

A tour of recent developments in EU climate and energy policy: the implications for coal and lignite

presented at international conferences in Istanbul, Dnipro, Belchatów, Sofia, Kraków and Budapest

April-May 2018

Brian RICKETTS, Secretary-General, EURACOAL (European Association for Coal and Lignite aisbl)

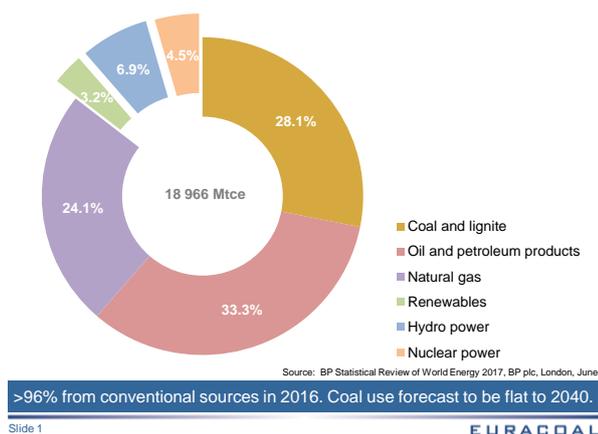
This paper is a summary of presentations given at international conferences supported by EURACOAL members in Turkey, Ukraine, Poland, Bulgaria and Hungary during April and May 2018.

Fossil fuels in world energy supply, 2016

Energy is important. EU citizens could not survive Europe's harsh winters without enough heat to stay warm. In the distant past, we relied on energy from wood for heat and from animals for motive power. The rich could afford servants to carry out household chores.

Today, we can all enjoy the benefits of cars with the power of dozens of horses and labour-saving electrical appliances in our central-heated and air-conditioned homes. We take it for granted, but energy allows us to live longer, live more productively and live better.

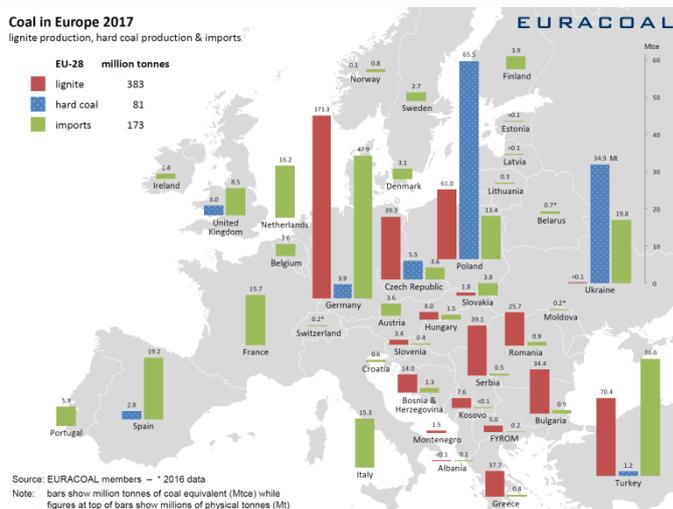
Fossil fuels in world energy supply, 2016



Unfortunately, most of our energy still comes from fossil fuels – a leftover of the Industrial Revolution. By now, we should have fully electrified our economies – with electricity too-cheap-to-meter from nuclear power stations. That has not happened, although we spend enormous sums each year on nuclear fusion research in the hope that it will. Fossil fuels remain king: coal, oil and gas supply 86% of global energy needs, with coal mainly used for generating electricity at thermal power plants.

Coal in Europe, 2017

In Europe, coal remains important in many EU member states: notably in Bulgaria, the Czech Republic, Germany, Greece, Poland and Romania, as well as in Serbia, Turkey and Ukraine.



In 2017, lignite production in the European Union grew by 3% to 383 million tonnes. Germany's production was unchanged at 171 million tonnes, but Romania, Bulgaria and Greece all saw strong growth compared with 2016, as cold weather and exports to neighbouring countries boosted demand.

EU hard coal production fell 7.5% in 2017 to 81 million tonnes, somewhat balanced by an increase in imports of 3.5% to 173 million tonnes.

If, like Belgium, a country decides to rely on imported power, then someone somewhere has to produce that power and it often comes from coal power plants. Likewise, when the wind is not blowing in Germany, Denmark's coal power plants are fired up.

Some European countries have agreed to phase out coal (Austria, Belgium, Denmark, Finland, France, Ireland, Italy, Latvia, Liechtenstein, Luxembourg, the Netherlands, Portugal, Sweden, Switzerland and the United Kingdom). One might imagine that this was a recent decision. In truth, it is the continuation of an historic trend. The UK says it will end coal use for power generation by 2025. In fact, coal production peaked there over one hundred years ago, in 1913, and it has been in decline ever since. The same is true in other countries which industrialised in the 19th Century.

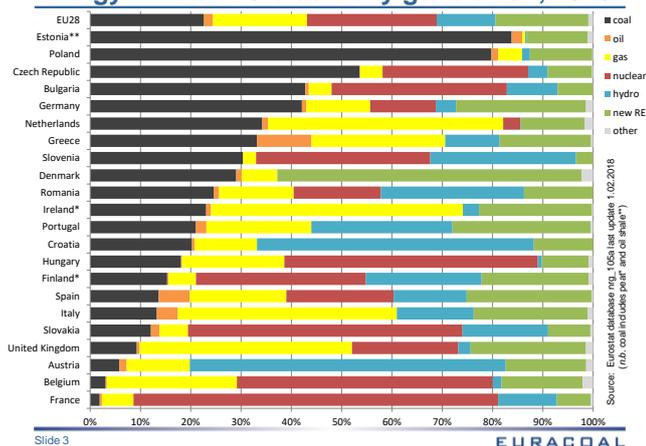
The story is not the same everywhere. Coal and lignite production in Poland peaked in the 1970s and 1980s; since then, production has declined. Each member state has its own particular energy story, based on its history and its own natural resources.

