A 2030 framework for EU climate and energy policies

20th European Roundtable on Coal

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Outline

- Introduction
- A bit of history
- The global picture – it matters
- Coal across Europe 2012
- Is the EU ETS fit for purpose?
- Green Paper on a 2030 framework for climate & energy policies
- A 3-step clean coal strategy
- Conclusions
Balanced energy & climate policy objectives?

Sustainability dominates debate in Brussels, but people want jobs & security.
EURACOAL: 35 members from 20 countries

- COALPRO - Confederation of UK Coal Producers (GBR)
- DEBRIV - Deutscher Braunkohlen-Industrie-Verein (DEU)
- GVSt - Gesamtverband Steinkohle (DEU)
- MMI - Mini Maritza Istok (BGR)
- PPC - Public Power Corporation (GRC)
- PPWB - Confederation of the Polish Lignite Producers (POL)
- ZPWGK - Polish Hard Coal Employer’s Association (POL)
- ENEL (ITA)
- ZSDNP - Czech Confederation of Coal and Oil Producers (CZE)
- APFCR - Coal Producers and Suppliers Association of Romania (ROU)
- BRGM - French Geological Service (FRA)
- CARBUNIÓN - Federation of Spanish Coal Producers (ESP)
- Coallmp - Association of UK Coal Importers (GBR)
- D.TEK (UKR)
- EPS - Electric Power Industry of Serbia (SRB)
- GIG - Central Mining Research Institute (POL)
- HBP - Hornonitrianske bane Prievidza (SVK)
- ISFTA – Institute for Solid Fuels Technology & Applications (GRC)
- Mátrai Kraftwerke (HUN)
- PATROMIN - Federation of the Romanian Mining Industry (ROU)
- Premogovnik Velenje (SVN)
- RMU Banovici D.D. (BIH)
- Swedish Coal Institute (SWE)
- TKI - Turkish Coal Enterprises (TUR)
- Ukrvuglerobotodavtsy - All-Ukrainian Coal Employer’s Association (UKR)
- Vagledobiv Bobov dol EOOG (BGR)
- VDKI - Verein der Kohlenimporteure (DEU)
- Coaltrans Conferences Limited (GBR)
- EMAG (POL)
- Finnish Coal Info (FIN)
- Golder Associates (GBR)
- Geocontrol (ESP)
- ISSeP - Institut Scientifique de Service Public (BEL)
- KOMAG (POL)
- University of Nottingham (GBR)
EURACOAL history: 1950 to the present

1950
Schuman Declaration

1952
European Coal and Steel Community

1953
Foundation of CEPCEO

1957
European Economic Community

1958
CEPCEO legal entity

1964
European Association for Coal

1973
Oil crisis

1993
Treaty of Maastricht - European Union

1996
CECSO - integration of lignite

2002
EURACOAL - one voice for coal in Europe

2009
Treaty of Lisbon

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Global energy resources, reserves and use

Resources
20 132 Gtce

- oil, 1.0%
- unconv. oil, 1.9%
- natural gas, 2.0%
- thorium, 0.4%
- uranium, 1.0%
- lignite, 8.4%
- unconv. gas, 13.0%
- hard coal, 72.3%

Reserves
1 344 Gtce

- oil, 1.0%
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Production
16.3 Gtce
R/P = 82 years

Coal reserves are super abundant: 1 004 billion tonnes or 137 years, distributed in many countries.

Source: Bundesanstalt für Geowissenschaften und Rohstoffe, 2012

Annual solar irradiance
190 000 Gtce

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41% of the world’s electricity comes from coal

27% of the EU’s electricity comes from coal with 24/7 reliability.

photo courtesy of the American Coalition for Clean Coal Electricity
Coal in Europe 2012

Source: EURACOAL members
* 2011 data

Note: bars show million tonnes of coal equivalent (Mtce) while figures at top of bars show millions of physical tonnes (Mt)
Coal mining creates economic wealth in the EU

- 130 Mt hard coal
- 430 Mt brown coal
- Most important indigenous energy
- €27 billion annual value of energy
- 255,000 direct jobs
- ~2.5 indirect jobs for each direct one
- >1 million jobs across Europe

In February 2012, Lubelski Węgiel „BOGDANKA“ S.A. set a world production record from a face at the company’s mine near Lublin in east Poland. The company plans to double production to 11.5 million tonnes in 2014 when Bogdanka mine will become one of the world’s most productive deep mines.
EU ETS allowance prices reflect the dynamics of a true market.

A particular CO₂ price was never an objective.

The EU is on target to meet its agreed 2020 emissions reduction target.

There is no post-Kyoto agreement, so no 30% target.

