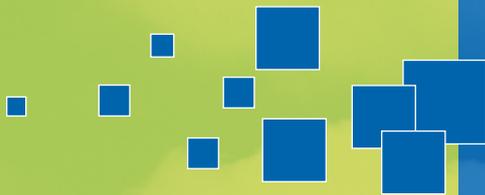




EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY
DIRECTORATE B - Security of supply, Energy markets & Networks

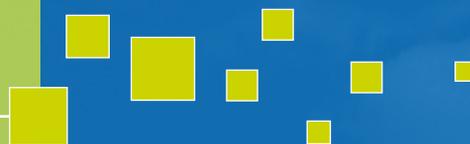
EURACOAL

European Association for Coal and Lignite

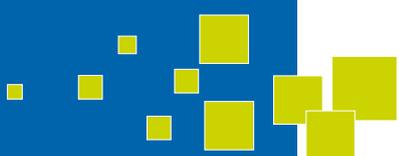


SEVENTH COAL DIALOGUE

26 MAY 2011
IN BRUSSELS







INTRODUCTION

The 7th Coal Dialogue, jointly organised by the European Commission and the European Association for Coal and Lignite (EURACOAL), took place on 26 May 2011. The event was chaired by Mr. Heinz Hilbrecht, Director for Security of supply, Energy markets & Networks at DG Energy and Mr. Brian Ricketts, Secretary-General of EURACOAL. Some seventy participants attended from Member States, including National Coal Experts, the European Commission, the European Parliament, NGOs and industry, particularly from the hard coal and lignite industries.

Coal is a backbone of Europe's energy supply, especially for power generation, even as other hydrocarbons and renewable energy sources gain importance. The share of coal in European primary energy consumption reaches 17%, and more than a quarter in power generation. Coal is a secure, safe and competitive fuel, but faces challenges given the EU's ambitious climate targets.

Meeting these targets will require the almost complete decarbonisation of the electricity sector by 2050. No available option should be ruled out, including CO₂ capture and storage (CCS) which in the longer run will be needed both for coal- as well as for gas-fired power plants if fossil fuels shall remain a significant part of our energy mix. The deployment of clean coal technologies with CCS requires investment security and a stable legal framework which are therefore decisive for establishing a decarbonised but competitive Europe by 2050.

The 7th Coal Dialogue explored these challenges before turning to the related topic of R&D needs in the European coal mining sector, where equipment suppliers are world leaders in state-of-the-art exploitation technologies.

This summary report refers to presentations that can be downloaded in full from EURACOAL (www.euracoal.org) or from the European Commission (http://ec.europa.eu/energy/coal/index_en.htm).

ENERGY ROADMAP 2050

MS. MECHTHILD WÖRSDÖRFER
EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY
HEAD OF UNIT A1 – ENERGY POLICY, PROGRAMMING & OBSERVATORY, ECONOMIC ANALYSIS & INFRINGEMENTS

At the European Summit in February 2011, EU leaders placed energy at the top of the European agenda. They stressed the need to complete the internal market, in co-ordination with non-EU countries, and to elaborate a new strategy to 2050.

The European Council also confirmed the commitment to reduce GHG emissions until 2050 by 80% to 95% compared to 1990 levels. In March 2011, the European Commission responded to this call with its *Roadmap for Moving to a Competitive Low-Carbon Economy in 2050* which will be followed by an *Energy Roadmap 2050* currently under preparation in DG Energy. These commitments will require drastic changes in the European energy sector. The *Energy Roadmap 2050* will outline a vision for the decarbonisation of Europe's energy sector in a sustainable, secure and cost-efficient way, taking into account national plans and illustrating the possible policy measures.

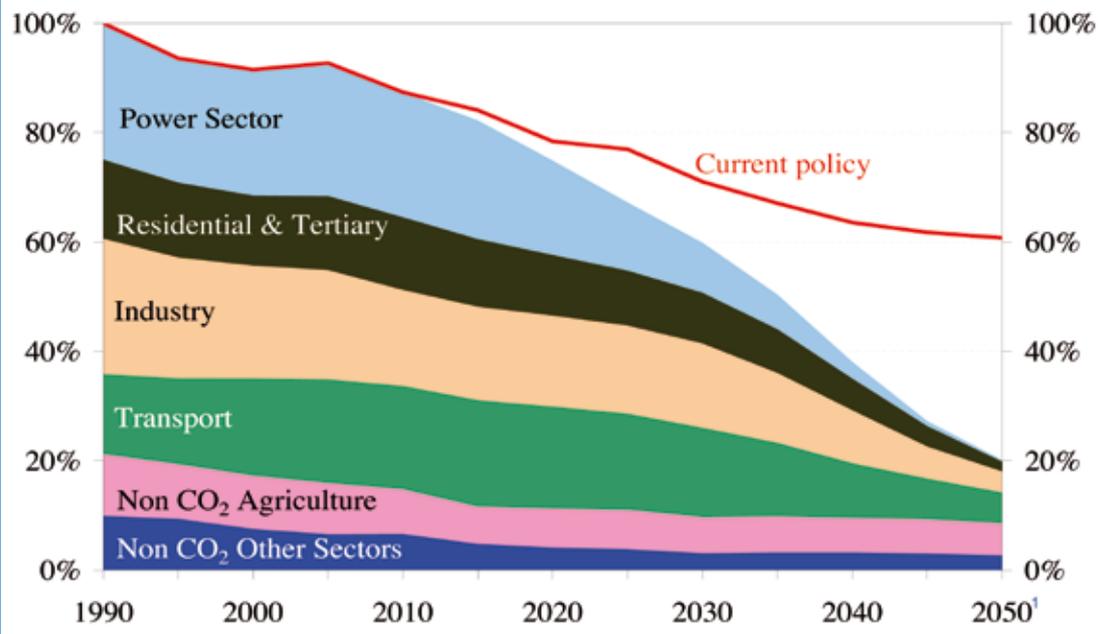
DG Energy is currently developing and analysing several scenarios, but the final choice of energy mix will stay in the hands of individual Member States. A public consultation, launched in December 2010, showed the need for flexibility by allowing change and adaptation "along the way". Nevertheless, a stable, clear and predictable legislative framework must also be put in place in order to encourage investments. Global fossil fuel prices and long-term security of supply were seen as key drivers of the EU's future energy mix.

Different opinions were expressed in the public consultation on the need for a purely market-based approach with minimal government intervention, versus additional new sector-specific targets and policies. Stakeholders also made different statements on the role of international offsetting (e.g. Clean Development Mechanism and Joint Implementation) and on approaches to increase energy efficiency, as well as on the share of natural gas, nuclear and renewables, and on the deployment of CCS.

An informal Energy Council meeting in May 2011 supported the Energy Roadmap 2050 and the Commission's efforts to marry decarbonisation with the need to ensure energy security and competitiveness, whilst avoiding carbon leakage. Massive investments will be needed, particularly in infrastructure projects. The final Roadmap will reflect the input of stakeholders and will be supported by extensive modelling scenarios.

The starting point for DG Energy's work was criticised by some because the Commission assumes that there will be a global commitment as a follow-up to the Kyoto Protocol. However, there might not be any new global agreement, or only a weak agreement, and this could lead to carbon leakage if the EU acted alone to reduce emissions. Another aspect discussed was the lack of public acceptance and political support for CCS and other innovative technologies, which in many Member States is becoming a real hurdle for any progress.

