovative coal technologies. The other discussion panels scheduled for the day covered revisions to the "Best Available Techniques" Reference Document for Large Combustion Plants (LCP BREF) under the Industrial Emissions Directive (IED) and coal industry restructuring in Europe in the context of the state aid regime. Mr. Borchardt acknowledged that these were important issues for discussion, given the low-price environment in which coal producers had to operate and the concerns expressed by the power generation sector regarding the LCP BREF review process.

Finally, Mr. Borchardt welcomed the participation of a number of colleagues representing the Commission during the Coal Dialogue, including Marianne Wenning, Director at DG Environment and Céline Gauer, Director at DG Competition, as well as other colleagues from DG Research.

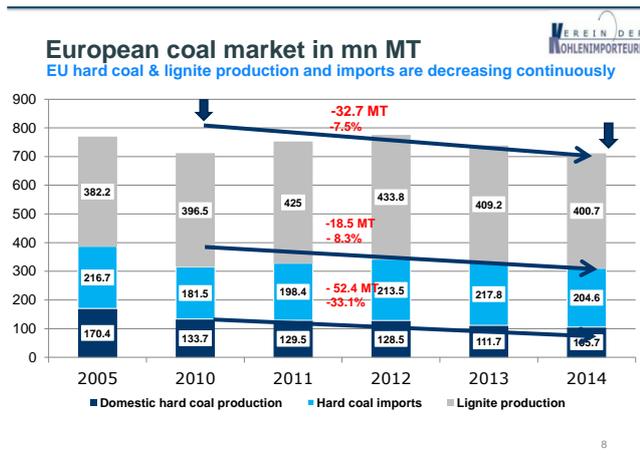
**Erich Schmitz**, Chairman of the EURACOAL Market Committee, refuted claims that coal was a fuel of the past century, arguing that global hard coal production and trade increased steadily in recent years. The low price of coal and low sea freight rates, created a distinct advantage for coal consumers, particularly power plant owners in Asia, North America and Europe.



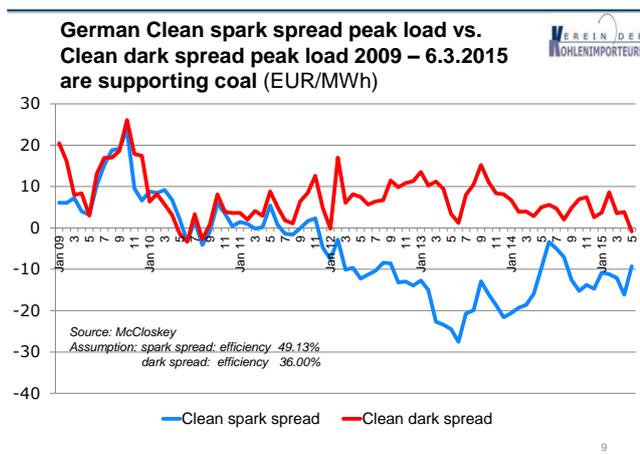
In Europe, coal production, consumption and trade are slowly declining. However, Dr. Schmitz argued



that the decline was partly due to efficiency gains. Coal enjoys a clear price advantage over gas, with favourable clean spark and dark spreads in the electricity market.



Dr. Schmitz saw the main challenges for coal as being: climate change politics at the EU level; an energy transition based on subsidised renewable sources; increasingly critical and aggressive reporting in the media; and the targeting of coal as the new enemy, after nuclear energy was brought down by environmental NGOs.



Dr. Schmitz said that the coal industry accepts the primacy of politics, but called for an objective European approach which respected national interests. It was a challenge to have 28 or more different climate policies: Germany alone has a national policy as well as four *länder* climate policies. He recalled the arguments for coal: affordability, reliability and security of supply, before presenting a case study from the coal utility company, STEAG. A pilot project transforms CO<sub>2</sub> into methanol, an example of carbon capture and use (CCU) and showing that the coal industry is committed to CO<sub>2</sub> reduction through the application of technology.

He could not understand why the EU should unilaterally prefer natural gas when the security of gas supply is an ever-present risk due to the dependency on only a few suppliers. No one is talking about expanding coal use in Europe, he continued, but we need to use the coal that we have available as wisely as possible so that the “energy transformation” is achieved with less economic and security risks. Dr. Schmitz concluded that coal will contribute with low-carbon technologies, if there is a stable, reliable and predictable energy policy framework: coal deserves to be treated honestly and fairly.

Renata Eisenvortová, a Delegate to the Consultative Commission on Industrial Change (CCMI) at the European Economic and Social Committee (EESC), recalled the importance of coal, giving the example of Ukraine where, of 126 coal mines, only 60 remained in operation at the end of 2014, and the country was left short of electricity, heat and the raw material needed for steel production.



Left to right: Renata Eisenvortová, CCMI-EESC, Erich Schmitz, EURACOAL and Klaus-Dieter Borchardt, EC

Dr. Eisenvortová posed several challenging questions concerning indigenous resources:

- Should we give up our indigenous energy resources and increase our energy import bill which amounts annually to nearly €400 billion?
- Should we increase our gas import dependency at the same time as pipelines are being built that will take gas away from the EU?
- Should we stop access to our indigenous coal and rely on energy supplies from geopolitically unstable countries?
- Should we not protect strategic coal reserves throughout the EU?
- Should we let our prosperous European coal mining regions decline into problematic regions, characterised by unemployment and depopulation?
- Should the European coal industry not be part of a sustainable energy supply?

In her final remarks, Dr. Eisenvortová referred to the EESC's decision to prepare an own-initiative opinion on the contribution of indigenous coal to EU energy security. On 14 September 2015, a hearing will be held and the opinion then finalised in November. Indigenous coal will be studied not only in terms of security of supply, but also from the environmental and socio-economic perspectives, as well as the need for R&D. A likely recommendation is to establish a "Plan of Action on Coal".

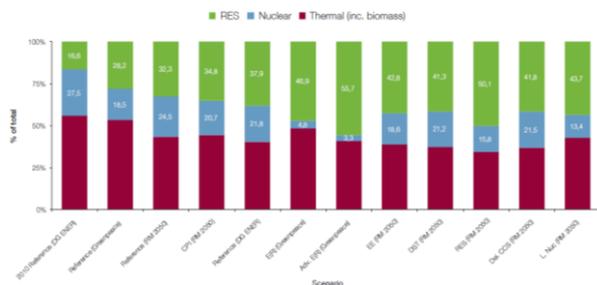
# Sessions

## Session I: Innovative coal technologies and climate mitigation

### Status of coal-fired power generation and export potential for Europe's re-industrialisation

**Emmanouil Kakaras**, President of the European Power Plant Suppliers Association (EPPSA), expressed his association's support for the EU's new climate targets, but noted how thermal power was being vilified in the current push for renewable energy sources (RES). He argued that thermal power was a fundamental part of the energy mix with ample, indigenous reserves of fossil fuels, increasingly clean and efficient power plants due to technological advances, cost competitiveness under market conditions and the flexibility to provide back-up when RES are not available.

#### European Market Generation mix in 2030



Source: EPPSA study on 2030 Role of Thermal Power in Europe, January 2015

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Status of Coal-fired Power Generation & Export Potential for Europe's Re-industrialisation



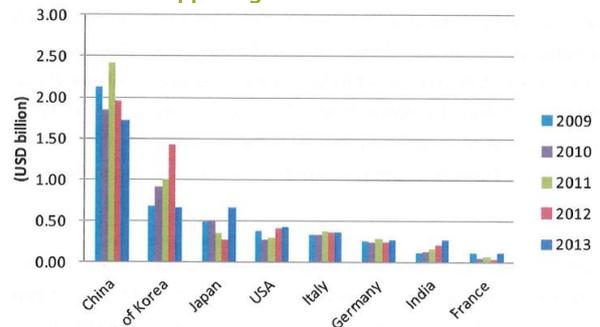
Prof. Kakaras referred to an EPPSA study from January 2015 that shows thermal power still being an important part of the fuel mix in 2030. However, the reality is that there is almost no investment in new fossil-fired power plants in the EU, even though such investments would significantly reduce GHG emissions. Instead, older plants remain on the grid.

