Front cover photo courtesy of the American Coalition for Clean Coal Electricity (www.americaspower.org)
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I am pleased to present the EURACOAL Annual Report 2015. It was a busy year for the coal industry which had to face many challenges arising not only from a difficult market environment, but also from aggressive climate policies. The anti-fossil fuels movement gained a new momentum and we must learn to live with a diversity of views on progress. Many would wish coal to disappear, but we cannot simply throw away Europe’s industrial base and hope to enjoy future prosperity. Dismantling the very activities that created the conditions for economic growth is a worrying result of climate policy. For the sake of electricity consumers who want affordability and security, we should avoid becoming dependent on unstable regions of the world for our energy.

Given the debate on an “energy transition”, it is right to examine the socio-economic value of coal during the transition. A vision for the future of energy supply is welcomed by EURACOAL, but it is prudent to base that vision on the realities of today’s energy supply and not to ignore what the “old industries” still have to offer. The transition will take place within a global context: the EU now plays a diminishing role on the world stage, accounting for just 12.5% of global energy demand and 10% of global greenhouse gas emissions.

The last few years have seen much change for the coal industry. The oversupplied global coal market, with its low prices, is not favourable to producers. Policy announcements, made in the lead up to the UNFCCC COP21 conference in Paris, aim to influence the energy sector to become more sustainable, but some are concerned about unrealistic targets. EURACOAL has always believed in free and competitive markets, with a balance between the three priorities of a sound energy policy: economic growth, security of supply and environmental protection.

At the European Commission, the Directorate-General for Climate Action works with DG Environment and DG Energy on issues of direct interest to the coal industry. The Commission sees the ongoing use of coal as inconsistent with EU decarbonisation objectives: by 2050, the electricity sector, where most coal is consumed, should be completely decarbonised. The concept of an Energy Union, proposed by the President of the European Council, was intended to promote indigenous energy resources, including coal, and to strengthen the EU’s position when negotiating to buy imported gas. Instead, Energy Union has become an extension of climate policy, reflecting the overriding political priority to tackle man-made climate change.

We need to be strong in the face of today’s challenges and hold onto the benefits of coal: it is abundant, affordable and available. We need to keep working on new clean coal technologies and further modernise our industry. Coal-fired power plants are well able to balance the intermittent output from wind turbines and solar PV panels. For eons, coal has brought warmth and light to people and can continue in this role, meeting all current requirements for pollution control and staying below the declining greenhouse gas emission cap of the EU emissions trading system. One can already hear signs of this approach in the speeches of at least one of the US presidential candidates.

In the meantime, Energy Union implies a move away from an economy driven by fossil fuels. When I first heard of this proposal, I thought of my colleagues in the oil and gas industry which, like the coal industry, is now threatened. Unfortunately, some companies pretend to be something other than what they really are and even align themselves to the green movement, in the hope of gaining a competitive advantage. The
green NGOs themselves have become very strong, with financing from rich benefactors that far exceeds what is available to other interest groups. Many have sponsored anti-coal campaigns with a media presence that influences children in kindergartens, pupils at schools, students at universities and the public at large. Corporations are moving in to take advantage of a sentiment that favours expensive sources of energy over competitive sources. For example, some people invest in campaigns against coal because, without competition from “old energy”, new energy financing promises greater returns. The stakes are high: who will amass the most wealth during the energy transition?

We call for an Energy Union that values the contribution of all energy sources. In 2014, coal provided 26% of the electricity consumed in the EU. It is a partner for renewables and brings real competition into what would otherwise be an energy market dominated by a small number of gas suppliers. Modern technologies have enhanced productivity at coal mines, improved efficiency at coal-fired power plants and limited the negative impacts on the environment of coal use. With clear laws and regulations, and with a stable energy policy framework for the future, we can look forward to further investments in new technologies. Such a responsible approach would be good for energy consumers, employees in the coal industry and society as a whole.

Coal will continue to be used for many decades to come, although volumes should decline in Europe to meet politically agreed objectives. Our hope is that those working in the industry will continue to enjoy respect for their hard work during the energy transition.

In conclusion, my thanks go to our Vice Presidents – Mr. Vladimír Budinský, Prof. Dr. Franz-Josef Wodopia and Mr. Nigel Yaxley – who offered their good advice, support and encouragement during a very challenging year for the European coal industry. I had to divide my attention between the evolving EU policy scene and the situation in the Polish coal industry. In 2015, I was determined to fight the anti-coal hysteria and will continue to do so in the future. At the same time, the industry has to modernise and adjust to market conditions to be fit for the 21st Century.

The EURACOAL committees play an important part in this mission under the leadership of our committee chairs. On behalf of all EURACOAL members, I pay special tribute to two of our experts. Dr. Erich Schmitz retired at the end of 2015 after a long and successful career in the coal industry. He led our Market Committee and supplied us with detailed and useful reports that became flagship publications of EURACOAL. Last, but not least, I express my gratitude to Mr. Phil Garner who led our Environment Committee in recent years, handling many complex issues with skill and determination. We wish both a long and well-deserved time “off duty”.

24th European Round Table on Coal co-chaired in the 8th European Parliament by MEP Christian Ehler and MEP Jerzy Buzek

On 28 January 2015, Prof. Klaus-Dieter Borchardt, Director – Internal Energy Market at the European Commission, gave a keynote address in the European Parliament touching on many of the issues facing the energy sector.

The idiom that “coal is a fuel of the past” is false, he said, “coal is back, with a leading share in global power generation”. In Europe, coal offers flexibility and security, as Prof. Borchardt had witnessed during his visits to modern coal-fired power plants.

EURACOAL President, Dr. Zygmunt Łukaszczyk with Prof. Klaus-Dieter Borchardt (right) in the European Parliament, 28 January 2015
Katowice Declaration on an Energy and Climate Policy for All: realism, respect & responsibility

On 16 March 2015, EURACOAL organised a seminar at the Silesian Parliament in Katowice on restructuring as Poland’s hard coal industry faced a critical moment such that urgent measures needed to be taken.

During the meeting in Katowice, EURACOAL members from Germany, the Czech Republic and Spain presented their experience on restructuring. From the UK, Mr. Philip Lawrence, Chief Executive of the Coal Authority presented an account of industry privatisation and liability management.

The meeting was attended by Mr. Rafał Baniak, Undersecretary of State at the Ministry of Treasury and Mr. Wojciech Kowalczyk, Plenipotentiary of the Government for hard coal sector restructuring.

Delegates called on Member States, the European Commission, the European Parliament, the European Economic and Social Committee and the Energy Community to promote an “EU Energy and Climate Policy for All”:

▪ a realistic policy that reflects the tremendous contribution that coal will make to EU energy supply over the coming years;
▪ a respectful policy that does not alienate a large group of workers and their families who contribute massively to society by producing the coal and electricity needed by us all; and
▪ a responsible policy that recognises the role of indigenous coal in a balanced fuel mix and reflects the need for investment in productive coal mines and high-efficiency, low-emission power plants so that our future energy supply is secure, competitive and with low environmental impact.