2 Low Carbon Economy Roadmap (CLIMA)



2 Sectorial milestones Low Carbon Economy

GHG reductions compared to 1990	2005	2030	2050
Power (CO₂)	-7%	-54 to -68%	-93 to -99%
Industry (CO₂)	-20%	-34 to -40%	-83 to -87%
Transport (incl. CO₂ aviation, excl. maritime)	+30%	+20 to -9%	-54 to -67%
Residential and services (CO₂)	-12%	-37 to -53%	-88 to -91%
Agriculture (non-CO₂)	-20%	-36 to -37%	-42 to -49%
Other non-CO₂ emissions	-30%	-72 to -73%	-70 to -78%



INVESTING IN COAL-FIRED POWER PLANTS AND HOW TO DEPLOY CCS

DR.-ING. GEORGE MILOJCIC (ON BEHALF OF EURACOAL
PRESIDENT DR.-ING. HARTMUTH ZEISS)
CHAIR OF EURACOAL ENERGY POLICY COMMITTEE

The coal industry supports a market-based approach to the electricity sector and the development of a trans-European power network that is open to all, where the secure supply and competitive strengths of coal can play an important role. EURACOAL has a progressive position on carbon capture and storage, but also some concerns about a loss of balance between environmental matters, including questions on CO₂ management, security of supply and affordable energy. Coal can certainly contribute to the security and affordability of electricity supply, with clean coal technologies being a key part of a sustainable energy supply. Nevertheless, significant investments in conventional power generation are urgently needed, whilst preparing for the deployment of CCS.

Electricity supply in the EU is mainly based on coal (28%), with nuclear (28%), hydro (11%) and gas (24%) also important. These averages hide significant differences between Member States; Poland, for example, generates over 90% of its electricity from coal. The EU has an efficient infrastructure of ports, waterways and railways, making coal cheap and safe to transport and store. It is a secure and reliable fuel that can ensure power systems are robust when faced with any kind of disturbance. For example, lignite is mined in huge open cast mines close to power plants and can be viewed as a “virtual” store of electricity.

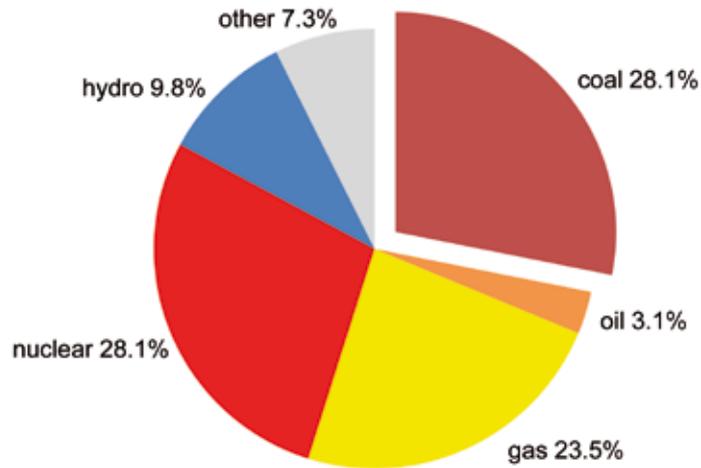
Coal also sets a benchmark price in the power sector, thereby being an important macroeconomic element of EU industrial competitiveness and job security. Nevertheless, natural gas is currently being promoted as the preferred solution, even if this “solution” is rather expensive, without any economic benefits for regional economies. Gas is often shown as a clean fuel because point-source emissions from gas use are lower than for coal. Yet, given the whole environmental impact of imported gas from Russia, for example, the total greenhouse gas emissions are not dissimilar to those from coal.

Markets and energy policy should define the EU energy mix and create incentives for investment. In recent times, the investment framework has not favoured coal, even though policy has called for new clean coal investments to reduce pollution. Clean coal technologies are vital for the acceptance of coal and future EU competitiveness, including the modernisation of existing power plants through efficiency improvements and emission reductions. The construction of highly efficient new power plants will be necessary, when plant replacement is needed or when increased demand for electricity must be met.

At the moment, the costs of coal-fired and gas-fired power generation at new plants are similar, although rising gas prices present a higher risk for utility companies and electricity consumers than any coal-price risk. To tackle CO₂ emissions, CCS has a remarkable potential and will be necessary in any scenario for both coal- and gas-fired power plants if Europe wants to decarbonise its economy.

The various CO₂ capture technologies still have to be tested. This is the responsibility of plant operators and equipment suppliers – technology demonstrations at power plants have certainly been at the forefront of efforts to date. But operators of power plants or industrial facilities are not specialists in CO₂ transport or storage, and yet specialists are needed to make a business out of these activities. Therefore, a separation of tasks – between plant operators and specialist infrastructure companies – could contribute to a solution that sees the widespread deployment of CCS.

Power generation in the EU



EU-27: 3 341 TWh (2008)

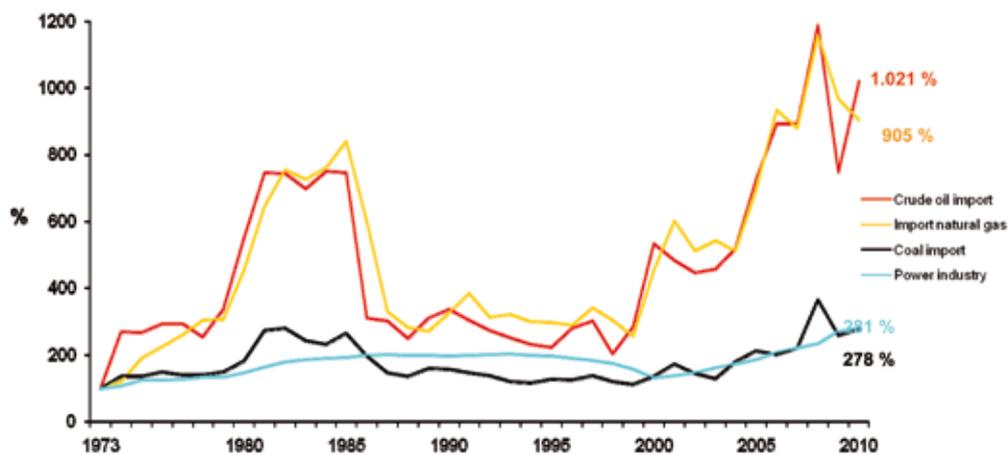
sources: IEA Key World Energy Statistics 2010 and IEA databases

Coal is No.1 today & will be an important pillar of electricity supply tomorrow.

7th Coal Dialogue, 26 May 2011, slide 1

EURACOAL

Energy prices in Germany, 1973-2010*



source: StaBuA / BAFA

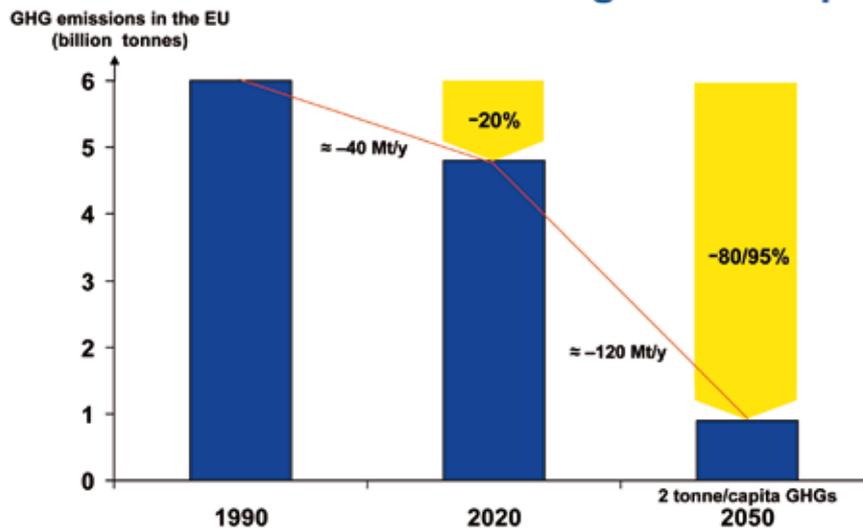
* consumer price index: 1973 = 100; 2010 = 225

The remarkably modest rise in electricity prices over almost four decades is thanks to coal and nuclear.