European power plant technology sets the benchmark and competes well with technologies from other countries, such as South Korea and Japan. Developing and encouraging the use of the latest European technologies at power plants would

reduce emissions in the EU, as well as in other countries that contract with European power plant suppliers and thus help support 100 000 jobs in the EU power plant supply industry.

#### Exports of steam or other vapor generating boilers

##### What is happening?



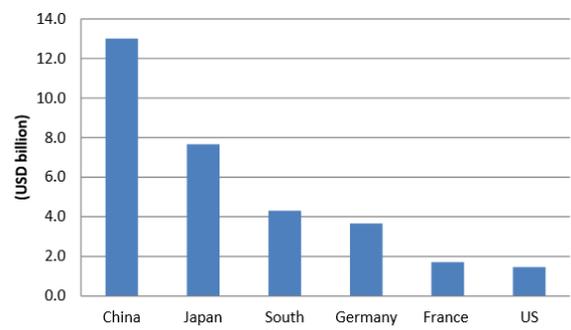
Source: US Comtrade Database, November 2014

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Status of Coal-fired Power Generation & Export Potential for Europe's Re-industrialisation



However, despite the advantages of European power plant technology, Asian countries, including China, are export leaders for steam boilers and turbo-generators. Prof. Kakaras gave a concrete example of the Stanari power plant in Bosnia and Herzegovina, to be built with Chinese equipment from Dongfang Electric Corporation, instead of from a European supplier. This means a significant compromise on efficiency, from a possible 43% that was available with European boilers to just 34%. It will be financed by the China Development Bank and starkly demonstrates that the current European Investment Bank lending rules are strangling European manufacturers, allowing Asian competitors to win contracts on our doorstep, in the Western Balkans and Moldova.

#### Comparison of public financing for foreign coal-fired PP

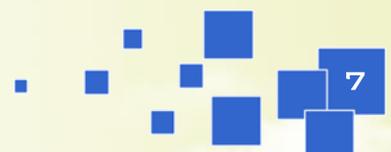


Source: Quantifying Chinese Public Financing for Foreign Coal Power Plants, University of Tokyo, November 2014

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EPPSA has studied the benefits of replacing old coal-fired power plants with new, more efficient plants, looking at 26 plants (22 GW). Fuel savings made by

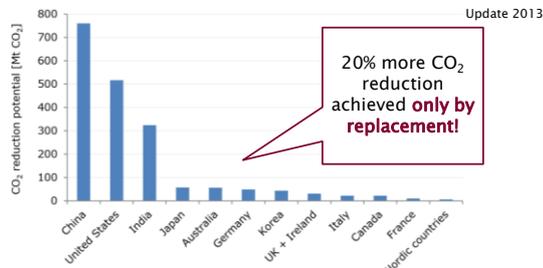


the replacement of these old thermal power plants from 2000 to 2015 averaged 32% – with an equivalent reduction in CO<sub>2</sub> emissions. Analysis shows that, taking into account both capex and opex to 2030, investment costs were more than offset by the savings in fuel and CO<sub>2</sub> allowances and result in a negative CO<sub>2</sub> avoidance cost of -€19.58/tCO<sub>2</sub>, one of the lowest ever seen. CO<sub>2</sub> emissions are reduced by 57 million tonnes each year.

At the global level, if replacements were made such that all plants achieved the performance of best available technologies, then CO<sub>2</sub> emissions from fossil-fuelled power plants would be reduced by over 20%.<sup>1</sup>

### Global Power Generation – GHG Emission Reduction Potential

#### International comparison of fossil power efficiency and CO<sub>2</sub> intensity



**Absolute** CO<sub>2</sub> emission reduction potential for fossil power generation by energy efficiency improvement by replacing all fossil public power production by BAT for the corresponding fuel type

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ecofys  
Developing the Future

Prof. Kakaras then turned to “carbon lock-in” – a term used to describe how plants built today may still operate for decades to come, making decarbonisation of the electricity sector difficult by 2050. There was no carbon lock-in, he said, only the technical necessity to balance the electrical system, ensure system security and provide grid services when no dispatchable RES were available. These were the realities, he concluded, and thermal power would remain indispensable, with European suppliers calling for recognition of the added value that they offer.

### Research Fund for Coal and Steel: past successes and future developments

**Wolfgang Schneider**, Policy Officer in DG RTD, presented the Research Fund for Coal and Steel (RFCS). He explained that the fund is continuing

<sup>1</sup> *International comparison of fossil power efficiency and CO<sub>2</sub> intensity – Final Report (update 2013)*, Ecofys for Mitsubishi Research Institute, Utrecht, August 2013.

research in the area of coal and steel after the expiry of the European Coal and Steel Community (ECSC). The RFCS is using the interest generated on the remaining budget from the ECSC levy on coal and steel production and is today a €2 billion research fund, separate from other Community programmes.



### WHAT is the RFCS Programme?

A research fund with a budget of ~ 50 M€ / year

Not taxpayer money

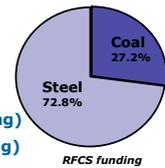
Promoting industrial research in the field of

- **Coal and Steel**

Open call for proposals for

- **Research projects (60% funding)**
- **Pilot & Demonstration projects (50% funding)**
- **Accompanying measures (60 - 100% funding)**
- **Deadline: mid September each year**

Outside the FP/H2020 ... yet closely co-ordinated & complementary



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Any legal entity established in the EU member states can participate and a typical project focuses on industrial-related research with a consortium of 5-8 partners from industry, academia and research centres. The average project receives funding of €1-2 million over 3-4 years. Total funding since 2003 has been around €700 million, leading to a total expenditure of over €1 billion for research.



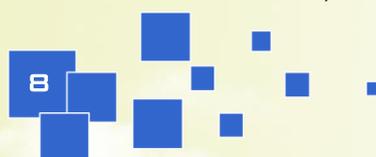
### Evolution of Available RFCS Budget

Year	Coal (€)	Steel (€)	Total (€)
2003	16.320.000	43.680.000	60.000.000
2004	16.320.000	43.680.000	60.000.000
2005	15.368.000	41.132.000	56.500.000
2006	14.892.000	39.858.000	54.750.000
2007	14.654.000	39.221.000	53.875.000
2008	14.535.136	38.902.864	53.438.000
2009	14.067.568	37.651.432	51.719.000
2010	14.649.784	39.209.716	53.859.500
2011	16.572.892	44.356.858	60.929.750
2012	15.902.446	42.562.429	58.464.875
2013	14.071.240	37.661.260	51.732.500
2014	13.155.620	35.210.630	48.366.250
2015	12.974.400	34.725.600	47.700.000
Totals	193.483.086	517.851.789	711.334.875

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There are three technical groups covering the different areas of research:

- coal mining operation, mine infrastructure and management, unconventional use of coal deposits;
- coal preparation, conversion and upgrading; and
- coal combustion, clean and efficient coal technologies and CO<sub>2</sub> capture.



## COAL: Programme Research Objectives

**Management of external dependence on energy supply**

**Improving the competitive position of Community Coal**

**Health and Safety in Mines**

**Efficient protection of the environment & improvement of the use of coal as clean energy source**




Coal means: Hardcoal - Lignite - Coke - Briquettes - Oil Shales

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## Coal in Poland's energy mix – a need for investment and an action plan for the future

**Janusz Olszowski**, President of the Polish Mining Chamber of Industry and Commerce (GIPH), began by describing the potential of the Polish coal sector which includes hard coal and lignite producers, machinery and equipment manufacturers, service companies and research institutes. All are represented by GIPH.



Left to right: Wolfgang Schneider, EC and Janusz Olszowski, GIPH

Proposals must be submitted prior to the annual deadline (15 September in 2015) and may respond to priorities announced each year. Results from the 2014 coal evaluation show seven successful proposals, with three more on a reserve list, out of 37 submitted. Fourteen proposals were above the threshold, but no funding was available, while ten proposals were below the threshold and three were not eligible. There were more than 300 participants from twenty countries: the top-3 being Poland, Germany and Spain. Participation by non-EU states is allowed, but is not eligible for funding. In 2014, there were participants from Norway, Switzerland and Ukraine. The Fund is viewed as highly successful: a formal monitoring and assessment report published in 2013 shows that €1 of RFCS funding has resulted in a net annual benefit of €3.3 for beneficiaries or an accumulated benefit of c.€14.