The Silesian Parliament, Katowice (photo: Jan Mehlich)

COMMITTEE ACTIVITIES: Energy Policy Committee
Dr.-Ing. George Milojcic, Chairman

The EURACOAL Energy Policy Committee deals primarily with energy, climate and other coal-related policies. Given the significant implications of energy policy decisions made by the European Union and individual Member States, an exchange of views between EURACOAL members is an important part of the Committee’s work. It oversees all European legislation concerning the energy sector and EURACOAL’s responses to any new initiatives. With these tasks in mind, the Committee firstly debates and then gives direction on EURACOAL’s publications, position papers and engagement in fora such as:

▪ European Round Table on Coal in the European Parliament
▪ European Commission Coal Dialogue
▪ Sectoral Social Dialogue on Extractive Industry
▪ European Energy Forum debates in the European Parliament

It was a busy year for the Committee which met twice in Brussels: on 25 March and again on 22 September 2015.

The exchange of views about Member States’ energy policies raises issues every time in the committee. Energy policy is a shared responsibility between Brussels and Member States and there are many diverse interventions. Member States have developed, besides the EU Emission Trading System (ETS), national instruments which put, under the CO₂ reduction headline, additional pressure on the coal industry and coal users, for example in the UK, Germany and the Netherlands. Other Member States want to restructure their coal industry and have to comply with EU rules. EURACOAL tries to understand these developments and advocates a balance between European rules and national initiatives. If it is in place, then clearly European legislation should have a priority.

At the March meeting, Committee members had an exchange of views with an official from DG Environment on progress with the European
Commission’s No Net Loss initiative. It was recognised that biodiversity is part of the effective land restoration undertaken by the coal industry, with the creation of new lakes, woodland and other diverse habitats during mine restoration.

An ongoing challenge – the problem of NGO attacks on the industry – was discussed with a view on their strategies, choice of tools and actions taken, as well as sources of their financing.

In September, the strategic decisions facing the coal industry were discussed by the Energy Policy Committee, especially in light of new proposals to amend the EU ETS Directive and reduce the emission allowance cap more rapidly. Few realise that this means that the entire ETS sector must be carbon-free by 2058. In this context, our relationship with the energy-intensive industries was discussed as electricity prices and carbon leakage are also issues for these industries. It was decided to prepare a position paper and infographics on EU ETS reform.

The subject of NGOs was discussed again. As an outcome of the Committee’s meeting in March, a brochure “NGOs For Sale – ONGs à Vendre” had been prepared. The Committee agreed to publish and distribute the brochure to MEPs.

During the year, Committee members were regularly briefed on issues that would affect them, including of course COP21 and the Paris Agreement. Several position papers were developed in co-operation with the Environment Committee: on amendments to the draft ITRE committee report on the European Energy Security Strategy; on the Industrial Emissions Directive (IED) and “Best Available Techniques” (BAT) Reference Document for Large Combustion Plants (LCP BREF); and on Revisions to the National Emission Ceilings Directive.

The EURACOAL secretariat, with significant support from members, also replied to public consultations on DG Energy’s Market Design Communication, specifically on Risk Preparedness in the Area of Security of Electricity Supply and on a New Energy Market Design. In the preparation and distribution of these positions, the Secretariat used new communication methods, such as Twitter and infographics.

On Sectoral Social Dialogue, members were informed that a study on “Representativeness of the European Social Partner Organisations in the Extractive Industries Sector” had been commissioned by the European Commission, with the work being carried out by EUROFOUND.

EURACOAL will continue to highlight the need for a balanced energy mix that reflects all three pillars of a sound energy policy: secure, competitive and sustainable energy supplies. The association accepts the proposed 40% emission reduction as a unilateral target, but opposes the separate renewables and energy efficiency targets as being superfluous and not market-based. The EU ETS should be the sole instrument used to achieve realistic climate targets that do not confuse high ambition with economic damage. Accounting for just 10% of global greenhouse gas emissions, the EU alone cannot solve the climate challenge and should take care that other regions contribute fair shares.

25th European Round Table on Coal co-chaired in the 8th European Parliament by MEP Christian Ehler and MEP Jerzy Buzek

On 2 June 2015, MEP Marek Gróbarczyk, rapporteur for the Energy Union dossier, met with coal industry stakeholders. Mr. Brendan Devlin of DG Energy noted that the Commission was neutral on how to achieve “decarbonisation”, although the future for fossil fuels was with CCS. Prof. Buzek remarked that “low emissions”, not “decarbonisation”, was the objective while Dr. Ehler expressed his concern that coal was missing from the Energy Union communication. EURACOAL President, Dr. Zygmunt Łukaszczyk, underscored that Europe has its indigenous coal resources available at all times, while gas is only available at the discretion of suppliers. He agreed that it would be good to be fully dependent on renewables, but nobody knew how to reach this political vision. Rapporteur Gróbarczyk believed that Energy Union should be supported by three pillars in a mix that keeps prices under control: conventional energy sources, including coal; nuclear energy; and renewable energy sources.
COMMITTEE ACTIVITIES:  
Environment Committee  
Mr. Phil Garner, Chairman

The Environment Committee shared information throughout the year, meeting on 28 April 2015 to discuss the following issues:

- **Large Combustion Plants Best Available Techniques (BAT) Reference Document (LCP BREF):** Members discussed amendments made by the BAT review team at the European IPCC Bureau (EIPCCB) to the reference document and the procedural timeline for LCP BREF review. The methodology used to derive BAT Associated Emission Limits (BAT-AELs) was the main issue. This requires reliable and credible performance data on pollution control techniques for NOx, SO2 (including from indigenous solid fuels), mercury, ammonia, dust and HCl. To facilitate the process, members had provided detailed data from plants across Europe.

In order to safeguard coal-industry interests, split views were submitted to the EIPCCB on SO2, NOx, dust, HCl, CO and mercury. At the same time, written comments were submitted on issues not covered or insufficiently covered in the final meeting of the dedicated Technical Working Group. EURACOAL commented on the procedure to develop a draft questionnaire and then made specific comments on the questionnaire itself.

- **Management of Tailings and Waste-rock in Mining Activities Best Available Techniques Reference Document (MTWR BREF):** Activities to review the MTWR BREF were closely followed by the two representatives nominated by EURACOAL to the Technical Working Group organised by the EIPCCB. Members were regularly briefed on the main issues and responded on specific points.

- **Medium Combustion Plants (MCP) Directive:** Members discussed the current status of this proposal for plants <50 MWth, noting that the draft contained SO2 limits that would make the use of some indigenous fossil fuels in MCPs impossible. Thus, derogations for certain indigenous fuels were seen as necessary. In the European Parliament, the lead Environment Committee considered amendments to the draft report in April. EURACOAL’s position, expressed in a letter to the rapporteur and others, supported the suggestion of the Council’s Environment Working Party to include the above derogation, which the Commission had previously refused to consider. The MCP Directive entered into force on
18 December 2015. Emissions limits will apply from 2025 for existing large plants (5-50 MWth) and from 2030 for smaller plants (1-5 MWth) with temporary derogations for high-sulphur fuels.