7th Coal Dialogue, 26 May 2011, slide 6

EURACOAL

Mitigation of climate change in the EU: two stages – two speeds



For the EU, this means reducing GHGs from 5.8 Gt/y in 1990, to some 4.6 Gt/y in 2020, and to some 1 Gt/y in 2050.

7th Coal Dialogue, 26 May 2011, slide 3

EURACOAL

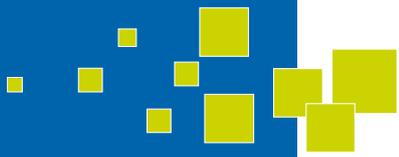
Conclusions

- An EU power market is developing, but with many issues still to address.
- Coal is No.1 today and will be an important pillar of electricity supply tomorrow.
- The remarkably modest rise in electricity prices over almost four decades is thanks to coal and nuclear.
- Fuel switching from coal to gas would be an enormous economic burden and carries price and supply risks.
- Continuous investment is needed to modernise power plants across the EU – a “clean coal investment strategy”.
- We should tackle CO₂ capture and CO₂ transport & storage as separate activities with different business models.
- Governments should guarantee non-discriminatory access to a CO₂ transport infrastructure and ensure sufficient CO₂ storage capacity in the future.

7th Coal Dialogue, 26 May 2011, slide 4

EURACOAL

POWER PLANT FLEXIBILITY AND CCS READINESS



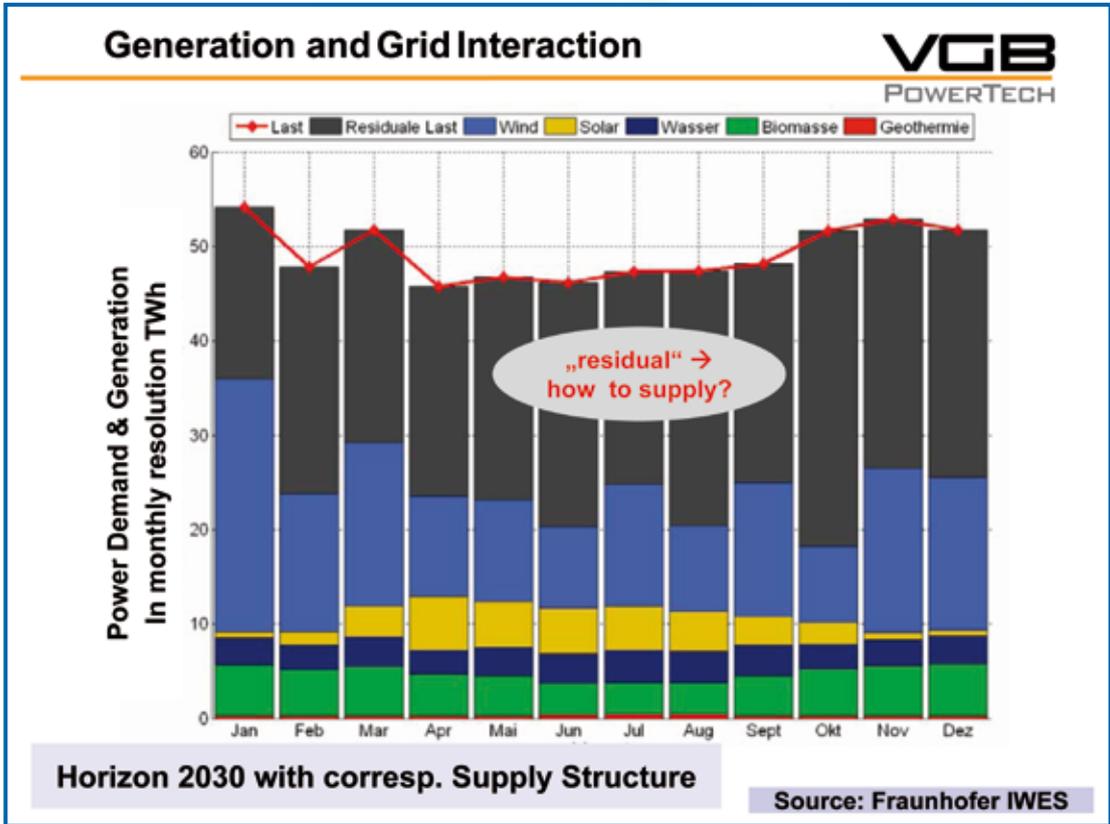
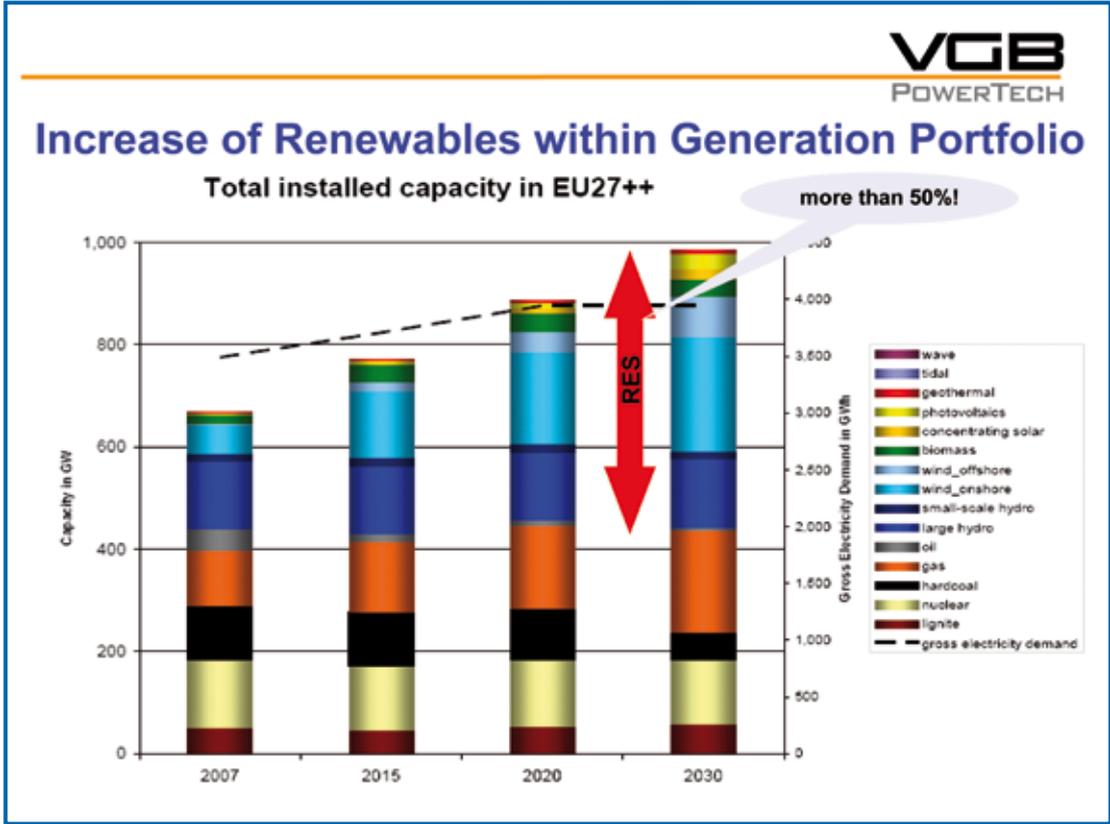
DR. FRANZ BAUER
HEAD OF FOSSIL-FIRED POWER PLANTS
VGB POWERTECH, GERMANY

Climate protection and the increased share of renewables in power generation are certainly the driving forces for increased power plant flexibility, as Dr. Bauer showed in his detailed presentation. It is difficult to predict the impact of an increased share of renewables on the network and the role of “balancing” or “back-up” capacity to meet the residual load. Investment incentives will be needed to encourage more back-up capacity and existing power plants will have to be retrofitted to reduce emissions.