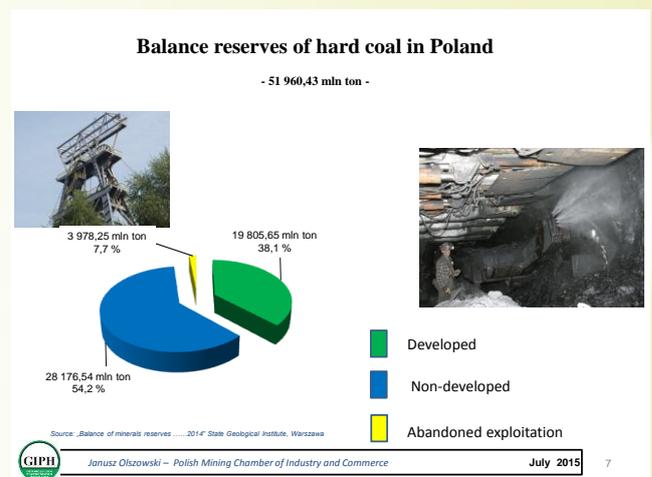


## Possible Changes to RFCS

Amendment of the Legal Basis:

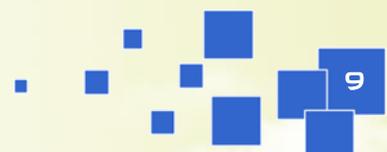
- Composition of the Advisory Groups (represent stakeholder community, appointment duration)
- Tasks of the Advisory Groups (ranking list)
- Tasks of the Coal and Steel Technical Groups (definition of priorities)
- Deadline for call for proposals
- Update references, harmonise with H2020

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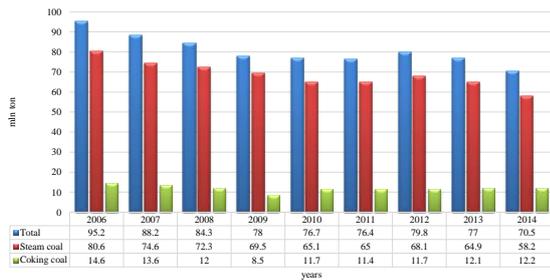


In his conclusion, Mr. Schneider mentioned that there are some changes in progress that may affect the programme, including an amendment of the legal basis, a new Model Grant Agreement and a new information pack for 2015.

Hard coal is exploited at two of Poland's three deposits, with more than half of reserves still to be developed (54.2%). Hard coal production in 2014 was 70.5 million tonnes, employing 100 675 people.



### Hard coal production in Poland in 2006 - 2014 - mln ton -



Source: Information of functioning of hard coal mining ... 2006 - 2014, Ministry of Economy



Janusz Olszowski - Polish Mining Chamber of Industry and Commerce

July 2015

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Lignite production in 2014 was 64.0 million tonnes, with 11 561 people employed. A remarkable 93.6% of the country's lignite reserves remain unexploited.

### Balance reserves of brown coal in Poland - 23 510,59 mln ton -



Source: Balance of minerals reserves ... 2014, State Geological Institute, Warszawa

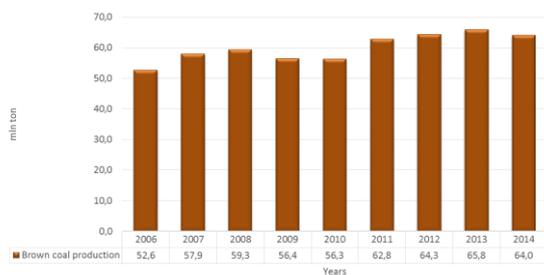


Janusz Olszowski - Polish Mining Chamber of Industry and Commerce

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### Brown coal production in Poland in 2006 - 2014 - mln ton -



Source: Balance of minerals reserves ... 2014, State Geological Institute, Warszawa



Janusz Olszowski - Polish Mining Chamber of Industry and Commerce

July 2015

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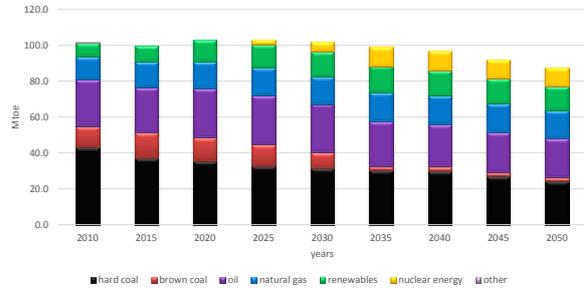
Mr. Olszowski stressed that 550 000 jobs depended either directly or indirectly on the coal sector.

Following the Energy Act 1997, a strategy for hard coal was adopted in 2007, covering the period 2007-15. In 2009, an energy policy to 2030 was

agreed by the government. Ongoing work on a Polish energy strategy to 2050 has three aims:

- security of supply for companies and households;
- competitiveness and energy efficiency; and
- reducing environmental impacts.

### Volume and structure of national demand for primary energy in Poland in 2010-2050 - Mtoe - Balanced scenario



Source: Forecast of demand for fuels and energy till 2050, National Agency of Energy Conservation S.A.



Janusz Olszowski - Polish Mining Chamber of Industry and Commerce

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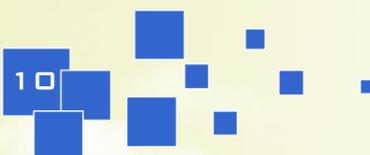
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The strategy sees coal retaining a significant share of the energy mix, although smaller than currently. Reports by independent Polish and foreign experts show that coal will still remain the most significant fuel for the Polish economy and while forecasts prepared for the 2050 strategy foresee a reduction in coal consumption, indigenous coal remains the stabiliser of energy security in Poland. Strategic lignite reserves have been identified and their possible future use needs to be secured by today's planning. Renewables should increase their share, nuclear will become a new energy source for Poland and unconventional fossil fuels will be developed. Overall, Poland strives for energy independence.

As for new clean coal technologies, Mr. Olszowski said that these are not just CCS. He presented technologies for three stages of coal exploitation:

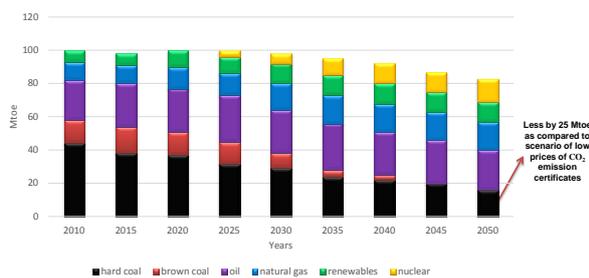
- coal production: selective mining and preparation of cleaner burning coal;
- coal processing: combustion in supercritical boilers and fluidised beds, coal liquefaction and gasification (underground as well as at surface facilities – the Polish government supports both technologies with ongoing projects); and
- emissions reduction: including CCS and CCU.

All these can be developed, so long as there is demand for coal which will depend on the price of CO<sub>2</sub> allowances. Here, Mr. Olszowski presented scenarios for CO<sub>2</sub> certificate prices, with reference to



power generation in Poland from 2010 to 2050. He noted that allowance prices should be determined by the market and not as a result of administrative decisions made in Brussels. The difference in coal and lignite consumption in 2050 between the high and low carbon price scenarios is estimated to be 25 Mtoe. He underscored that there is an urgent need for investment in high-efficiency coal-fired power plants and in the further modernisation of mines, through mechanisation and automation, to improve their competitiveness.

**Volume and structure of national demand for primary energy in Poland in 2010 - 2050**  
- Mtoe – scenario of high prices of CO<sub>2</sub> certificates -



Source: „Forecast of demand for fuels and energy till 2050” National Agency of Energy Conservation S.A.



Janusz Olszowski – Polish Mining Chamber of Industry and Commerce

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Mr. Olszowski said that it was unacceptable that EU energy and climate policy aimed to limit the role of indigenous energy sources by directly interfering in the internal affairs of member states and their choice of energy mixes.

Council Decision 2010/787/EU of 10 December 2010 on state aid to facilitate the closure of uncompetitive coal mines should be changed, said Mr. Olszowski, because the decision did not reflect the situation now facing the coal sectors in member states (e.g. in Poland, the Czech Republic, Romania and Spain). The possibility of funding mine modernisation, investments to access resources and an extension to the 2018 closure deadline for mines receiving state aid should all be reviewed, he concluded.