- **National Emission Ceilings Directive:** The European Parliament Environment Committee report was considered by the full European Parliament in April, in preparation for a vote in Plenary in October. The Council, despite many debates, did not reach a common position. In its 2015 work programme, the Commission announced that the proposal would be “modified as part of the legislative follow-up to the 2030 Energy and Climate Package”. In the event, the proposal was not withdrawn and EURACOAL published its position paper in October, ahead of the vote by MEPs who adopted new ceilings and included methane emissions from 2030, but rejected lower ceilings for the main pollutants. The proposal then entered trilogue.

- **Packaging and Packaging Waste Directive and Landfill Directive:** In July 2014, the Commission announced a proposal to revise a number of six waste directives in a policy shift towards a “circular economy”. However, on 7 March 2015, it decided to “withdraw and replace it by a new, more ambitious proposal by end 2015 to promote circular economy” as part of the new Commission’s approach to “better regulation”. A communication on a Circular Economy Strategy was published on 2 December 2015, alongside new proposals to amend the Landfill Directive and Packaging Waste Directive, all under a revision to the Waste Framework Directive.

- **No Net Loss (NNL) Initiative:** Further information on the NNL initiative was provided by the Commission to EURACOAL members at a meeting in March. Meanwhile, the Commission held a public consultation with most responses indicating that there would be no benefit from additional legislation in this field. Hence, the Commission did not make a legislative proposal in 2015, but continues to collect data and a proposal is likely in the second half of 2016. The initiative is not supported by industry whose main priority is to ensure high-quality land restoration rather than any offsetting measures.

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**11th EC-EURACOAL Coal Dialogue, 8 July 2015**

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.

The 11th Coal Dialogue, jointly organised by the European Commission DG Energy and 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.

The dialogue focused on the ongoing revision of the Large Combustion Plants Best Available Techniques (BAT) Reference Document (LCP BREF), restructuring and investment in the Polish hard coal sector, OECD export credit guarantees for coal-fired power plants, proposed changes to the legal basis of the EU Research Fund for Coal and Steel and concluded with EURACOAL’s call of March 2014 for an “Action Plan on Coal”.

This was a productive meeting, with Directors from DG Competition, DG Energy and DG Environment, during which many strong points were made on the future of indigenous coal production and coal use in the EU. A detailed report is available on EURACOAL’s website.
COMMITTEE ACTIVITIES: 
Market Committee 
Dr. Erich Schmitz, Chairman

The aim of the EURACOAL Market Committee is to deliver accurate, consistent and timely data on production, imports and consumption of hard coal and lignite in Europe, and to publish these data in regular market reports.

In 2015, the committee held two meetings, in March and September, to discuss, among other topics, the EURACOAL Coal Market Report. A new report survey was introduced in September 2015, to standardise and simplify the input of Committee members. Two coal market reports were released, in April and October. Work also progressed on a new edition of Coal Industry across Europe.

Finally, members were informed on international regulations covering the carriage of goods by inland waterways, railways and road trucks. The conclusions of discussions at the United Nations regarding the transport of coal were presented in detail.

World Coal Market Developments

For the first time since the 1990s, global coal production decreased in 2015, after reaching a peak in 2013 and 2014. Despite this decrease, the overall story since the 1980s is positive, with global hard coal production almost tripling to around 7.0 billion tonnes in 2015. Steam coal production decreased slightly from 6.2 billion tonnes to 6.1 billion tonnes and coking coal production decreased by 100 million tonnes to 900 million tonnes.

Global seaborne hard coal trade is estimated to have declined 5% to 1.12 billion tonnes in 2015, of which 858 million tonnes were steam coal and 264 million tonnes were coking coal. The important market players are no longer in the United States or Europe, but are mostly in Asia; it was the sharp fall in China’s coal imports, down 29% to 209 million tonnes, that sent a shockwave through markets everywhere.

Although accounting for more than half of global coal production, China produced less coal in 2015: 3.68 billion tonnes, a 3.5% reduction in comparison with the previous year. Higher than usual precipitation led to a strong hydro output and less need for coal-fired generation, but it was the rapid slowdown of the Chinese economy that drove down demand for steel and cement, and hence coal demand. To protect local coal producers, most of whom operated at a loss in 2015, China introduced new quality control rules on imported coal in January 2015. The resulting cargo delays stifled trade and led to diplomatic efforts by the Australian government. The difficulties quickly receded, only to be followed by the announcement of new quality rules from July.

Infrastructure development also favours domestic producers in the western provinces of Inner Mongolia, Shanxi and Xinjiang: additional rail capacity to move more coal to the eastern seaboard and dozens of new ultra-high-voltage (UHV) electricity transmission lines to transmit coal-based power over long distances, e.g. the recently completed 1,000 kV, 9 GW line from Xilingol in Inner Mongolia to Shandong.

There is reason to believe that the Chinese economy will rebalance towards the service sectors, moving away from the more carbon-intensive heavy industrial sectors. In addition, the availability of natural gas from the South China Sea may allow China to shift away from coal-fired heating stoves in the residential sector – a change that the government wants to see by 2020. Under this scenario, Chinese coal demand may gradually fall and the government is planning ahead for a smaller industry with 1.3 million fewer jobs.

Nevertheless, many forecasters predict that global coal demand will return to growth, driven mainly by growing demand in India and Southeast Asian countries.

Production in India is estimated to have been 494 million tonnes in 2015, a 6.9% increase in comparison with 2014, but falling short of the 500 million tonnes target set by the Indian government. The Indian government sold 10% of Coal India Ltd., one of the world’s largest coal producers, thus reducing its shareholding to 80%. Given the sharp fall in China’s imports, India
became the world’s largest coal importer in 2015. However, India’s coal imports grew only slightly, to 238 million tonnes (+2%), putting into question the country’s commitment to expand coal-fired power generation based on imported coal. With average per capita electricity consumption lower than in Africa, there is a clear need to expand all types of power production in India.

Since the disaster at the Fukushima nuclear power station, Japan has relied heavily on conventional thermal power. In 2015, coal accounted for 30% of the country’s generation and coal imports of all types rose 5% to 144 million tonnes. Japan produces no indigenous coal. In a massive replacement programme to improve efficiency, Japan is currently building forty-one new coal-fired power plants.

With a strong economy in 2015, South Korea was the world’s fourth largest coal importer at 134 million tonnes (+2%). The government increased tax on imported coal from 1 July, putting pressure on prices. Nevertheless, twenty new coal-fired power plants are under construction or planned in South Korea. Strong demand for imported coal also came from Taiwan, Turkey, Malaysia, Thailand, Brazil, the Philippines and even Vietnam where 20 GW of new coal-fired capacity is under construction.

The US coal market was marred with problems – production fell 10% to 813 million tonnes – and the European market stagnated. Looking ahead, Egypt signed a Memorandum of Understanding to build the world’s largest coal-fired power plant on a single site (6 GW) which will increase Egyptian steam coal imports to at least 10-13 million tonnes.