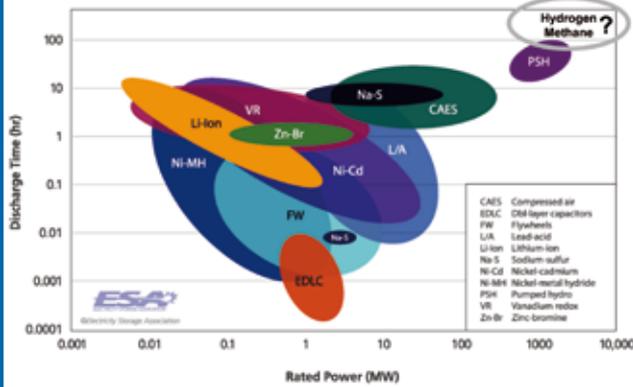
The EU aims to increase the share of intermittent renewables by 2030 to 50% and indeed, in many European countries, wind farms have experienced a real boom. Extremely high flexibility will therefore be needed in the future to balance a fluctuating output – huge storage capacity will be required with fast ramp rates in order to maintain the stability of so-called smart grids. Today’s pumped storage capacity in Central Europe and in particular in Germany reaches some 6 GW, but in the future an average of some 13 GW will be necessary to cover the electricity supply gaps which will occur due to wind forecasting errors. In addition during periods of low wind even more back-up capacities will be needed. Therefore, storage capacities will have to be refilled frequently which will require additional conventional back-up power plants.

Energy storage technologies can serve different market demands depending on their power output, reaction time and total storage capacity. A key question will be how stable the system should be. Grid stability is defined by how well demand and supply are kept in balance; it is determined by the ratio between intermittent and dispatchable generation, and by the inertia of the system. Grids need constant control and their stability improves when changes are predictable. In 2010, the difference between predicted and actual wind power generation in Germany was on average 800 MW, reaching peaks up to 5 GW. Increased wind power capacity will inevitably increase the absolute value of such mismatching.

The portfolio of required back-up capacities has not yet been defined. However, any new coal-fired power plants will have to use at least state-of-the-art technology, which yields a net efficiency of around 46%. In order to be able to deploy CCS, better adapted permitting procedures, a stable investment framework and a sound legal basis are all needed to minimise risks. The demonstration phase for CCS has just started and even though expensive, there is no doubt that power plant operators will manage to demonstrate the feasibility of CO₂ capture. A more severe problem will be the demonstration of CO₂ transport and above all storage, which urgently needs political support in order to gain public acceptance.



Overview Energy Storage



Energy storage technologies can serve different energy and reserve markets depending on their power output, reaction time, and total storage capacity

Operating reserve		
Contingency/primary reserve		Supplemental reserve
Synchronized/spinning reserve	Quick-start reserve	
Activation within 10 min, already synchronized	Activation within 10 min, not synchronized	Activation within 10-30 min, no need to be synchronized

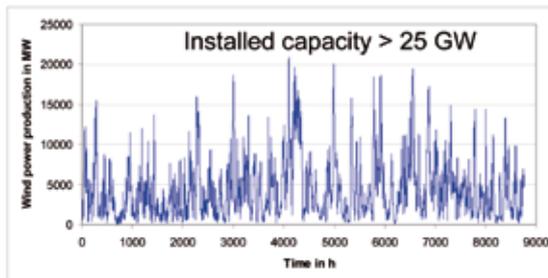
	Primary reserve	Secondary reserve	Minute / Tertiary reserve
Activation speed	< 30 s	< 5 min	< 15 min

Source: www.rgelleistung.net, TransmissionCode 2007

Source: PJM

GE Energy/Bieber

Need for Back-up Power and Flexible Tools



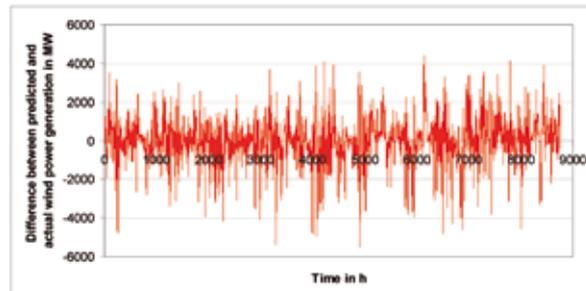
Source: Data from June 2009 to May 2010 from Amprion, EnBW Transportnetze, transpower and 50 Hertz Transmission

Actual power production between 0 and 85 % of the installed capacity during all seasons

Non-demand-driven intermittent energy source

Accuracy of prediction improved, but absolute value of mismatch will increase if wind power capacity is doubled

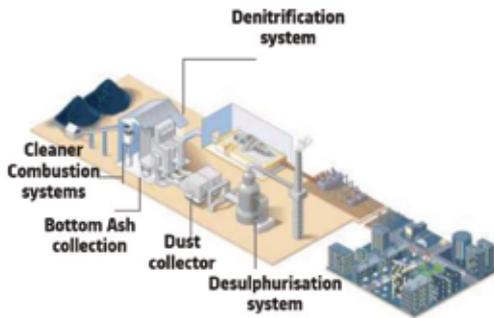
Last year, difference of 800 MW in average between predicted and actual wind power generation, peaks up to 5 GW



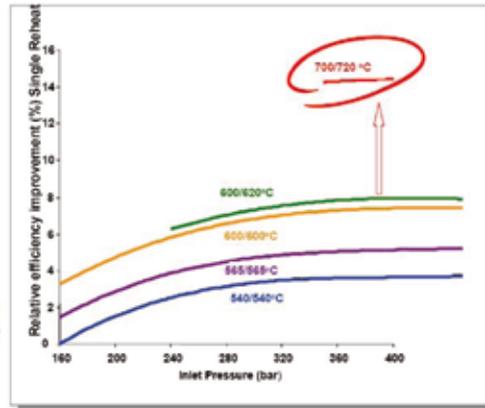
state of the art Coal-fired Power Plant with an efficiency of ~ 46 % net lhv