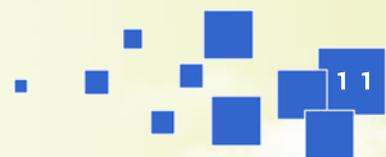
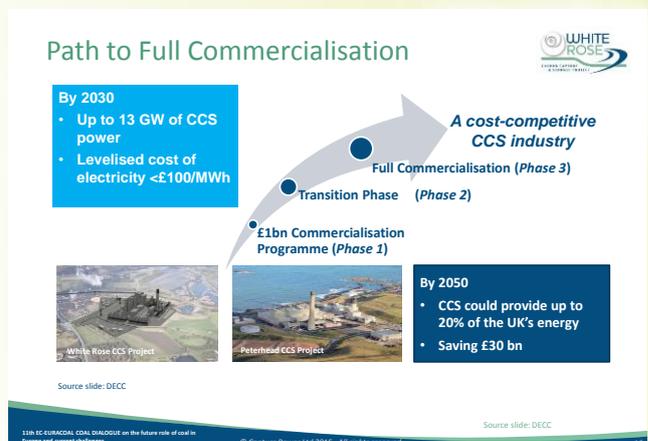
### The White Rose CCS project: a pathway to regional decarbonisation

**Richard Simon-Lewis**, Finance Director at Capture Power Ltd. – developer of the White Rose CCS project in the UK, began by explaining the main CCS technologies and their current status.



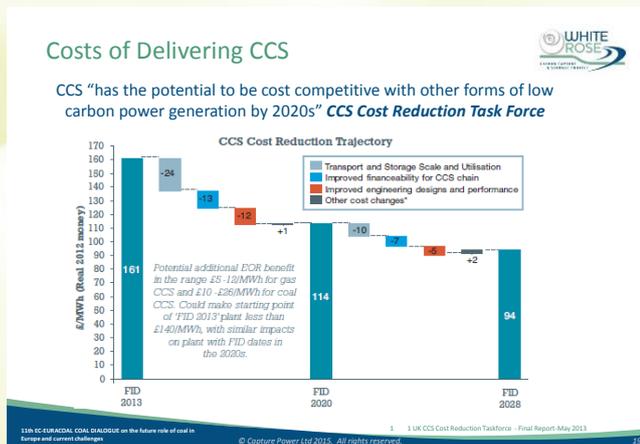
Globally, 22 large-scale CCS projects are in operation or under construction, with the capacity to capture up to 40 million tonnes of CO<sub>2</sub> each year, being equivalent to the emissions from eight million cars. There are also 14 large-scale CCS projects in advanced planning, including nine in the power sector. The first large-scale CCS power project was put into operation at Boundary Dam in Canada on 2 October 2014. The next two large-scale CCS power projects will come online in 2016, both in the US: Southern Company’s Kemper County Energy Facility in Mississippi and the Petra Nova Carbon Capture Project in Texas.

The White Rose CCS project is a full-chain integrated CCS project incorporating a new, ultrasupercritical, oxy-fired power plant of up to 448 MWe (gross). It will be located at Drax in North Yorkshire and provide more than 300 MWe of clean power, meeting the needs of 630 000 homes. All the flue gas will be treated with a 90% CO<sub>2</sub> capture rate. If biomass is co-fired, then it could lead to net zero CO<sub>2</sub> emissions. CO<sub>2</sub> will be transported about 100 miles (160 km) by pipeline to offshore storage where it will be permanently stored in a deep saline formation.



The UK has a large storage potential in the northern, central and southern North Sea, as well as in the Irish Sea. In total, the country has a potential storage capacity of 78 GtCO<sub>2</sub>, well in excess of the 3 GtCO<sub>2</sub> storage capacity required by UK industry by 2050.

Mr. Simon-Lewis reported good progress with the project: it being the preferred bidder in the UK government's £1 billion CCS commercialisation programme. A FEED contract was awarded by the government in December 2013 and is now underway with detailed engineering, risk reduction and a programme plan leading to financial close, FID and the start of construction. The planning process is on track: the power plant planning application or Development Consent Order (DCO) was accepted by the UK Planning Inspectorate in December 2014 and the DCO application by National Grid for the CCS pipeline was accepted in July 2014.



Mr. Simon-Lewis said that over twenty banks were interested to finance the project, including the EIB. One of the main arguments in favour of the White Rose power plant is to ensure UK energy security while keeping energy-intensive industries in the country. The UK government wants to see energy-intensive industries join the project which is being designed as a hub for just such a cluster.

He concluded by noting the future cost reduction potential of CCS – by the 2020s, it should be cost competitive with other low-carbon power technologies.

## Discussion

In the Q&A session, Mr. Bernd Bogalla of GVSt wondered why a change was needed in RFCS procedures given that they had worked well for over 10 years and many years more as the ECSC. The legal change will lead to a loss of expertise, he said,

and funding will not be as efficient as in the past when €1 of RFCS funding resulted in a net benefits of €3.3 per year for project participants, on average. Mr. Mark Johnston, representing the European Policy Centre, asked whether the RFCS budget was in fact public money, to which Mr. Schneider replied that the originally levies which created the fund came directly from the coal and steel industry.

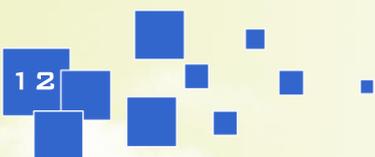
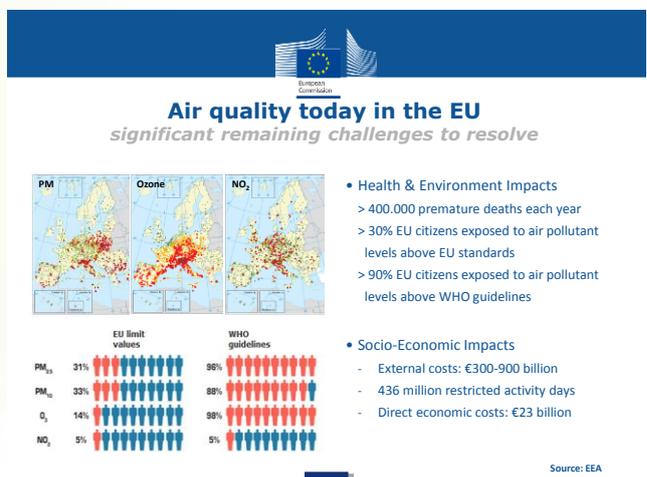
## Session II: Revisions to the “Best Available Techniques” Reference Document for Large Combustion Plants (LCP BREF) under the Industrial Emissions Directive (IED)

Outcomes from the final meeting of the Technical Working Group for the review of the BAT reference document for Large Combustion Plants

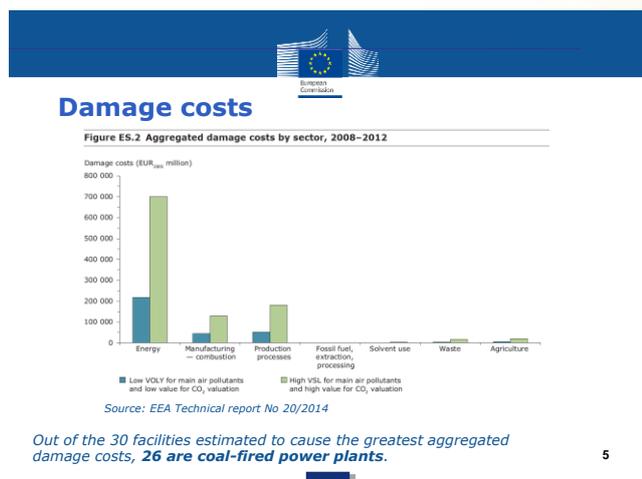


Left to right: Klaus-Dieter Borhardt, EC and Marianne Wenning, EC

**Marianne Wenning**, Director at DG Environment for Quality of Life, Water & Air, remarked on the health and environmental impacts of poor air quality in the EU where more than 30% of citizens are exposed to air pollutant levels above EU standards and more than 90% of citizens are exposed to levels above WHO guidelines. This leads to more than 400 000



premature deaths each year. Ms. Wenning said that out of the thirty facilities estimated to cause the greatest damage, 26 were coal-fired power plants.