Russia increased coal production in 2015, to 373 million tonnes (+12%), a depreciating rouble more than compensating for the decrease in US$ export coal prices. Australia decreased production by 4.6%, to 421 million tonnes in 2015, mainly due to low prices, despite a helping hand from the favourable AUD / USD exchange rate which meant exports held steady at 378 million tonnes. Indonesia drastically reduced production to 392 million tonnes, a 14% reduction in comparison with 2014, and exports fell dramatically, by perhaps 27% to around 300 million tonnes. Given the government’s plan to reserve coal for local use, exports are unlikely to return to the 400+ million tonnes volumes seen in 2013 and 2014. South African (76 million tonnes) and Colombian (81 million tonnes) exports were little changed in 2015, although destined now for India rather than the traditional European and US markets.

In the short- to medium-term, coal-fired power generation will remain the most affordable way to provide electricity to the 1.2 billion people without access to electricity. Although the movement to “phase out” coal has grown louder and more confident in 2015, steam coal will continue to play a critical and significant role in the energy mix of many economies.

Coking coal trade reflects the demand for iron and steel. Global crude steel output decreased in 2015 by 2.9% to 1 599 million tonnes. With declining domestic demand in China and overcapacity at its modern steel mills, the dumping of Chinese steel on the international market became a global problem in 2015. Whilst EU crude steel production fell by 1.8% to 166 million tonnes, some member states suffered particularly sharp falls: -10.4% in the United Kingdom and -7.2% in France. Chinese crude steel production fell by 2.3%, once again accounting for half of world production. As a result, total global coking coal trade fell by 3.2% to 299 million tonnes.

European Coal Market

In Europe, generous renewable feed-in-tariffs, CO₂ pricing, coal taxes and other measures to reduce greenhouse gas emissions weakened coal’s market position. Low oil prices, and hence lower natural gas prices, meant that gas regained some of its lost competitiveness, although the gas industry continued to lobby for a higher carbon price to force fuel switching from coal to gas.

EU hard coal production shrank by 6.0 million tonnes or 5.7% to 100 million tonnes, not because of any lack of demand, but because nominal coal prices fell back to levels seen only briefly in the late 1990s, at the height of the Asian financial
Crisis. In real terms, coal prices are at a low point and European hard coal producers cannot possibly survive without special measures in the race to the bottom. EU lignite production in 2015 was stable at 399 million tonnes, 0.5% less than 2014.

The six largest steam coal importing EU member states had mixed results. Reduced domestic production in some countries was not always replaced by imports. Overall, EU coal imports fell by 14 million tonnes or 6.8% to 191 million tonnes, mainly due to the dramatic collapse in the UK’s coal imports which fell 15.1 million tonnes to 25.5 million tonnes (-37%).

Coal imports to the other major importers increased or remained stable in 2015: Germany’s hard coal imports increased to 55.5 million tonnes (+3.5%), the highest-ever and despite freight surcharges on the Rhine due to low water levels in the second half of 2015; Italy’s imports slipped to 19.6 million tonnes (-2.0%); Spain’s imports grew markedly to 19.0 million tonnes (+29%), displacing domestic production which fell to 3.0 million tonnes (-23%); France’s imports were 14.3 million tonnes, the same as in 2014; while imports into the Netherlands were also unchanged, at 12.4 million tonnes for own use (i.e. excluding shipments in transit to other countries).

European hard coal production, lignite production and coal imports, 2015

Note: bars show million tonnes of coal equivalent (Mtce) while figures at top of bars show millions of physical tonnes (Mt)
Source: EURACOAL members – * 2014 data
In Bulgaria, power generation from lignite grew significantly in 2015, requiring the production of 35.9 million tonnes (+10%) of lignite, with Mini Maritsa Iztok EAD being the main producer.

In the Czech Republic, hard coal production amounted to 8.2 million tonnes in 2015, a small decrease from 2014 when it stood at 8.7 million tonnes. Approximately 3.6 million tonnes of hard coal were exported (-10%) and approximately 2.9 million tonnes were imported, a figure similar to 2014. Most of the hard coal was used for electricity production (2.3 million tonnes). Coking coal exports stood at 1.8 million tonnes, while imports were around 1.1 million tonnes, making the Czech Republic a net coking coal exporter in 2015. Coke production slightly decreased to 2.3 million tonnes.

Brown coal production in the Czech Republic remained steady at 38.1 million tonnes in 2015, mostly for electricity production (29.4 million tonnes). About 1 million tonnes of brown coal was imported, but almost the same quantity was exported.

In Germany, only two hard coal mines will remain in operation in 2016, Prosper-Haniel and Ibbenbüren, in line with the plan to close all hard coal mining by 2018. In 2015, hard coal production slightly decreased to 6.7 million tonnes from 7.6 million tonnes in 2014 (-12%). Employment in the hard coal mining sector decreased by 20%, to 9,640 in 2015, from 12,104 in 2014. Hard coal’s share in gross electricity production stood almost the same as in 2015, at 118 TWh, covering 18% of the German electricity market.

German lignite production in 2015 was 178.1 million tonnes, almost the same as the previous year. In Helmstedt (-19%) and Central Germany (-10%), coal extraction was lower; while in Rhineland (+2%) and in Lusatia (+1%), it was higher than in 2014. About 90% of lignite production was used in power plants to generate electricity and heat. Power generation from lignite was stable in 2015, at 155 TWh or 24% of total electricity supply. The number of workers at the end of 2015 was 21,072 or 334 lower than at the end of 2014. In total in Germany, more than 70,000 jobs depend on lignite mining and power generation. Despite its obvious importance to the German economy, the lignite sector is threatened by a number of politicians who believe that a phase out from lignite in Germany would somehow help to reduce global greenhouse gas emissions.

In Greece, lignite is the main fuel for power generation, with about half of the electricity market (44% in 2015). Lignite production stood at 45.4 million tonnes in 2015, 10% less than in 2014. Hard coal consumption is low, used only for industrial purposes. There is no hard coal mining in Greece and imports stood at 0.3 million tonnes in 2015.

Steam coal import prices at ARA ports in northwest Europe (NWE) & Qinhuangdao port in China, 2005-2016
Source: IHS McCloskey Coal Report
In Poland, hard coal production remained almost the same in 2015 at 72.2 million tonnes, compared with 72.5 million tonnes in 2014. The largest producers are: Kompania Węglowa (producing 27.2 million tonnes, 3.8 million tonnes less than in 2014), Katowicki Holding Węglowy (producing 10.6 million tonnes, 0.1 million tonnes less than in 2014), Jastrzebska Spolka Węglowa, mostly specialised in coking coal (producing 16.3 million tonnes, 2.4 million tonnes more than in 2014) and LW Bogdanka (producing 8.5 million tonnes, 0.7 million tonnes less than in 2014).

Polish hard coal exports increased from 8.2 million tonnes in 2014 to 9.0 million tonnes in 2015. Imports of hard coal into Poland decreased from 10.3 million tonnes in 2014 to 8.2 million tonnes in 2015, largely from Russia (4.9 million tonnes), Australia (1.6 million tonnes) and the Czech Republic (0.7 million tonnes). Poland was once again a net exporter of coal in 2015.