Continued Advancements in AQCS

- SOx, NOx, Dust >99%
- Heavy Metals Capture
- Ash Disposal



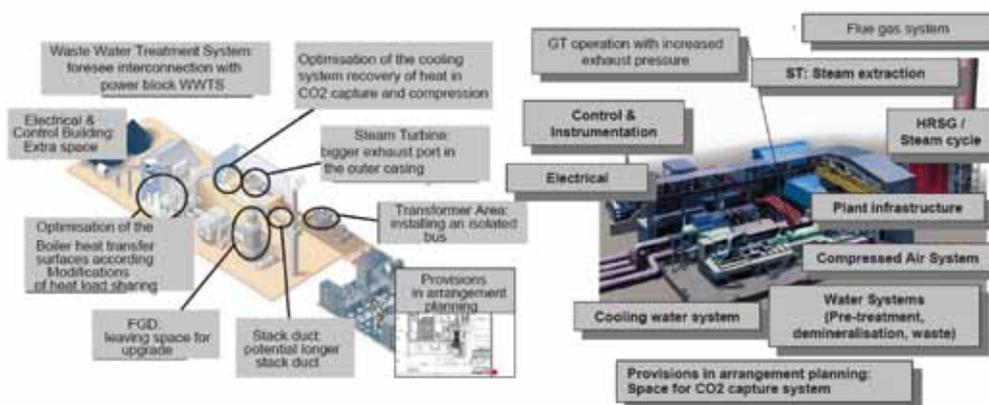
Higher Efficiency = lower fuel cost AND
Lower Emissions (CO2 and conventional)



Source ALSTOM

Future Fossil Power Plants Need Capture Ready Designs

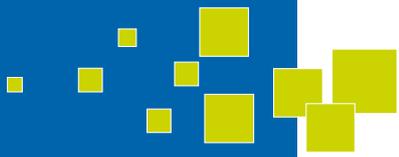
Capture Ready Design Solutions for coal and gas power plants



Expertise and experience needed to develop Capture Ready solutions



RESEARCH FUND FOR COAL AND STEEL (RFCS)



MR. LIONEL BOILLOT
EUROPEAN COMMISSION
DIRECTORATE-GENERAL RESEARCH AND INNOVATION
RFCS RESEARCH PROGRAMME OFFICER

The Research Fund for Coal and Steel (RFCS) was created after the expiry of the European Coal and Steel Community (ECSC) Treaty in 2002. It has an annual budget of around €55 million (of which some €16 million are attributed to coal), which is financed by interest accrued each year on the assets of the ECSC at the time of the Treaty's expiry. The RFCS is complementary to the EU's framework programme for research.

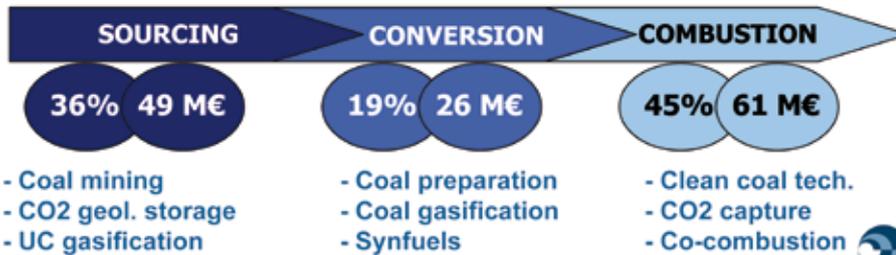
The aim of the RFCS is to promote research across the entire coal value chain, stressing four key objectives:

- management of external dependence on energy supply;
- improving the competitive position of Community coal;
- health & safety in mines; and
- efficient protection of the environment and improvement of the use of coal as a clean energy source.

The application procedures are simple and easy to follow. Research partners come either from industry itself or from research centres and universities. Coal projects must have a direct benefit to society and the coal sector. From 2003 to 2011 included, the RFCS provided some €500 million of funding for 475 projects in the steel and coal areas. Corresponding figures for coal projects are 81 projects and €136 million of funding. Any legal entity established in the EU-27 can apply. Institutes or companies outside the EU-27 are welcome as partners, but are not eligible for funding from the RFCS. In 2013, there will be a first monitoring report on successfully completed projects and on the programme in general.

Funding distribution & activities

Total RFCS funding allocation for COAL projects from 2003 to 2011*: **136.6 M€**



(*) 2011 provisional figures



MONSUPPORT



SOURCING

Online geotechnical monitoring tools

- Improve productivity and increased safety
- Budget = 2.9M€
- 6 Partners DE, UK, ES, PL
- Instruments developed, approved, tested and utilized under.
- Commercialisation and application in UK, PL, CZ, IND, AUS



Figure 119: Photograph of monitored support with marked markers





CONVERSION

REDPAH



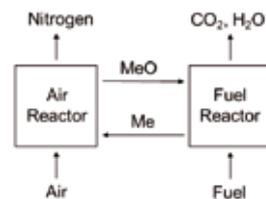
Reduction of PAH emissions from coking plants

- Budget = 1.9M€
- 5 Partners UK, FR, ES, PL
- Methodologies for coal blends & PAH emissions
- Definition of industrial operating conditions
- 2 patents



COMBUSTION

ECLAIR

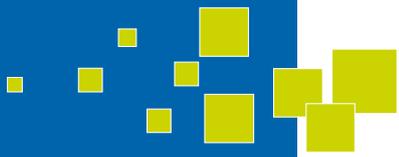


Emission free chemical looping coal combustion process

- Budget = 6.4M€
- 8 Partners FR, SE, DE, CH, NO, ES
- 2nd generation of CCS technologies
- Construction and test of the 1MW pilot – biggest in EU
- Process scale-up to 10-50MW in FP7