The Industrial Emissions Directive (IED) aims to prevent pollution and, if not feasible, reduce it. Permits are required for operating large combustion plants (LCP) and must contain conditions including emission limit values (ELVs) for all relevant pollutants, based on the use of the best available techniques (BAT).

The BAT conclusions of the BAT reference documents (BREFs) are the reference for setting permit conditions. Emissions under normal operating conditions shall not exceed the BAT associated emission levels (BAT-AELs) set out therein. Derogations from those BAT-AELs are only possible in specific and justified cases (Art. 15(4)), where assessments show that the costs of applying BAT-AELs would be disproportionately higher than the environmental benefits due to location- or installation-specific situations. However, the ELVs specified in the IED cannot be exceeded.

Ms. Wenning regarded the LCP BREF review process – the so-called Seville process – as highly transparent, if lengthy. A review of the BREFs should take place about every eight years in order to keep them up-to-date.

The current LCP BREF review began in 2011. A Technical Working Group, comprising 270 experts from member states, industry and environmental NGOs, collected technical and economic data on plants via questionnaires which were complemented by other information, site visits and reports. The first draft of 2013 elicited around 8 500 comments; an intermediate meeting in 2014 discussed several key issues and the final meetings were held in

June/July 2015 to agree on the conclusions. Where dissenting views were expressed, they would be documented, if supported by valid rationale.

The BAT conclusions will be voted on by the IED Article 75 committee by qualified majority and, if positive, adopted by the Commission and published in the OJ.

Within four years of publication in the OJ, all permit conditions must be reconsidered and, if necessary, updated to bring them in line with the BAT conclusions.

In her closing remarks, Ms. Wenning highlighted the transparency and inclusive nature of the Seville process and the importance of BATs for the EU's environmental policy on air, water and soil pollution. She saw BREFs as an effective means of creating new market opportunities for state-of-the-art pollution control techniques.

### Overview of environmental standards for coal-fired power plants in major coal demand centres

**Małgorzata Wiatros-Motyka**, Analyst and Author at the IEA Clean Coal Centre, noted that countries have different histories with different needs (e.g. developed versus developing countries); different approaches (e.g. favouring control technologies or emissions trading or a mix of both) and different measurement methods and units. She compared emission standards using data from the World Resources Institute.

In the USA, legislation is somewhat complex, with some new rules being legally challenged from many angles. For example, the Mercury and Air Toxics Standards (MATS) is challenging (i.e. a mercury reduction of 80-85% from old units and 95% from new plants). A new development on MATS is the supreme court's overruling of the Environmental Protection Agency, so the proposed standards have to be rewritten, taking into account technologies' implementation costs.

China has already tightened its standards. For SO<sub>2</sub>, NO<sub>x</sub> and particular matter (PM), new emission performance standards were issued in January 2012, to be met by new plants immediately, while existing plants had until July 2014 to comply. Also, since 2006, new power generation units must be SC or USC and of at least 600 MWe capacity. From 2015,

unit capacity of new coal power projects must be at least 600 MWe USC and mostly 1000 MWe, with a net coal consumption lower than 285 gce/kWh and 282 gce/kWh respectively. Looking ahead, coal plants in the Eastern coastal region will be expected to meet the same performance as gas plants.

In India, there are no limits for SO<sub>2</sub> or NO<sub>x</sub>, however minimum stack heights are specified for effective dispersion. There are PM limits of 350 mg/m<sup>3</sup> and 150 mg/m<sup>3</sup> for power plants <200/210 MW and ≥210 MW respectively. New emission standards are currently being discussed which are at levels equivalent to those set in China and Europe and most likely, from 2017, all new power plants will have to have PM, SO<sub>x</sub> and NO<sub>x</sub> control technologies in place.

Dr. Wiatros-Motyka concluded that emission reduction targets and emission limits were becoming challenging, however implementation of BAT and high-efficiency, low-emission (HELE) technologies makes targets achievable.

## European power sector comments on the LCP BREF revision

**Hans ten Berge**, Secretary General of EURELECTRIC, began by noting that life expectancy is higher than ever before, yet premature death statistics are used to justify tougher air pollution controls on large combustion plants (LCPs), despite the huge drop in power sector pollution over the last 25 years (85% less SO<sub>2</sub>, 55% less NO<sub>x</sub> and 70% less dust) when electricity production grew by 30%.

He warned that the Seville process had turned into a “coal bashing” exercise, not in response to any real risk from air pollution, but to reduce GHG emissions,

whatever the cost. Already, 115 GW of coal-fired plants had closed in the EU due to the LCP Directive and the accelerated closure of more plants under the IED Directive would come at a high cost to society, he said. This would nullify the success of the ETS Directive which has seen GHG emissions reduce at a remarkably low cost (€7/tCO<sub>2</sub>). He called for the Commission to take a holistic approach when proposing amendments to the IED BAT conclusions, reflecting a true cost-benefit analysis, rather than the selective, one-dimensional analysis seen so far.

All energy sources have environmental impacts and the focus had now shifted from anti-nuclear to anti-coal campaigns. Mr. ten Berge said that major investments would be needed to decarbonise the power sector, but today’s wholesale power prices did not allow economically justified investments in any of the existing generation technologies, while existing capacity was being mothballed. We need a technology-neutral framework that ensures decarbonisation, and values energy, capacity and flexibility, he said. The massive positive value of electricity to society remains unquantified by the Commission which focuses on a narrow range of impacts.

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### Thermal generation keeps the lights on as electricity becomes increasingly CO<sub>2</sub> free

Thermal generation guarantees security of supply by

- providing firm and flexible capacity: thermal generation can readily be turned on or off and can flexibly adjust power output to demand
- contributing to ancillary services: inertial response, fast frequency power recovery

Future of thermal generation

- more efficient new units
- CHP in areas with sufficient demand for industrial steam or district heating & cooling
- renewable thermal generation: biomass or biogas fired plants
- more flexible units: faster start-ups and shut-downs, lower minimum generation, higher ramping rates, and more frequent changes in generation

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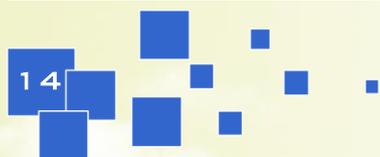
### Challenging business environment

Technology	Monthly Average Range European Power Wholesale Price (PEP) in €/MWh	LCOE (€/MWh)
Hydro Dam	~50	~50
Geothermal	~50	~50
Hydro run-of-river	~50	~50
Nuclear	~50	~100
Biomass co-firing	~50	~100
Wind Onshore	~50	~100
Natural Gas	~50	~100
Wind	~50	~100
Prepaid Hydro	~50	~100
Wind (prepaid)	~50	~100
Wind (onshore)	~50	~100
Biomass (cattle/porcine)	~50	~100
Biomass (poultry)	~50	~100
Solar PV (Monocrystalline)	~50	~100
Solar PV (Polycrystalline)	~50	~100
Solar PV (thin-film)	~50	~100
Oil	~50	~100

- 2000-2012: 1,1 trillion euros were spent in new power generation of which 3/4 went to RES. An additional 740 GW capacity has to be built by 2035 (IEA)
- Today's price levels do not allow economically justified investment in any of the existing technologies
- Existing capacity is being mothballed/closed down – influencing the available firm and flexible capacity

Given that decarbonisation of the electricity sector is planned for 2050, there is time to adjust without favouring particular technologies or unnecessarily penalising others. If the Seville process results in rule changes at this early stage, then investors will be unwilling to make the very improvements that would further reduce emissions to meet BAT-AELs and remain below the agreed national emission ceilings in a cost-effective manner.

Mr. ten Berge concluded with EURELECTRIC’s call for a formal impact assessment of the proposal that will



be submitted to the IED Art. 75 Committee, noting that:

- IED BAT conclusions are a blueprint for permitting and not an academic exercise;
- it is not the role of BAT conclusions to determine the electricity mix;
- economic conditions in the sector have not been taken into consideration;
- investments have already been made to implement the IED; and
- the impact on security of supply and costs for customers are crucial.

### A view from Greece on the LCP BREF revision

**Marios Leonardos** of the Public Power Corporation (PPC) began by comparing Greek lignite deposits with others in Europe. He then turned to lignite mining cost benchmarks. These showed PPC to be competitive in terms of material removal, but at the top end of the global range in terms of energy supply. The very low calorific value of Greek lignite makes this high cost inevitable.