Polish lignite production stood at 63.1 million tonnes in 2015, slightly less than the 63.7 million tonnes produced in 2014. The leading producer is PGE Belchatów, with over 42 million tonnes per year. Other producers include PGE Turów, PAK Konin and PAK Adamów. Lignite-fired power generation supplied 53.2 TWh, covering about 33% of the Polish electricity market.

In Romania, lignite production grew to 24.0 million tonnes (+9.1%), predominantly mined by and for the Oltenia Energy Complex.

In the United Kingdom, the country’s unique carbon tax has doubled since April 2015 to 18.08 GBP/tCO₂, this being on top of the cost of EU ETS allowances. This tax led to negative clean-dark spreads and a flurry of coal-fired power plant closures.

The UK government is hostile towards coal: on 18 November 2015, the Secretary of State for Energy and Climate Change proposed a public consultation on the closure of all unabated coal-fired power plants (i.e. those without CCS) by 2025, which raises questions on whether UK electricity supply is market driven or politically driven. A week later, the UK government cancelled its GBP 1 billion funding of the flagship White Rose CCS project. Against this backdrop, all UK deep coal mining ended in 2015: Thoresby and Hatfield collieries closed early in 2015 and Kellingley colliery in December 2015, leaving thousands without jobs.

**Coal and Coke Prices**

Coal prices continued their decline, to a low of 47.40 US$/tonne in December 2015 for steam coal delivered to the northwest European ARA ports. Average spot prices in 2015 were 25% lower than in 2014. This is the sixth consecutive year of decline for coal prices; the peak of over 200 US$/tonne in 2008 is now a distant memory of more prosperous times. However, a modest recovery has been seen in 2016.

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Baltic Dry Index (BDI) 2005-2016
Source: Baltic Exchange Information Services Ltd.
The fundamentals for this price decrease remain the same: a generally weak global economy coupled with lower demand following the slowdown in industrial output in China. Overcapacity in the coal industry is now a real problem, with producers hanging on in the market in the hope that others will exit first. In the US, the shale gas revolution means that consumers benefit from low energy prices, but it has left coal companies with insufficient income to cover the debt that they accumulated during the boom years as they invested in capacity, both new and by acquisition. Peabody and Arch Coal filed for bankruptcy in 2015, despite having some of the most productive assets in the coal mining industry. The international mining companies all faced significant impairments on their coal assets while taking action to reduce operational costs and delay or cancel capital expenditure, as well as offering to sell unprofitable coal mines, but rarely made the production cuts that are now needed.

Coking coal prices declined in 2015 with reduced import demand, notably by the Chinese steel industry, and a slow response to production overcapacity. Several new mines came on-stream in 2015, including Whitehaven’s Maules Creek in Australia and BHP Billiton’s Haju mine in Indonesian Borneo, although a number of projects in Mozambique were put on hold. At year end, the spot price of Australian prime low-volatile hard coking coal was 76.75 US$/tonne FOB, well below the 330 US$/tonne reached back in January 2011. Coke prices also fell back in 2015, ending the year at 147.22 US$/tonne CIF ARA ports.

Freight Rates

Low freight rates in 2015 reflected not only the slowdown in demand for dry bulk commodities, but also low oil prices, slow steaming to save fuel and over investment in dry bulk cargo vessels. The Baltic Dry Index, an indicator issued daily by the London-based Baltic Exchange, reached an all-time low of 290 on 10 February 2016 – far below the peaks of 2007 and 2008 and well below what is considered sustainable. Although rates had improved around the middle of 2015, they then fell to lower levels than in 2014. Freight rates for the benchmark Richards Bay – Rotterdam route decreased to 5-10 US$/tonne and even to below 5 US$/tonne in the first months of 2016, helping to lower coal prices at ARA (Antwerp-Rotterdam-Amsterdam) ports.

The total combined fleet capacity of all 11 075 dry bulk vessels stood at 782 million dead-weight tonnes (dwt) in June 2016, with Panamax and Capesize carriers accounting for the greatest share of this total. New vessels on order total 13% of the existing fleet capacity. Despite record scrappage rates, the dry bulk fleet has kept growing as new builds are delivered. Utilisation rates are little over 70% and would need to rise to 85-90% for a sustainable business with ship owners able to enjoy a return to profitability.

Unless demand for dry commodities increases, low rates will persist for as long as the shipping industry keeps surplus vessels afloat rather than scrapping, as a minimum, all pre-1995 vessels.

Carbon prices: allowance prices under the EU Emissions Trading System (ETS), 2005-2016
Source: European Energy Exchange
Carbon Prices

In 2015, the price of EU Emissions Trading System (ETS) emission allowance certificates in the secondary market increased slightly to a high of 8.65 €/tCO₂, a price not seen since 2012, but plummeted at the end of the year to close at 5.20 €/tCO₂, having traded at an average price of 7.54 €/tCO₂ during the year. The UNFCCC Paris Agreement on climate change in December 2015 seems to have hit the price of carbon allowances, perhaps illustrating that this political agreement is weaker than generally portrayed.

ETS allowance futures over the period 2016-2018 show a slight increase in prices, but not to the levels called for by coal’s competitors. There is uncertainty for the Phase IV trading period (2021 to 2028) due to ongoing negotiations with the European institutions on reform of the EU ETS. Looking further into the future, emissions from all sectors covered by the EU ETS must fall to zero, because, under the declining cap, no new allowances will be issued after 2058.

EURACOAL Tour 2015

On 17 April 2015, European Commission officials, MEP assistants and students from the College of Europe visited Garzweiler mine and Niederaußem power plant. At the mine stands one of the biggest man-made machines on Earth, a 100-metre high bucket-wheel excavator that cuts thousands of tonnes of lignite in minutes. At the 950 MW power plant – the most modern in the world – the group saw the control room, the boiler, the cooling system and an experimental CO₂ removal unit. From the top of the power plant, the city of Cologne lies in the distance.

COMMITTEE ACTIVITIES: Technical Research Committee

Dr. Alicja Krzemię, Chairwoman

In 2015, there were two Technical Research Committee meetings – one in June in Slovenia and the other in December in Brussels – as well as two proposal preparation workshops in Katowice and Liège. Possible changes to the legal basis of the EU Research Fund for Coal and Steel (RFCS) remained a key issue.

At the beginning of the year, there were two workshops organised by the Technical Research Committee on project proposals for the RFCS. One was organised in February in Katowice by the Central Mining Institute (GIG). It concerned topics connected to RFCS Technical Group I on coal mining operation, mine infrastructure and management, and unconventional use of coal deposits. The workshop was on a very high level and, as always, had many participants who were able to bring together many interesting project ideas.

The second one was organised in March in Liège by ISSeP/CRM. It focused on coal preparation, conversion and upgrading as well as coal combustion, clean and efficient coal technologies, and CO₂ capture. There were many participants interested in the project ideas and the meeting was considered a success.