UNDERGROUND COAL GASIFICATION



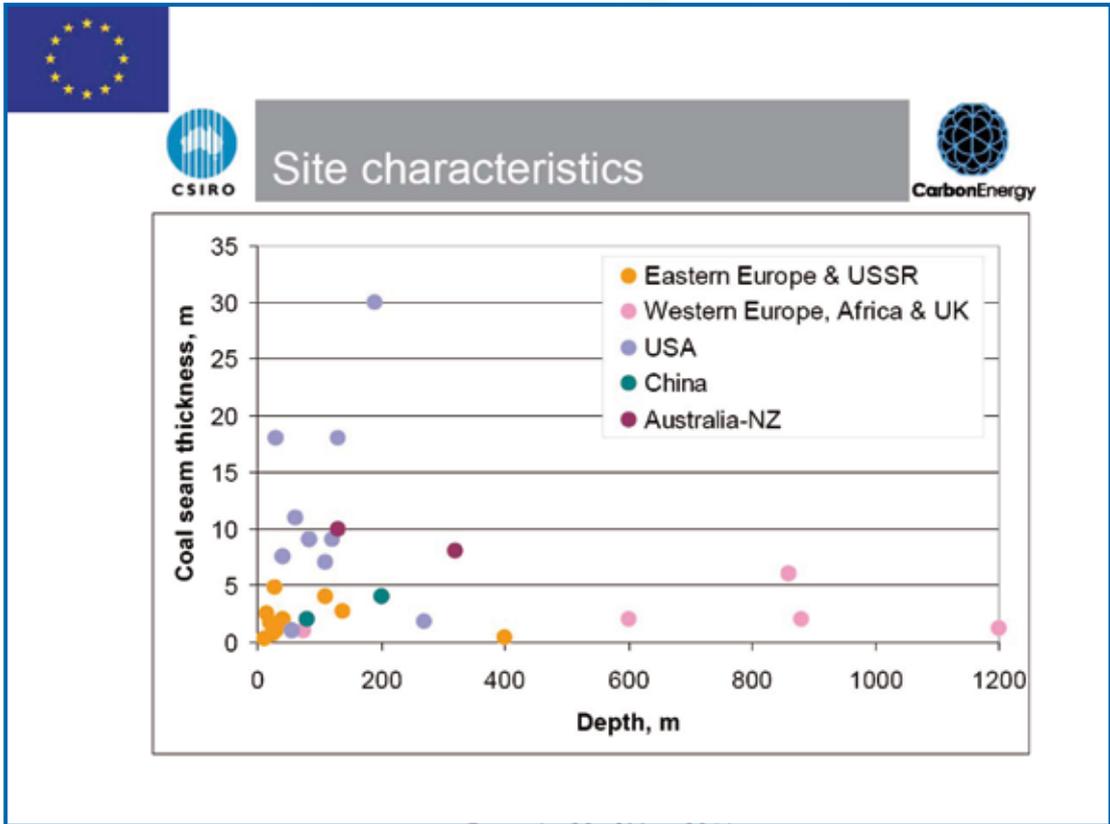
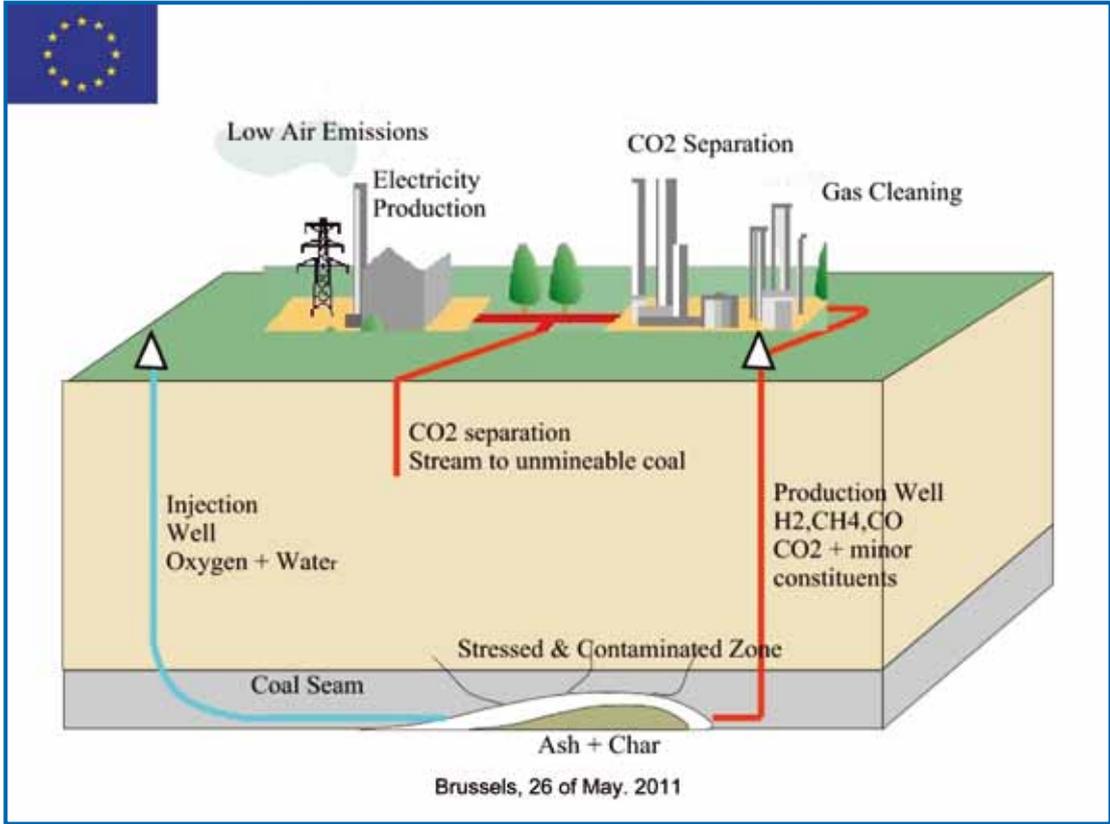
PROF. KRZYSZTOF STANCZYK,
HEAD OF DEPARTEMENT, GŁÓWNY INSTYTUT GÓRNICITWA – GIG
(CENTRAL MINING INSTITUTE, POLAND)

Underground coal gasification (UCG) is a gasification process that can be used to exploit nonmineable coal seams. Using injection and production wells drilled from the surface, it enables coal to be converted in situ into a product gas. The process has produced commercial quantities of gas for both chemical processes and power generation.

Industrial-scale UCG experiments were carried out in Poland by GIG in the 1960s and 1970s. Elsewhere in Europe, UCG was first demonstrated in the 1950s in Belgium and then in the 1980s in France. Other projects followed in Spain and the UK. An important recent project was the Hydrogen Oriented Underground Coal Gasification for Europe (HUGE) project, funded under the RFCS programme and bringing together eleven partners from seven countries.

The main focus of the HUGE project was the theoretical and experimental development of in-situ production of hydrogen-rich gas from coal using underground gasification. The aim of the trial, which took place at the Barbara experimental mine in Poland, was to test how controlled underground coal gasification could maximise hydrogen production. The trial was successful and scientists learned how to control the process safely, how to choose the gasification media and how to influence the quality and composition of the gas. The produced gas had a heating value of 2.5-10.0 MJ/m³ and was combustible during the entire 16-day trial. The project showed that it was possible to obtain up to 40% hydrogen from a UCG process.

Different examples of UCG progress worldwide have shown that the technology may be the key to extracting coal from deep seams.





Approximate efficiencies for different generation processes

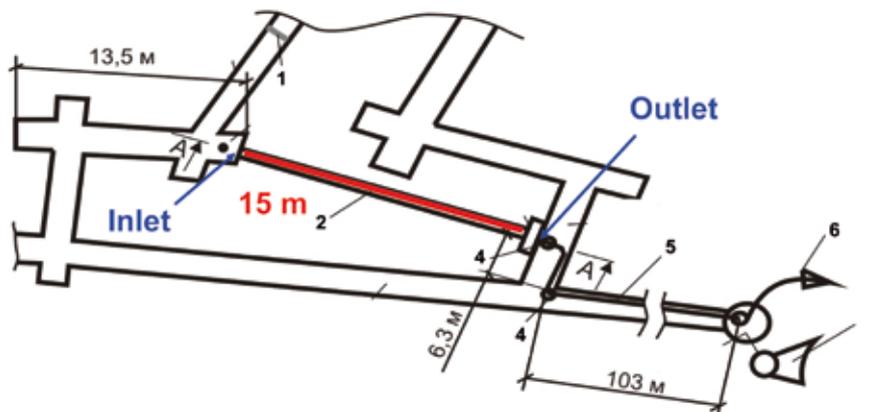


CarbonEnergy

Process	Efficiency
Air-blown UCG	45.4 %
Oxygen-blown UCG	46.5 %
UCG with CO ₂ separation	39.8 %
Conventional coal	~37 %
IGCC	~45 %

Brussels, 26 of May. 2011

Underground reactor



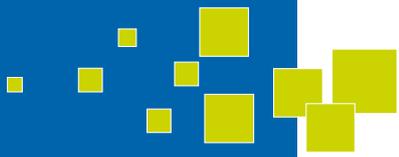
Brussels, 26 of May. 2011

Georeactor input wall



Brussels, 26 of May, 2011

EUROPEAN COAL EXPLOITATION TECHNOLOGIES: STATE-OF-THE-ART AND RTD NEEDS



DR. JÜRGEN CZWALINNA,
CHAIRMAN OF EURACOAL TECHNICAL RESEARCH
COMMITTEE

Coal consumption worldwide is growing and will grow further in the future. Global hard coal production increased from 1990 to 2010 by 85% to 6.7 billion tonnes. In comparison to elsewhere in the world, European coal deposits are more challenging to exploit because they are deeper, hotter and worked areas are often distant from mine shafts. As and when the global mining industry encounters these same challenges, it is European technology that provides solutions. Moreover, European know-how helps to develop safe and environmentally friendly coal production and use in emerging countries, such as China and India.