Debate now should be about post 2020 – as foreseen in ETS Directive.
Carbon prices in the EU

€/tCO₂


0  100  200  300  400  500

Notes:
1. EU ETS allowance prices were below €10/tCO₂ for the whole of 2012.
2. $(2005)50/bbl = €40.27/bbl, $(2012)115/bbl = €88.71/bbl. The difference of €48.44/bbl or €355.07/toe equates to a carbon price of €424.01/tC or €115.64/tCO₂, assuming a crude oil CV of 10,000 kcal/kg and an emission factor of 20 tC/TJ (i.e. a carbon content of 83.74%).
3. In 2011, the renewables feed-in tariff in Germany was €0.179/kWh. The abated CO₂ can be assumed to be the average mass of CO₂ emitted per unit of electricity generated in Germany which was 430 gCO₂/kWh in 2009, according to IEA statistics, giving a carbon price of €416/tCO₂.

Implied carbon prices are already very high in the EU.
EURACOAL calls for a 3-step clean coal strategy

1. Introduce state-of-the-art technology across the EU coal-fired generation sector to boost efficiency, enhance flexibility and reduce emissions.

2. Develop the next generation of high-efficiency, flexible technologies for coal-fired electricity generation.

3. Demonstrate and deploy CO$_2$ capture, transport and storage – as less integrated and therefore less complex activities – at coal-fired power stations around the world, in tandem with CCS for other fuels and other sectors.

CO$_2$ reduction potential at hard coal fired power plants by increased efficiency and CO$_2$ capture & storage (CCS)
The Energy Sector Carbon Intensity Index for global energy supply

Index of tonnes of CO₂ per unit of energy supplied (2010 = 100)

source: *Tracking Clean Energy Progress 2013, IEA Input to the Clean Energy Ministerial, IEA, Paris, April 2013*

Carbon intensity has hardly improved in 40 years, despite renewables effort.
EU accounts for just 11% of global GHG emissions.
EU carbon footprint is massively influenced by inter-regional trade

Chart shows the largest inter-regional fluxes of emissions embodied in trade (MtCO₂/year) from dominant net exporting countries (blue) to the dominant net importing countries (red). Fluxes to and from Western Europe are aggregated to include UK, France, Germany, Italy, Spain, Luxembourg, Netherlands & Sweden.

Source: Davis and Caldeira, 2010

On a consumption basis, EU carbon footprint grew 47% from 1990 to 2010.
Average EU & G7 industrial electricity prices, 2011

EU electricity prices are higher than in USA and China.

Source: Quarterly Energy Prices, UK Department of Energy and Climate Change, March 2013; China price estimated from news reports.
What EURACOAL agrees with in the Green Paper (p.11)

1. An internal market that makes the EU more competitive.
2. Exploitation of indigenous **COAL**, oil and gas.
3. Diversification: supply routes, **SOURCES** and **FUEL TYPES**.
4. An international agreement on climate change that reciprocates EU policy.
5. A level playing field for aviation and shipping.
7. Recycling of auction revenues: but only for **INNOVATIVE NEW** technologies.


Why does the word “coal” not appear in the Green Paper?
Points in the Green Paper that EURACOAL seeks to clarify

- The EU energy and climate policy only makes sense if the rest of the world follows.

- Offering investors certainty is incompatible with a free internal market (p.1). A long-term, stable policy framework is needed for a variety of no-regrets investments.

- The biggest threat to the internal market is the growing volume of must-run subsidised generation that has no obligation to compete.

- There is no proof that the promotion of low-carbon technologies will move the EU towards a competitive economy with a secure energy system (p.1). Indeed, it might be that jobs and growth are put at risk precisely because the EU promotes an expensive energy system.

- Energy infrastructure investments must be economic; smart grids are only smart if they add to economic wealth.
Conclusions

- Commission should respect Member States choice of energy mix and use of indigenous energy resources, including coal.

- Internal energy market will become more important – EURACOAL supports an open market in which coal can compete.

- Energy security and competitiveness are major concerns: existing coal-fired plants provide a solid base. Modernisation to improve efficiency and flexibility is key.

- CCS is a major issue for Europe – a new approach is needed.

- A CCS infrastructure would pull projects forward: an “infrastructure-first” approach.

- The ETS must remain the central plank of EU energy and climate policy, but the scheme needs underwriting to make low-carbon projects of all types “investable”, based on a long-term carbon price signal.

People must want to buy low-C energy – it cannot be forced on them.
General
- What lessons can be learnt from today’s framework and what are the key issues when designing new policies for 2030?

Targets
- What targets for 2030 climate and energy policies would be most effective and at what level (EU, Member State or sectoral, e.g. transport, agriculture, industry)? Legally binding? Renewables or low-carbon? Linked to GDP (tCO$_2$/€)?

Instruments
- How can coherence between different policy instruments be ensured? EU v. national? Fit with internal market? What RD&D? Should RD&D be funded with recycled auction revenues?

Competitiveness and security of supply
- How can climate and energy policies be best defined to contribute to EU jobs, growth, competitiveness and security of supply? With or without international agreement? Carbon leakage? Competitive energy prices? Indigenous energy exploitation? What infrastructure?

Capacity and distributional aspects
- What mechanisms can be envisaged to promote co-operation and fair effort sharing between Member States whilst delivering new climate and energy objectives? Where does the money come from?
A Strategy for Clean Coal

17% of EU primary energy and 27% of EU electricity come from coal.

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Thank you!

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