Mid-year, there was a change of committee chair when Dr. Ing. José-Luis Fuentes-Cantillana stepped down after leading the committee with skill for two years. He was replaced by Dr. Alicja Krzemień, from GIG in Poland during the committee meeting held at the turn of June and July in Slovenia. During the meeting, members visited the underground lignite mine of Premogovnik Velenje and held discussions on the ongoing process by the Commission concerning changes to the RFCS legal basis.

During second half of the year, most of the committee’s activities were dedicated towards RFCS proposals. During the meeting in December, the committee discussed the results of the last call with a budget of €12 million. Out of forty-three proposals, twenty-three were within TGC1 (coal
mining operations...), four in TGC2 (coal preparation, conversion...) and sixteen in TGC3 (coal combustion, CCT, CO$_2$ capture...). Seven proposals were recommended for funding, out of which three involve EURACOAL members.

Following a successful challenge to the poor evaluation of one resubmitted proposal, a revised redress procedure is now in place. Nevertheless, it seems that the Commission does not favour resubmissions, preferring to see new proposals.

The new RFCS Info Pack for 2015 introduced several revisions to the evaluation criteria and thresholds. Applicants must now wait until mid-March to see evaluation summary reports and evaluators will remain anonymous, with only the Commission knowing their names and affiliations. Such a lack of transparency is of concern to industry.

Since the beginning of the year, there had been discussions on aligning the RFCS with the rules and procedures used in the Horizon 2020 framework research programme. A change to the legal basis was in progress with uncertain risks and impacts. An important ally on this issue was the steel industry who similarly wishes to maintain the uniqueness of the RFCS programme which was established to serve the needs of the coal and steel industry using a fund created from past production levies.

In October 2014, a consultation on legal changes to the RFCS began. The Commission proposed that Technical Group members could no longer act as evaluators and Coal Advisory Group members could no longer act as observers during evaluations. Another change proposed was that 25% of evaluators should be renewed each year (i.e. “new” evaluators cannot have evaluated proposals during the previous five years). This would inevitably mean bringing in evaluators who might have little or no experience of the coal and steel sectors.

In mid-April 2015, EURACOAL reached out to the Coal and Steel Committee (COSCO) of Member State representatives for support and, together with EUROFER and IndustriAll, addressed a letter to President Juncker seeking assurances about the future of the programme. In May, Mr. Juncker replied that the RFCS remained an important programme for the Commission. Also in May, an article critical of the RFCS was published in the UK Guardian newspaper, based on a story provided by Greenpeace; quotes reported from the EURACOAL Secretary General brought some balance to the story.

The discussion on the proposed changes to the RFCS legal basis will continue in 2016 and EURACOAL will remain attentive.

R&D Project Workshops: coal mining and coal use
Katowice, 25/26 February 2015

This popular workshop was professionally organised and hosted by the Polish Central Mining Institute (GIG — Główny Instytut Górnictwa). The first day focused on clustering proposals and the second on discussions between potential partners for RFCS TGC1 projects on coal mining operations, mine infrastructure and management, and unconventional use of coal deposits.

Liège, 18 March 2015

This workshop, organised by ISSeP and CRM Group, aimed to cluster project ideas and prepare project proposals mainly for RFCS TGC2 (coal preparation, coal conversion and coal upgrading) and TGC3 (coal combustion, clean and efficient coal technologies and CO$_2$ capture). The workshop has an open format to get the best results and strong partnerships for project proposals.

EURACOAL Technical Research Committee at Premogovnik Velenje d.d. lignite mine, 1 July 2015
THE PARIS AGREEMENT: the most significant development in 2015?
Brian Ricketts, Secretary General

Man has relied on fire to cook and keep warm for perhaps half a million years. Today, we are in the midst of an energy transition, driven by a combination of political impetuosity and technological change. Putting an end to the combustion of coal, oil and gas, as well as firewood and all other biofuels, will take time, but is necessary if anthropogenic greenhouse gas (GHG) emissions are to be cut to near zero. An evolutionary transition, taking the benefits that each energy source offers today, would allow society to adapt safely. A green revolution driven by zeal would put the very fabric of our industrial society at risk: after clean water, electricity is the most civilising of commodities. Around 80% of the world's electricity comes from thermal power plants, a share that has barely changed over the last forty years. In the EU, coal-fired power generation is unloved and yet reliably supplies 26% of our electricity from a fuel source that is secure, affordable and flexible. Sound policy making would seek to maximise these benefits, rather than consigning thermal power generation from nuclear, coal, oil and gas to the annals of history for ideological reasons, regardless of cost.

In December 2015, at COP21 in Paris, nations of the world agreed to tackle climate change through a combination of voluntary GHG reduction targets, legally binding emission reporting requirements and five-year plans for the energy sector. The EU offered up the most ambition, having provisionally agreed to set the world’s toughest reduction targets at a meeting of the European Council in October 2014. The reduction pathway to reach the EU’s 40% target for 2030 is now being enshrined in EU law and in the laws of Member States: by 2058, carbon emissions from the power sector and industries covered by the EU ETS must fall to zero, thus bringing to an end the Industrial Revolution that began 250 years ago in the valleys of Europe and powered the rise of the Occident.

The UNFCCC Paris Agreement is weak. Despite the media hype and cacophony of climate alarm bells, rung by well-funded NGOs and GOs, the agreement will not reverse the global trend of rising GHG emissions. The “intended nationally determined contributions” are non-binding, except on the EU, and leave much room for growth in developing nations. So, 2015 will not be remembered for the Paris Agreement, but rather for the direction of travel established by world leaders and the treatment of dissenters.

The biggest call for change came from the Pope in his encyclical “Laudato Si’” on the care of our common home. His Holiness writes of a sick planet, wracked by environmental damage caused by man’s irresponsible use and abuse of natural resources and modern technologies. He proposes that fossil fuels be progressively replaced, preferring gas over coal as the lesser of two evils during an energy transition to renewables.

An interesting point about the encyclical is not what it says, but who influenced it. Cardinal Turkson launched the encyclical in the Vatican on 18 June, alongside Prof. Hans Joachim (John) Schellnhuber who presented his version of what he calls the “Great Transformation”.

Prof. Schellnhuber is a member of the Vatican Academy that advises the Pope. He also leads the Potsdam Institute for Climate Impact Research and is a scientific advisor to Chancellor Merkel. He presents humanity as a problem that causes the planet to suffer, singling out the “carbon powers” – Europe, the USA and China – for particular criticism. He embraces the Gaia Theory which treats the world as a living being.

Throughout history, the ruling class has positioned itself as the broker between mortal men and unworldly forces. The Imperial cult of ancient
Rome idolised emperors alongside the traditional Greco-Roman gods. It was overtaken by Christianity which grew to dominate the ruling class, offering absolution of sins for contrite believers. Those who did not believe were persecuted; Galileo’s trial and condemnation to life imprisonment being the most infamous abuse of power. Faced with mounting scientific evidence that the Earth does indeed orbit the Sun, the church stopped accusing heliocentrists of heresy. Since the mid-18th Century, scientists and engineers have controlled the power of the Industrial Revolution; machines replaced enslaved men and draft animals. The detonation of the first nuclear weapon in 1945 was perhaps the culmination of man’s ability to harness the enormous forces of nature.