Three projects are worth special mention: the PROSAFECOAL project that aims to increase productivity and safety at face-roadway junctions; the ADRIS project to develop advanced driveage and intelligent road heading systems; and the NEMAEQ project that aims to optimise and automate longwall and driveage equipment.

The driving forces for European R&D efforts are geological conditions, the need to enhance performance efficiency and reliability, and the need for intelligent and sustainable post-mining activities. Future RFCS projects should be responsive to these needs.

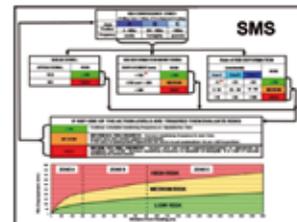
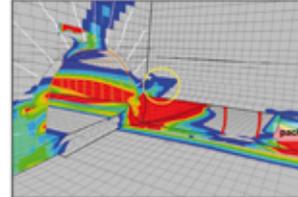
State of the art - PROSAFECOAL

Increased productivity and safety in the face - roadway junction

- New automated, universal 3D-modelling tools
- Support management systems (SMS)
- SMS logical tree covering all underground coal mine types (arched, rectangular, multi-slice)

Benefit

- ✓ 3D-modelling now standard for mine planning and support management
- ✓ Significant safety and productivity improvements
- ✓ less roof falls, less downtimes, simplified support, record production)



7th Coal Dialogue 26 May 2011 - Figure 1

EURACOAL

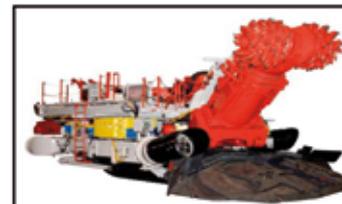
State of the art - ADRIS

Advanced drivage and intelligent roadheading systems

- "Intelligent", fully automated, self-controlled system for road headers
- Applicable to a variety of specimen, manufactured by several companies in different countries

Benefit

- ✓ Increased lifetime
- ✓ Reduced number of failures and downtimes
- ✓ Increased driving efficiency
- ✓ Increased precision of roadway profile cut
- ✓ Increased work safety
- ✓ Cost reduction



7th Coal Dialogue 26 May 2011 - Figure 2

EURACOAL

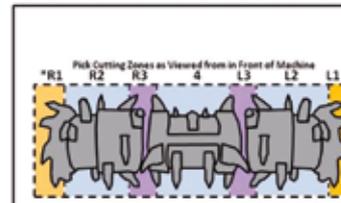
State of the art - NEMAEQ

Optimization and automation of longwall and drivage equipment

- Automated shearer loader
- 3D-modelling of cutting drums
- drum design analysis software
- Machinery monitoring and visualization system
- Maintainability assessment software package

Benefit

- ✓ Performance nearly doubled
- ✓ Shearer efficiency improved by 60%
- ✓ Maintenance and repair effort significantly reduced
- ✓ Cutting tool abrasion reduced
- ✓ Downtime reduction & machine lifetime extended
- ✓ Time and money savings at drum design and testing



7th Coal Dialogue 26 May 2011 - Figure 3

EURACOAL

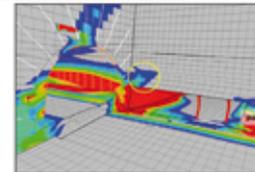
1) Geology

Growing depths causes

- Higher temperature → mine climate → ventilation & air conditioning issues
- Higher rock pressure → rock mechanic challenges & support issues
- Higher risk of rock and gas outbursts
- Need for more precise geological information

Longer distances cause

- Safety & rescue issues
- Transportation issues



7th Coal Dialogue, 26 May 2011 - Figure 4

EURACOAL

2) Performance, efficiency & reliability

Higher

- Performance
- Efficiency
- Reliability

by

Automation
Condition
monitoring
Sensors
System
optimisation



Improved exploitation of existing machines
through higher "intelligence" and system integration

Open and compatible monitoring and automation systems
instead of individual solutions

7th Coal Dialogue, 26 May 2011 - Figure 5

EURACOAL

3) Intelligent and sustainable post mining activities

Mastering the mining legacy



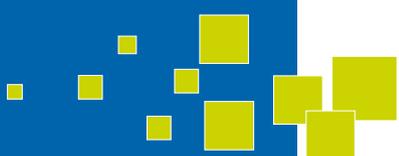
- Obtaining knowledge of the status of old mine workings by improvements in geophysical analysis
- Long- term stability and behaviour of mine workings
- Energy- efficient long- term post- mining activities (pumping, monitoring, ...)
- Environmentally friendly mine closure and brownfield recultivation

Sustainable and smart follow- up use

- Pumped- storage hydroelectricity or compressed- air power storage in shafts, mineworkings or spoil heaps – to balance erratic wind power generation
- Efficient use of CH₄ vented from abandoned shafts and mines
- Investigation of sites for CO₂ storage in coal basins

7th Coal Dialogue 26 May 2011 - Figure 6

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CONCLUSIONS

All presenters showed clearly that coal mining and utilisation have a future worldwide, including in Europe and even with policies to decarbonise economies. Mr. Jan Panek, Head of the Coal and Oil Unit at DG Energy said that the challenge to develop the right technologies to decarbonise fossil fuels is certainly big, but by deploying the right policies and using the right arguments to convince public opinion, he said that these hurdles could be overcome.

Nevertheless decisions must be taken faster. The Energy Roadmap 2050 will be adopted by the end of the year and will outline the challenges for the coming years. The right decisions must be taken today, decisions that stand the test of time.

R&D must be pursued and the feasibility of CCS should, as foreseen, be fully demonstrated by 2020, to ensure for coal a proper place in a sustainable, secure and competitive European energy mix and to allow its continued contribution to a competitive and secure energy supply for the European Union.

**PLANNING AND AUTHORISATION OF
SURFACE COAL MINING
WORKSHOP ON GOOD PRACTICES IN
EU MEMBER STATES ON 25 MAY 2011,
IN THE FRAMEWORK OF THE BERLIN FOSSIL
FUELS FORUM AND THE NATIONAL COAL
EXPERTS GROUP**

- SUMMARY REPORT -

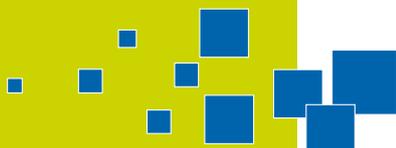
MR. MICHAEL SCHÜTZ
EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR ENERGY
POLICY OFFICER IN UNIT B3 – COAL & OIL

The Berlin Fossil Fuels Forum plenary on 18-19 October 2010 highlighted good practice sharing as a way of raising public awareness on the importance of indigenous fossil fuels and also as a means to increase public acceptance by showing that production can be done in an environmentally friendly way. The Forum concluded that although initiatives by and within the industry will be of prime importance, many good practices, e.g. on regulatory and planning matters, exist within Member States which should be further disseminated. The EU has an interest in making best use of indigenous fossil fuels and the EU level is best suited to bring together Member States' authorities, stakeholders as well as, where appropriate, international organisations and third countries. The workshop on 25 May 2011 with over 40 participants was a first attempt to discuss and thereby disseminate such good practices in the area of surface coal mining. Surface coal mining plays an important role in many Member States, mostly for lignite, but as the UK example shows it could also play a role in hard coal mining.