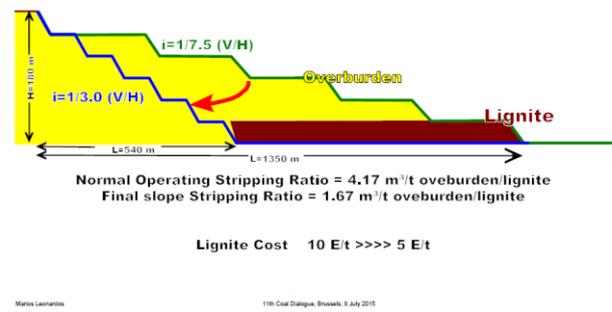
**Lignite mining cost benchmarking**

*Figures as they are - no adjustments*

MINE	PRODUCTION Mt/y	LIGNITE COST €/t	STRIPPING RATIO R t/m <sup>3</sup>	EXCAVATION COST €/m <sup>3</sup>	FUEL HEAT COST €/Gcal
Freedom, North Dakota USA	15	13	5,24	2,2	3,5
MIBRAG (all mines) Operating Cost	19,6	9,96	4,02	2,05	3,8
Schleienhain Mine / Germany	11	12	3	3	4,6
Mini Maritsa Iztok/BG	33	9,8	4	2,06	6,3
Belchatow, Poland	40	9.55 + Depr	2,6	2.92 + Depr	6,4
Kolubara, Serbia	30	13,3	2,2	3,83	7
Visonta/Bükkabany / Hungary	81,5	15	6,9	1,96	8,8
Rovinari / Romania	63	14,8	5,3	2,44	9,2
PPC, Greece	52,6	15,14	5,16	2,54	12,3

Greek lignite production started in the 1950s, reached a peak in the 2000s and is now declining, with total depletion expected by 2050. The last three deposits or “fields” are being exploited today and PPC aims to complete their exploitation: to fulfil mining concession obligations, to ensure economic viability and to restore the environment. Mining costs are a minimum at the end of the exploitation, after all the upfront investments have been made, e.g. in infrastructure and overburden removal.

Mining cost is minimum at the end of a lignite field mining operation



If lignite exploitation is not completed according to plan, then there would be significant environmental impacts in the Ptolemais basin. For example, the land would not be restored to a usable form and the company (or country) would have to pay an unbearable cost to correct the situation.

PP	COMMISSION	DECOMMISSION	OPERATION YEARS
<b>New Unit</b>			
PTOL5	2019	2061	45
<b>Opt out (17500h)</b>			
KARDIA1	1975	2018	43
KARDIA2	1975	2018	43
KARDIA3	1980	2019	39
KARDIA4	1981	2019	38
<b>Transitional national plan</b>			
AGIOS DEM1	1984	2029	45
AGIOS DEM2	1984	2029	45
AGIOS DEM3	1985	2030	45
AGIOS DEM4	1986	2031	45
AGIOS DEM5	1997	2042	45
<b>Opt out (17500h)</b>			
AMYNT1	1987	2018	31
AMYNT2	1987	2018	31

In the power sector, the Kardia and Amyntaio power plants are opted-out of the LCP, which means the sudden loss of 1 800 MW from the system, a gap in electricity production capacity that will be difficult to replace, at least until Ptolemais unit 5 is ready in 2019-20. The uninterrupted provision of district heating to the Amyntaio region and Ptolemais city will be a further problem. For the units in a transitional national plan, Dr. Leonardos queried where the required €170 million investment would come from, given the perilous state of the Greek economy.

Dr. Leonardos concluded that the only solution that could be envisaged would be to increase the operating hours derogation from 17 500 to 32 000.

## Discussion

Responding to questions, Mr. ten Berge said that coal subsidies in Europe had not influenced the electricity market, because subsidies paid to coal producers did not influence coal or power market prices. In contrast, renewables subsidies, such as feed-in tariffs, did influence the power market. He warned of the negative economic consequences if EU policy resulted in more and more capital write-downs in the energy sector. The growing share of renewables – perhaps 45% of electricity generation by 2030 – means more call on conventional back-up capacity. Coal plants can do this, but if they need new investment every 5-6 years to meet ever-changing environmental rules, then owners may turn to the state for guarantees. Mr. ten Berge did not believe that such a fully subsidised, state-directed energy market was in Europe's best interest.

Mr. Bernd Bogalla of GVSt fully agreed with Mr. ten Berge and expressed his astonishment at some of the figures put forward by the Commission in the recent LCP BREF draft. Ms. Martín González, Director General of Carbuni3n, was unsure about the transparency of the Seville process and considered the adjustment time far too short for industry and damaging to investor confidence. Mr. Mark Johnston of the European Policy Centre wondered whether some coal-fired power plants could simply be lost, given that Europe has an overcapacity.

Ms. Wenning replied that the intention of the Commission was to take a holistic approach in tackling air pollution, such that all contributing sectors, including the transport and agricultural sectors, would need to improve their performance. She also stressed the transparency of the Seville process for reviewing the BREFs.

## Session III: Coal industry restructuring

### Coal industry restructuring – energy policy from the social perspective

**Sylvain Lefebvre**, Deputy General Secretary at the European Trade Union, IndustriAll, spoke about the current situation in the energy sector and restructuring of the coal industry. He acknowledged the difficult situation in the energy sector and reasoned that high prices would affect the

competitiveness of energy-intensive industries, adding to the four million manufacturing jobs already lost in Europe. He was critical of the current direction that, despite the rhetoric, does not help create a stable investment climate for the energy sector – although volatile energy prices do not help either. On the other hand, he recognised that the energy industry must adapt and modernise, under a policy for a socially just transition to a clean energy system.

### European Energy Policy

3

The challenge for energy policy is therefore manifold: First, maintain competitiveness of the European economy, especially for energy-intensive industries and safeguard employment. Second, ensure Europe's position at the cutting edge of energy technologies and, finally, deliver on European climate objectives and a globally binding agreement

#### Competitiveness and Security of supply

The Commission outlined in its communication its intention to reverse the declining role of industry in Europe from its current level of around 16% of GDP to as much as 20% by 2020.

The affordability of energy is a crucial factor for the competitiveness of energy intensive industries



Mr. Lefebvre was supportive of an international agreement on climate change, but a credible one that needs to balance security of supply and avoid the dangers of social dumping. He gave the example of the solar panel production that started very well in Europe, but is now totally dominated by Chinese-made manufacturers.

### European Energy Policy

3

At the same time, it will remain necessary to retain **bridge technologies, such as modern and efficient coal-fired powerplants**, that ensure sufficient flexible power production to back up intermittent energy supply.

The involvement of Social Partners in the decision-making process is crucial.



He considered the current situation as unacceptable where mines are closed while coal imports increase, creating an unstable situation and putting security of energy supply at risk. Where the reduction of coal production means job losses, he called for compensation mechanisms and structural support in

the regions affected. Anticipating the changing demands for skills and the re-skilling of workers would be key elements of the transition, he said. Mr. Lefebvre concluded by expressing his hope for a global deal on climate change that allows investment in modern technology and avoids social hardship.

## EU rules for state aid support in the coal industry



Left to right: Klaus-Dieter Borchardt, EC and Céline Gauer, EC

**Céline Gauer**, Director in DG Competition for Markets and Cases I: Energy and Environment, noted that the main challenge for the coal sector was its competitiveness, due to high production costs and difficult geological conditions, low world coal prices and oversupply, and carbon pricing. Against this background, the EU framework for state support in the coal industry aims at reconciling several objectives: phasing out environmentally harmful subsidies and meeting climate targets; environmental protection and the mitigation of social consequences; and security of supply.

The relevant legal instruments are the Council Decision of 10 December 2010 on state aid to facilitate the closure of uncompetitive coal mines and, in very specific circumstances, the Electricity Directive (2009/72/EC). The *Industrial Rescue and Restructuring Guidelines* exclude the coal sector, while the *Regional Aid Guidelines* exclude aid to “firms in difficulties”.