The anti-nuclear movement targeted weapons with its Campaign for Nuclear Disarmament and then civilian nuclear power. NGOs such as ausgestraht e.V. mobilise protestors to influence political leaders who have agreed to phase out nuclear power in Germany by 2022. The same protestors, joined by anti-capitalists and other activists, now campaign against coal in well-orchestrated actions promoted by the US-based 350.org and other NGOs. For example, operations at the Garzweiler mine in German were brought to a halt in August 2015 when activists invaded the lignite mine, despite a strong police presence.

The European Commission states that the, “EU’s commitment to a clean energy transition is irreversible and non-negotiable” (COM(2016) 110), thus vindicating actions against fossil fuel exploitation. Despite our continued heavy dependence on fossil fuels – over 80% of global primary energy supply – absolution is promised to those who “do their bit” in support of the energy transition, however immaterial. Those of us who fly on weekend city breaks or drive SUVs can seek absolution with energy-efficient light bulbs and many other “eco products”. Consensus is compulsory and dissent is not tolerated.

In October 2015, the French TV weatherman, Philippe Verdier, was sacked from his job with TF 2 for publishing Climat Investigation, a book in which he questions climate science and its sometimes exaggerated impacts. In preparation for COP21, the French government had asked TV and radio weather presenters to include comments on “climate chaos” in their broadcasts. M. Verdier believed that this was wrong in a country that values free speech and had stood united in response to the massacre of staff at Charlie Hebdo on 7 January 2015.

“I am become death, the destroyer of worlds.”
Robert Oppenheimer

Whatever one’s view on climate science, few would dispute the need for affordable, clean energy and therefore an energy transition. How that evolves in the future remains the subject of heated debate, with proponents of fossil fuels, nuclear and renewable sources all vying for attention and public money. EURACOAL believes that energy economics will ultimately decide the winners and losers: the decadent will be overtaken by those who have abundant and affordable clean energy at their disposal. Coal can play its part by ensuring that energy supplies remain affordable and secure: notably by ensuring that the lights stay on when the wind doesn’t blow on dark winter nights.

An evolutionary route to clean energy will be safer than any revolutionary route.

The US-based campaign organiser, Avaaz, deployed children at COP21 in Paris in December 2015 (photo: Julien Hélaine)
EURACOAL ACTIVITIES – serving the interests of the European coal industry

The European Association for Coal and Lignite – EURACOAL – is the umbrella organisation of the European coal industry. EURACOAL evolved in 2002 from the European Solid Fuels’ Association – CECSO – after the expiry of the Treaty establishing the European Coal and Steel Community.

EURACOAL has 33 members including national coal associations, importers associations, research institutes and individual companies. Members come from 18 countries: Belgium, Bosnia-Herzegovina, Bulgaria, the Czech Republic, Finland, France, Germany, Greece, Hungary, Poland, Romania, Serbia, Slovakia, Slovenia, Spain, Turkey, Ukraine and the United Kingdom.

EURACOAL’s mission is to highlight the importance of coal to security of energy supply in the EU, to energy price stability, to economic added value and to environmental protection. EURACOAL seeks to be an active communicator, with the aim of creating an appropriate framework within which the European coal industry and coal consumers can operate.

EURACOAL has three committees:

- Energy and Environment Policy Committee
- Market Committee
- Technical Research Committee

EURACOAL is officially represented in the European Commission RFCS Coal Advisory Group (DG Research & Innovation).


EURACOAL co-organises the Coal Dialogue with the European Commission (DG Energy).

EURACOAL co-operates with Members of the European Parliament in the cross-party European Round Table on Coal.

EURACOAL organises meetings and workshops, such as the International Coal Dialogue.

EURACOAL informs and works with many stakeholders, notably:

- European Commission (DG Competition, DG Energy, DG Research & Innovation and DG Employment, Social Affairs & Inclusion)
- European Parliament (ITRE and ENVI committees)
- European Economic & Social Committee (CCMI – Consultative Commission on Industrial Change)
- International Energy Agency
- World Coal Association

FINANCIAL REPORT FOR 2015

Total income (a): 556 792 €

- membership fees: 506 650 €
- office sub-letting & bank interest: 50 142 €

Total operating costs (b): 528 607 €

Net surplus (a – b): 28 185 €

Accounts for 2015, prepared on the basis of Belgian accounting standards, were audited by RSM InterAudit. The income statement showed a surplus of €28 185 for the year and total assets amounted to €769 179 at year end.
## General Assembly
Coal producers, importers, traders, coal-based power utilities, R&D institutes

## Executive Committee
Discussions, opinion forming, work programme, lobbying positions

### President
Dr. Wolfgang Cieslik – VDKi

### Vice Presidents
- Mr. Vladimír Budinský – ZSDNP
- Mr. Janusz Olszowski – GIPH
- Mr. Nigel Yaxley – CoalImP

## National Delegations
33 members from 18 countries

## Brussels Secretariat
Secretary-General: Mr. Brian Ricketts
Deputy Sec-Gen: Ms. Magdalena Chawula-Kosuri
Public Affairs Manager: Mr. Mike Bostan

### Committees & Chairs

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<tr>
<th>Committee</th>
<th>Chair</th>
<th>Secretary</th>
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<tbody>
<tr>
<td>Energy and Environment Policy Committee</td>
<td>Dr.-Ing. George Milojcic (DEBRIV)</td>
<td>Mr. Zygmun Borkowski (GIPH)</td>
</tr>
<tr>
<td>Market Committee</td>
<td>Prof. Dr. Franz-Josef Wodopia (VDKi)</td>
<td>Mr. Mike Bostan (EURACOAL)</td>
</tr>
<tr>
<td>Technical Research Committee</td>
<td>Dr. Alicja Krzemień (GIG)</td>
<td>Ms. Magdalena Chawula-Kosuri (EURACOAL)</td>
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### EXECUTIVE COMMITTEE