At the beginning of the workshop, Nigel Yaxley provided an overview on the market context in which indigenous coal mining takes place. His presentation was a preview of the report on the Market for Solid Fuels in the European Union in 2010 and the Outlook for 2011 which will be published in September (http://ec.europa.eu/energy/coal/studies/index_en.htm). All presentations given at this workshop can be downloaded from the Webpages of DG Energy (http://ec.europa.eu/energy/oil/berlin_forum/berlin_forum_en.htm).

Next speaker was Dr.-Ing. George Milojcic (chairman of EURACOAL's Energy Policy Committee, on behalf of EURACOAL's President Dr. Zeiß) who emphasised the importance of political clarity: a clear message that coal is needed and welcomed in the energy mix is the basis for local decisions on access to coal resources. On this local level two main steps exist: 1. Land use planning and 2. authorisation of concrete operations. Compliance with environmental regulations as well as transparency are important for public acceptance. Companies need to be trustworthy and also recognise negative aspects of their operations while endeavouring to minimise such aspects.

At the same time the administrative burden for industry should be kept as low as possible. As a possible way to achieve this, Dr.-Ing. Klaus Freytag (*President of the Landesamt für Bergbau, Geologie und Rohstoffe Brandenburg, Germany*) presented the concept of the "one stop shop": all requirements are approved in a single administrative process coordinated by one authority. Dr. Joachim Witzel (Member of the Board, *Mátrai Kraftwerk G.AG, Hungary*) presented a different approach: several hierarchical steps involving authorities responsible for the different aspects of mining. Such an approach is especially used if several levels of government are involved as shown by the following presentation from Rachel Bust (Chief Planner and Principal Manager, The Coal Authority, United Kingdom).



After these presentations set the scene, an open exchange of expertise followed, also including further stakeholders and Member State representatives. As an additional example of good practice, the Polish National Coal Expert Marek Woźnicki reported that the government in 2010 published a paper on the energy policy development until 2030, also addressing the issue of social acceptance of mining. The government has also set up a task force to review the applicable legislation.

During the discussion the Environmental Impact Assessment (EIA) was identified as a possible nucleus for the permitting procedure. In Poland, for example, an EIA needs to be submitted before the authorisation procedure can start. Participants also emphasised that administrative structures have to be in line with the government structure. This may lead to limits in implementing a “one stop shop” approach. Rights of local government, for example, may make it necessary to foresee a multi-step authorisation procedure. However, even then the administrative burden could be minimised especially by setting a defined regulatory and planning framework. Local governments are in general receptive to expertise of other authorities like provided by the UK Coal Authority. Another way of involving local governments in the long-term planning of mining activities is the Lignite Committee of the Land of Brandenburg (Germany). A defined regulatory and planning framework could set a clear time frame for authorisation procedures and thereby strengthen administrative efficiency. It also helps to build relationships with communities and improve trustworthiness of operations by making future mining developments more predictable.

As regards possible formats for exchanging good regulatory and planning practices, the workshop showed the difficult balance of on the one hand taking into account “higher-level” policy issues in the discussion (like the role of coal in energy policy), without losing focus on the exchange of concrete good practices (like administrative procedures). Overall the workshop was seen as providing a clear added value, especially by facilitating the networking between Member States’ regulatory and mineral planning authorities.

The Lignite Committee of the Land of Brandenburg

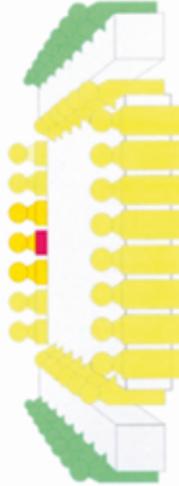
Participants with advisory power

- Landesamt für Bergbau, Geologie und Rohstoffe (LBGR) 1
- Landesumweltamt 1
- Landesamt für Bauen und Verkehr 1
- Landesamt für Denkmalpflege 1
- Landesamt für Verbraucherschutz, Landwirtschaft und Flurneuordnung 1
- oberste Forstbehörde 1
- Arbeitsamt Cottbus 1
- Leiter Arbeitskreise BKA each 1

Legal task

Participation and formulation of regional consensus in the long-term lignite mining and rehabilitation planning procedure

Chairman, 2 Deputies



Participants with advisory power

- IBA GmbH 1
- Förderverein Kulturlandschaft NL e.V. 1
- Regionale Planungs-gemeinschaft Lausitz-Spreewald und Oder-Spree 1
- Regionaler Planungsverband Oberlausitz-Niederschlesien 1
- Lignite mining companies each 1
- LMBV each 1
- District administrators each 1
- /mayors

23 members with voting rights

15 elected members from county councils and city councils

- LK¹ Dame-Spreewald 1
- LK Elbe-Elster 1
- LK Oberspreewald-Lausitz 4
- LK Oder-Spree 1
- LK Spree-Neiße 4
- Kreisfreie Stadt² Cottbus 3
- Kreisfreie Stadt Frankfurt/O. 1

8 appointed members

- IHK Cottbus 1
- Entrepreneurs's Association Berlin/Brandenburg 1
- IG BCE 1
- Landesbauernverband 1
- Domowina 1
- Recognized environmental protection associations 2
- Protestant Church of Berlin/Brandenburg 1

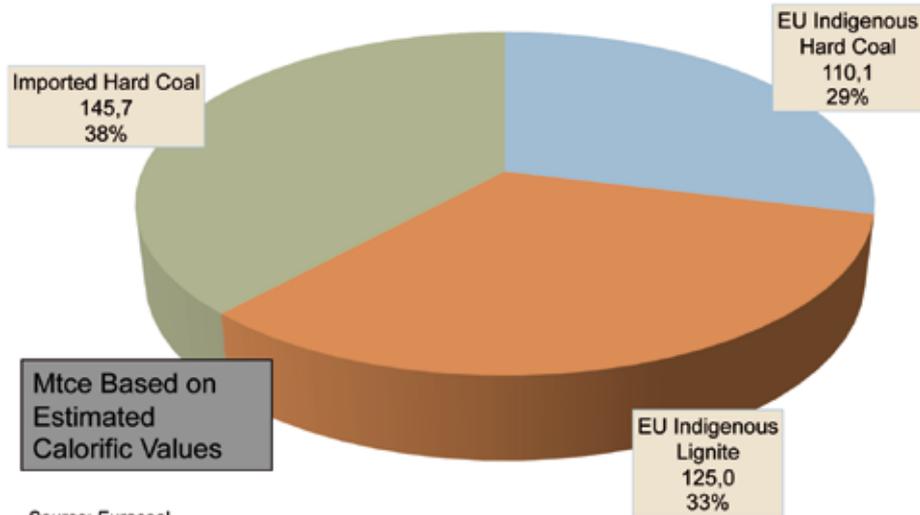
1 administrative district

2 district-free city

5 | Fossil Fuels Forum Brussels | Dr. Hartmuth Zeiß | 2011.05.25

Confidentiality - None (C1)

62% of EU's solid fuel supply in 2010 was indigenous



Source: Euracoal

Nigel Yaxley - Independent Consultant, Fossil Fuels Forum Workshop - Brussels - 25th May 2011

Lignite mining in Germany - Life cycle of an opencast mine Jänschwalde opencast mine in the Lusatian mining area



3 | Fossil Fuels Forum Brussels | Dr. Hartmuth Zeiß | 2011 05 25
Confidentiality - None (C1)

VATTENFALL

2. Licensing Law / Licensing Procedure



The opencast-mine process requires close cooperation with 3 crucial national authorities

Main points of contact with specialist authorities



Mining activity / technical approvals

► Office for Mining and Geology



Land use / transfer of title

► Department of Land Administration



Water, environment, nature conservation

► Office for the Environment, Nature Conservation and Waters



EURACOAL

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