The Council Decision is a temporary measure, intended to support the final stages of the long process to restructure the European hard coal industry, initiated in the late 1990s. The main purpose is to assist in the closure of uncompetitive hard coal mines in order to mitigate any negative economic and social impacts. Two types of aid are allowed: closure aid and aid for exceptional costs. Both require irrevocable closure by 2018 – as in the case of closure aid to Hatfield Colliery in the UK which was scheduled to close in 2016. Exceptional costs were agreed in the case of the Cigef lignite mining field in Slovakia.



### The Council Decision – Practical Application

- The Commission **insists** on:
  - The definitive and **irrevocable closure by 31 December 2018** of mining units benefiting from aid
  - Strict application of the ceilings for closure aid
- Flexibility within the limits of the decision
  - **Overall aid amount** in case no aid was granted in 2010
  - Starting point for the **downwards trend** in case no aid was granted in 2011
  - Coal year v. calendar year

Article 15(4) of the Electricity Directive allows for the temporary priority dispatch of electricity generated from indigenous coal up to a maximum 15% of electricity consumption when there is a genuine security of supply issue. An example is the authorisation given in 2010 for such priority dispatch in Spain, which was phased out in 2014.

Ms. Gauer said that the existing EU framework on coal sector aid ensures that mines in difficulty can receive support to allow an orderly phase out while mitigating some of the negative social and economic effects that such closures entail and providing the means to secure environmental safety in areas affected by mine closures. Importantly, it ensures equal treatment across member states, she concluded.



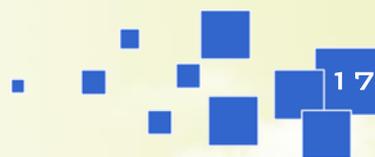
### The Council Decision – More Examples of Approved Aid

Country	Case Number	Details	Decision Date	Type of aid
Czech Republic	SA.39520	Closure of the Paskov mine	12.02.2015	Exceptional costs
Germany	708/2007	Coal mine closure plan 2008-2018	07.12.2011	Closure aid and exceptional costs
Hungary	SA.33861	Aid to facilitate the closure of coal mines in Hungary	23.01.2013	Exceptional costs
Italy	SA.30967	Aid to Carbosider S.p.a	01.10.2014	Closure aid
Poland	NSRF (SA.34207)	Secteur des charbon 2008-2015	02.04.2008	Exceptional costs
	SA.33013	Coal plan for the period 2011 - 2015	23.11.2011	Exceptional costs
Romania	SA.33033	National Hard Coal Company Petrogani	22.02.2012	Closure aid and exceptional costs
	SA.30565	Aid to cover exceptional costs of the mine of Baňa Dolina	22.05.2014	Exceptional costs
Slovakia	SA.39406	Closure of the Cigef lignite mining field	19.11.2014	Exceptional costs
	SA.39486	Prolongation of aid to cover exceptional costs of the Baňa Dolina lignite mining field	24.10.2014	Exceptional costs
Slovenia	175/2010	Postponement of the closure of mine Třbovlje Hrastrnik Ltd	29.06.2011	Exceptional costs
UK	SA.40773	Closure aid to Hatfield coal mine	11.03.2015	Closure aid and exceptional costs

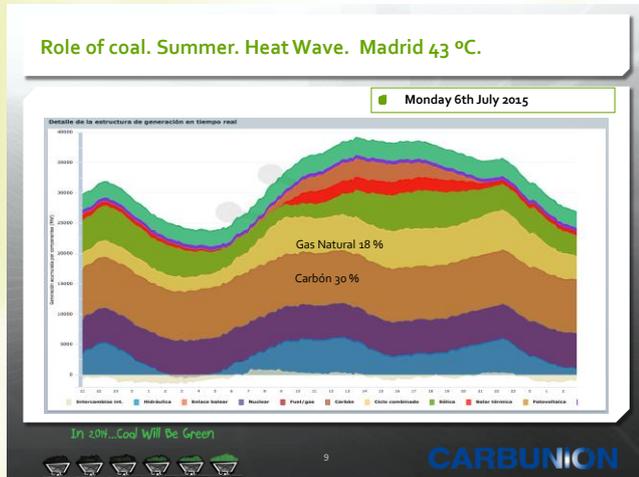
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## State of the coal industry in Spain – restructuring and support for indigenous coal production

**Mercedes Martín González**, Director General of Carbuni6n, presented data on the Spanish electricity sector which, in 2014 and 2013, had seen very similar demands for thermal power. In 2015,



thermal power demand increased. With the priority feed-in of renewables, the only real competition in the market is between coal and gas. Conventional generation must also ensure supply during periods of peak demand or on windless nights, especially to supply Madrid.



Ms. Martín González acknowledged that the coal industry needed to change its image and show society that it was a respectful partner. She was nevertheless surprised to see coal only in the annexes of Commission papers, given its significance in EU energy supply.

### Public Service Obligation.

- It is a PSO (Public Service Obligation), governed by successive European Directives Electricity. Article 14.5
- A Member State may, for reasons of security of supply, direct that priority be given to the dispatch of generating installations using indigenous primary energy fuel sources, to an extent not exceeding, in any calendar year, 15 % of the overall primary energy necessary to produce the electricity consumed in the Member State concerned. Duration 2010-2014:
- Royal Decree For up to 23 TWh./Annual.
  - Successive stoppages, claims, interim measures, have caused that added to the low thermal gap has not been consumed than expected in recent years.
- All precautionary and demands in European and Spanish courts have given good the RD 134/2014.
- Luxembourg Court ruling. Castelnou (EDF Suez-gas) . Case T-57/11 Coal how Intes public. Security of supply.
  - <http://curia.europa.eu/juris/liste.jsf?language=en&num=T-57/11>

In 20H...Coal Will Be Green

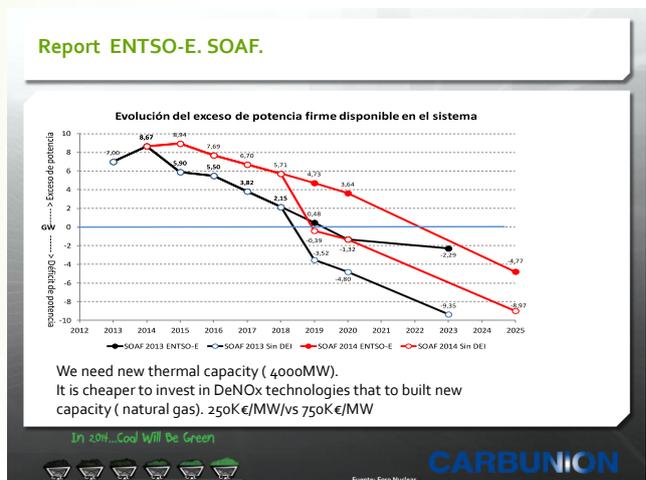
CARBUNION

Regarding Council Decision 787/2010/EU, if the coal production units to which aid is granted are not closed at the date fixed in the authorised closure plan, then all aid paid must be recovered. In Ms. Martín González's view, production units that achieved competitiveness by the end of the regulation should not be forced to close, a point that had been endorsed by the European Parliament and the European Economic and Social Committee in their respective opinion reports.

A new Spanish coal plan (2013-18) was designed by the government with a critical role for coal-fired generation. Coal subsidies had already been reduced by 83% compared to 2011:

- €55 million in 2013,
- €39 million in 2014 and
- c.€30 million in 2015.

However, in 2015 opencast mines did not receive aid and were competitive, accounting for 60% of total production. The Spanish government is negotiating with industry on a long-term plan for opencast coal mining that would allow the eventual recovery of the aid previously granted – perhaps totalling €45 million, depending which mines remain in operation.



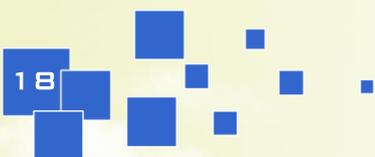
In her final remarks, Ms. Martín González spoke in favour of capacity mechanisms which were needed to overcome shortcomings in market structures and incentivise the development or retention of sufficient generation capacity. They can also avoid the risk of abuse of market power by producers and ensure security of energy supply, especially when intermittent RES constitute a significant share of the generation mix.