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<thead>
<tr>
<th>Members</th>
<th>Country</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Dr. Wolfgang CIESLIK</td>
<td>Germany</td>
<td>President of EURACOAL, President of VDKi and Member of the Board, STEAG GmbH</td>
</tr>
<tr>
<td>Mr. Vladimír BUDINSKÝ</td>
<td>Czech Republic</td>
<td>Vice President of EURACOAL, Member of the Board, ČEZ Distribuce &amp; Foreign Affairs Advisor, Severoceske doly a.s.</td>
</tr>
<tr>
<td>Mr. Janusz OLSZOWSKI</td>
<td>Poland</td>
<td>Vice President of EURACOAL and President, GIPH – Górnica Izba Przemysłowo-Handlowa (Mining Chamber of Industry and Commerce)</td>
</tr>
<tr>
<td>Mr. Nigel YAXLEY</td>
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</tr>
<tr>
<td>Mr. Mustafa AKTAŞ</td>
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<td>General Director, TKİ – Turkish Coal Enterprises</td>
</tr>
<tr>
<td>Mr. Andon ANDONOV</td>
<td>Bulgaria</td>
<td>Executive Director, Mini Maritsa Iztok EAD</td>
</tr>
<tr>
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<td>Director of Mining, Complexul Energetic Oltenia S.A.</td>
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<td>Eng. Kancho DIMITROV</td>
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</tr>
<tr>
<td>Name</td>
<td>Country</td>
<td>Position and Organization</td>
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<tr>
<td>Dr. Nikolaos GALITIS</td>
<td>Greece</td>
<td>General Department of Mines, PPC – Public Power Corporation S.A.</td>
</tr>
<tr>
<td>Mr. Ludvik GOLOB</td>
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<tr>
<td>Dipl. -Ing. Uwe GROSSER</td>
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<td>Vorstand Bergbau (Director of Mining), Vattenfall Europe Mining &amp; Generation A.G.</td>
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<td>Dipl. -Ing. Matthias HARTUNG</td>
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</tr>
<tr>
<td>Mr. Stanislav V. IANKO</td>
<td>Ukraine</td>
<td>Head of the Union, Ukrgvlerobotodavtsy</td>
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<tr>
<td>Mr. Pedro IGLESIA GÓMEZ</td>
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<td>Director General, CARBUNIÓN – Federación Nacional de Empresarios de Minas de Carbón</td>
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<td>Ing. Rastislav JANUŠČÁK</td>
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<td>Director of Strategy and External Affairs Department, HBP – Hornonitrianske bane Previdza, a.s.</td>
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<tr>
<td>Dr. Nikolaos KOUKOUZAS</td>
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<td>Director of Research, CERTH/CPERI – Chemical Process &amp; Energy Resources Institute</td>
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<td>Mr. Óscar LAPASTORA TURPIN</td>
<td>Spain</td>
<td>CARBUNIÓN President and Chief Financial Officer, Hullera Vasco-Leonesa S.A.</td>
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<td>Dr. Marios LEONARDOS</td>
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<td>Dr. Zygmunt ŁUKASZCZYK</td>
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<td>Dr. -Ing. George MILOJCIC</td>
<td>Germany</td>
<td>Hauptgeschäftsführer (Chief Executive), DEBRIV – Deutscher Braunkohlen-Industrie-Verein e.V. (German Association of Lignite Producers)</td>
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<tr>
<td>Mr. Constantin-Viorel PETCU</td>
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<tr>
<td>Prof. Stanislaw PRUSEK</td>
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<td>General Director, GIG – Główny Instytut Górnictwa (Central Mining Institute)</td>
</tr>
<tr>
<td>Dr. Jürgen RUPP</td>
<td>Germany</td>
<td>Vorstand Finanzen (Finance Director), RAG A.G.</td>
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<tr>
<td>Mr. Oleksandr SELISCHEV</td>
<td>Ukraine</td>
<td>Head of Strategic Planning &amp; Analysis Department, DTEK</td>
</tr>
<tr>
<td>Mr. Krzysztof SZLAGA</td>
<td>Poland</td>
<td>President of the Board, Lubelski Wegiel „Bogdanka” S.A.</td>
</tr>
<tr>
<td>Ing. Radim TABÁŠEK</td>
<td>Czech Republic</td>
<td>Chief Reclamation and RE Officer, OKD, a.s.</td>
</tr>
<tr>
<td>Mr. Bernd TÓNJES</td>
<td>Germany</td>
<td>Vorsitzender des Vorstandes (Chairman of the Board), RAG A.G.</td>
</tr>
<tr>
<td>Mr. Dezső TÖRÖK</td>
<td>Hungary</td>
<td>President of Borsod-Abaúj-Zemplén County Government</td>
</tr>
<tr>
<td>Dr. Catherine TRUFFERT</td>
<td>France</td>
<td>Research Director, BRGM – Bureau de Recherches Géologiques et Minières</td>
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<tr>
<td>Dr. rer. oec. Kai VAN DE LOO</td>
<td>Germany</td>
<td>GVST – Gesamtverband Steinkohle e.V. (German Coal Association)</td>
</tr>
<tr>
<td>Prof. Franz-Josef WODOPIA</td>
<td>Germany</td>
<td>Managing Director, VDKI – Verein der Kohlenimporteure e.V. (Coal Importers Association)</td>
</tr>
<tr>
<td>Dr. Hartmut ZEIß</td>
<td>Germany</td>
<td>Chairman of the Managing Directors, Vattenfall Europe Mining A.G. &amp; Vattenfall Europe Generation A.G.</td>
</tr>
<tr>
<td>Mr. Stanislaw ŻUK</td>
<td>Poland</td>
<td>President, PPWB – Porozumienie Producetów Wegla Brunatnego (Confederation of Polish Lignite Producers)</td>
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EURACOAL MEMBERS – an international partnership

<table>
<thead>
<tr>
<th>Country</th>
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<tbody>
<tr>
<td>Belgium</td>
<td>ISSeP – Institut Scientifique de Service Public (Scientific Institute of Public Service)</td>
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<td>Czech Republic</td>
<td>ZSDNP – Zaměstnavatelský svaz důlního a naftového průmyslu (Employers’ Association of Mining and Oil Industries)</td>
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<td>Finland</td>
<td>Finnish Coal Info</td>
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<td>GIPH – Górnicza Izba Przemysłowo-Handlowa (Mining Chamber of Industry and Commerce)</td>
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<td>Lubelski Węgiel „Bogdanka” S.A.</td>
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<td>GIG – Główny Instytut Górnicwa (Central Mining Institute)</td>
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<td></td>
<td>EMAG Institute of Innovative Technologies</td>
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<td>KOMAG Institute of Mining Technology</td>
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<tr>
<td>Romania</td>
<td>PATROMIN – Asociaţia Patronală Minieră din Romania (Mining Employers Association of Romania)</td>
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<td>APFCR – Asociaţia Producatorilor si Furnizorilor de Carbune din Romania (Coal Producers and Suppliers’ Association of Romania)</td>
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<tr>
<td>Serbia</td>
<td>EPS – Elektroprivreda Srbije (Electric Power Industry of Serbia)</td>
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<td>Slovak Republic</td>
<td>HBP – Hornonitrianske bane Prievidza a.s.</td>
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<td>Slovenia</td>
<td>Premogovnik Velenje d.d.</td>
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<td>Spain</td>
<td>CARBUNIÓN – Federación Nacional de Empresarios de Minas de Carbón (National Coal Mining Employers’ Association)</td>
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<td>Geocontrol S.A.</td>
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<td>SUBTERRA Ingeniería S.L.</td>
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<td>Turkey</td>
<td>TKİ – Turkish Coal Enterprises</td>
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<td>Ukraine</td>
<td>DTEK</td>
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<td>Uknvuglerobotodavtsy (All-Ukrainian Coal Industry Employers’ Association)</td>
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<tr>
<td>United Kingdom</td>
<td>CoallMIP – Association of UK Coal Importers and Producers</td>
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<td></td>
<td>Golder Associates (UK) Ltd.</td>
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<td>Trolex Ltd.</td>
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<td>University of Nottingham</td>
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