### Power Station that could benefit from capacity mechanisms

Total MW	4 038,8 MW
C.T. Andorra	1055,77 MW
C.T. Puente Nuevo	399,76 MW
C.T. Soto de la Ribera	346,25 MW
C.T. Narcea	347,47 MW
C.T. Guardo	342,24 MW
C.T. La Robla	355,10 MW
C.T. Compostilla	995,88 MW
C.T. IGCC. Elcogas	396,49 MW
Total payment	90.000 €/MW
Coal To buy	6.000.000 TermiasPCS/MW
Investment	363,5 millones €
For Tons	5,2 million tn.

In 20H...Coal Will Be Green

CARBUNION



## Discussion

Mr. Olszowski of GIPH proposed that the rules on state aid needed to change, in particular the repayment condition, as they were inappropriate to the current situation. Global coal prices were cyclical and currently very low, so few mines were profitable. Higher prices would return, but in the meantime should we close mines and lay off thousands of workers? Ms. Gauer replied that the economics of deep coal mining in the EU were not favourable, so all member states had agreed state aid rules that allowed unlimited closure aid.

Mr. Johnston wondered if the Commission would revoke Article 15(4) of the Electricity Directive, especially if renewables lost their priority dispatch and joined the energy market. Mr. Borchardt suggested that the Commission would take into account Article 15(4) in its market design initiative.

# Conclusions

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In his closing statement, EURACOAL Secretary General, **Brian Ricketts**, summarised the Coal Dialogue.

Dr. Schmitz had begun with a global overview of coal markets. He said that coal use had grown massively, especially in China, but now also in India. At around 8 billion tonnes, global coal use in 2014 was over 70% more than in 2000. Coal was not about to go away and we needed to be realistic about what we can and cannot do, said Mr. Ricketts. We can improve the way we use coal. We cannot eliminate in a hurry the 42% of global electricity production that depends on coal. New technologies will one day replace our need for all fossil fuels, but in the meantime, we must use coal professionally.

Coal remains one of the most cost-competitive sources of electricity in Europe, so Mr. Ricketts was surprised that the Energy Union communication ignored coal, especially indigenous coal. Perhaps that was a good position, he reflected; coal was after all the “quiet fuel”, ready and available when needed, with no geopolitical issues.

From a climate angle, Mr. Ricketts understood the European Council’s decision to move away from fossil fuels. EURACOAL’s concern was to ensure that coal’s competitiveness and security benefits were not lost during the energy transition.

From a security angle, the Energy Union communication favours imported gas. With no large-scale electricity storage technologies, the transition to renewable energy sources would require flexible backup from conventional sources. Interconnectors and a pan-European “super grid” could not guarantee supply if, for example, an anticyclone sat over a large part of Europe for many days. Flexibility could come from either coal or gas plants: at 30 MW/min, a modern coal plant can ramp up or down as fast as a gas-fired CCGT. If gas were to be favoured over coal by legislation, then it would leave little competition in the energy market: gas suppliers would take unearned economic rent and European energy prices would remain stubbornly higher than elsewhere.

The coal sector’s business model depended on using modern technologies to supply energy, in

compliance with the law, he said. Decisions made in Brussels on the emissions from large combustion plants and on carbon trading would determine the size of the EU coal market. Of course, member states could decide on how to use their energy resources and on their energy mixes, but future investments depended on likely returns. Ongoing reviews and amendments to the IED and ETS had damaged investor confidence in Europe’s energy sector. Hans ten Berge had clearly explained why changes to IED emission limits should not be contemplated without a holistic impact assessment. Marios Leonardos had described the investment challenge in Greece. Mr. Ricketts was encouraged by the statement made by Marianne Wenning and hoped that DG Environment would balance what she called the “diversity of views”.

Looking ahead, many energy market parameters would be decided by the state. For example, backup from conventional plants was being assured with state interventions. It was right for the Commission to try to harmonise these interventions to ensure a functioning European market with fair competition between energy sources, said Mr. Ricketts.

In March 2014, EURACOAL had called for an “Action Plan on Coal” and Dr. Eisenwortová had outlined a draft opinion on indigenous coal and lignite from the EESC with a similar call. Mr. Olszowski had reported that the Polish hard coal sector was entering a period of restructuring. There was also a need to look closely at the situation elsewhere – for example, in Spain and Romania. They needed to make best use of all the options available under EU law, as explained by Director Gauer.

Under EURACOAL’s proposal, the Commission would carry out an assessment of the likely changes in the coal sector during the energy transition. The EU’s decarbonisation objectives would have economic and social impacts that needed to be understood. Mr. Ricketts confirmed EURACOAL’s willingness to work with the Commission.

The energy transition should not create energy security risks or unnecessary hardship. It needs to be affordable and it should not harm EU industrial competitiveness or employment prospects – especially for today’s young jobless. A clear vision for the transition and what it means for coal-related businesses and coal-mining regions would help build support among those who might otherwise be sceptical.

A plan for coal would help to ensure that investments are made in more efficient, cleaner and more flexible equipment at those mines and power plants that are needed during the transition. It should determine how cement and steel can be produced without carbon emissions. It should identify where CCS and CCU have a role with projects like White Rose. It should identify the R&D that will be needed to maintain Europe's technological leadership and so influence how coal is used elsewhere in the world to minimise environmental impacts. The Research Fund for Coal and Steel would remain an important vehicle for this. The plan should consider the impact of premature closures of mines and power plants, and avoid social unrest by ensuring a "just transition" for workers, as called for by Sylvain Lefebvre of industriAll.

Member states should be encouraged to renew and refurbish the coal plants that will be needed during the transition, so that they pollute less and use less coal. The coal-fired CHP plants in Denmark and the new lignite plants in Germany provide models to follow, being among the world's cleanest and most efficient, despite the emission limits promised in China, as reported by Małgorzata Wiatros-Motyka.

The energy transition described in the Energy Union communication cannot be delivered by market forces alone, said Mr. Ricketts. State interventions would be required. A transition plan would help everyone to understand the boundaries. Today, coal is the subject of campaigns, especially by the European Climate Foundation and the NGOs it funds. Together, they are responsible for a deluge of reports with the same message: "get out of coal". They represent powerful interests, many US-based, who lobby in Europe. They pay newspapers to run campaigns against coal and have gained traction with governments and the international banks. Despite the powerful forces raging against coal, EURACOAL expects coal to remain an important component of Europe's energy supply over the coming decades, although with a declining share under the now agreed ETS cap.

According to Mr. Ricketts, the choice is now clear: either we are realistic and accept that it is sensible to invest in coal during the transition, or we fail to invest and run old assets for longer, consuming more fuel and emitting more CO<sub>2</sub>. Emmanouil Kakaras, representing the European Power Plant Suppliers Association, had explained what can be achieved using European technology at European plants.

Millions of people who work in the fossil fuel industry would be affected by the energy transition. It would be wrong to alienate this group of workers who contribute so much to society. Mr. Ricketts concluded by saying that EURACOAL members were ready and willing to offer their assistance with a plan that would see less coal being used in Europe, but the plan must recognise the role of coal. If the aim is simply to replace coal with gas, whatever the cost, then EURACOAL needed to have a very different conversation with the Commission and governments. Coal still has much to offer and EURACOAL's message was that if the industry was given some respect, then it could help deliver the better future wanted by all.



In his response to the many presentations, the good discussions and EURACOAL's closing statement, the Head of Unit dealing with Retail Markets: Coal and Oil at DG Energy, **Jan Panek**, concluded the conference by thanking all speakers and the coal industry as a whole for its willingness to show realism. Mr. Panek acknowledged the role of coal as the quiet, reliable fuel. No matter what assumptions are made on the future energy mix, coal will be in the mix due to its advantages of affordability, security of supply and reliability.

He noted the developments in technology presented earlier and urged that they be fully implemented, including the development of carbon capture and storage – a crucial technology for the coal industry that should be at the centre of the industry's strategy. Mr. Panek was pleased to see the progress realised by the White Rose CCS project, presented in an earlier session. He called for the coal industry to take a more proactive approach and be more involved with such projects.

On the LCP BREF review, Mr. Panek was pleased to have witnessed the debate among participants, noting in particular the different views expressed by Mr. ten Berge of EURELECTRIC and Ms. Wenning of DG Environment.

In his final remarks, Mr. Panek was surprised that there was no specific discussion on the proposed "Action Plan for Coal" during the Coal Dialogue. Nevertheless, he looked forward to hearing more from the industry on such an action plan and hoped for a lively discussion on it next year with all stakeholders.



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