Energy mix for EU electricity generation, 2016

Across the EU, coal accounts for almost one quarter of electricity supplies – one third in Greece, 34% in the Netherlands, 42% in Germany, home of the

Energiewende, 43% in Bulgaria, 54% in the Czech Republic and 80% in Poland.

Energy mix for EU electricity generation, 2016



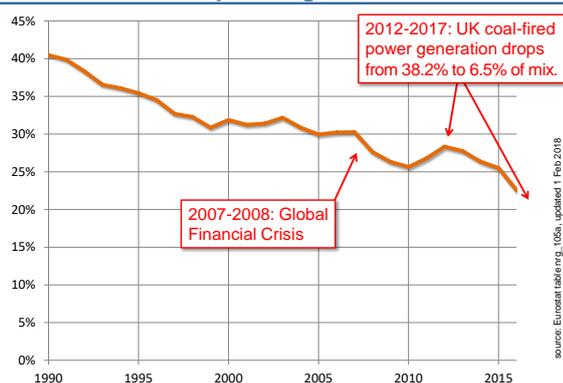
The reductions in air pollution from coal-fired power plants have been impressive. The acid rain scare of the past has disappeared. The power sector massively reduced its emissions of sulphur dioxide such that the largest point source left in Europe is Mount Etna. Oxides of nitrogen are a current challenge, but little of the NO_x which forms a brown haze over towns and cities across Europe comes from coal-fired power plants. It is mainly from diesel-engined vehicles which were favoured, because of their lower carbon emissions.

Smoke from chimneys is still a problem in some member states, especially where poor-quality fuels are used for residential heating. This is, after all, the cheapest way to keep a home warm. But we deplore the use of high-sulphur, bituminous coal when alternatives exist. This is an issue that can be solved, not by banning coal, but by insisting that only smokeless fuels can be sold, such as anthracite, washed coal or briquetted coal.

Coal's share in EU power generation, 1990-2016

Over the years, coal's share in the EU electricity mix has dropped – from 40% in 1990 to around 23% today. The global financial crisis of 2008 and subsequent economic slowdown saw a sharp downturn in demand for coal – notably in Greece and Spain.

Coal's share in EU power generation, 1990-2016



Coal use has been declining in the UK for over 100 years – since 1913.

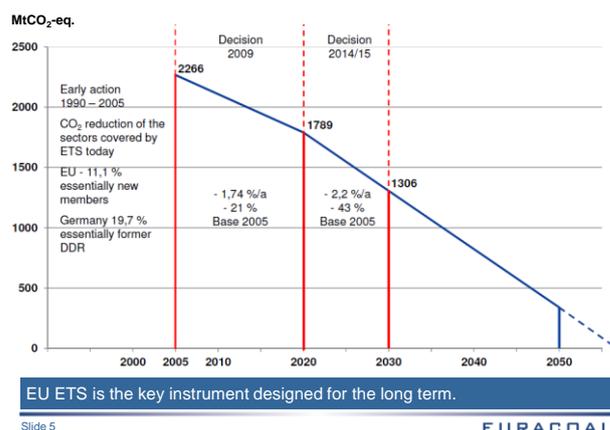
More recently, the unilateral carbon tax, introduced by the British government in April 2013, severely hit UK coal demand. This was a very odd decision by a country that is running out of its North Sea gas and could well do with more fuel diversity, not less. The UK has already been forced to buy LNG cargoes on the spot market, presumably at high prices.

Overall, coal use in the EU has declined, firstly, because of the collapse of heavy industry in the former Soviet states, and secondly, because of the ongoing economic crisis in Europe. Climate policy has had little real impact – until today.

EU Emission Trading System = zero CO₂ in 2058

Current EU climate policy sets the toughest targets in the world. Member states have agreed that carbon emissions – from all coal and lignite plants, from all gas plants, from steel and cement making, from the chemical industry, from fertiliser plants and from most other industries – must fall to zero by 2058. That has been agreed and is now enshrined in EU law.

EU Emission Trading Scheme = zero CO₂ in 2058



EU ETS is the key instrument designed for the long term.

As we have moved away from coal and de-industrialised since 1990, especially in Eastern Europe, CO₂ emissions have fallen. Most EU member states will easily achieve their target reductions for 2020, but reaching the 2030 and 2050 targets will be much harder.

Today, coal accounts for just 20% of EU greenhouse gas emissions. So, reaching zero will mean some big changes in the way that we produce and consume, not just coal, but also oil, gas and everything else, including food.

Current threats to coal use in Europe

To accelerate coal's decline, the European Commission has introduced a number of new legislative and regulatory measures.

Slide 5 shows the steeper decline of allowance supply under the EU Emissions Trading System after 2020. "Surplus" allowances will also be removed to boost the price of carbon allowances. A similar proposal was

rejected back in April 2013 following a campaign by EURACOAL, but that was before governments committed to the UNFCCC Paris Agreement.

Current threats to coal use in Europe

- Reform of the EU Emissions Trading System:
 - steeper annual linear reduction: 2.2% from 2021 (c.f. 1.74%)
 - Market Stability Reserve means c.1.2 billion fewer allowances from 2023.
 - EURACOAL delayed this reform by five years, after successfully lobbying the European Parliament to reject, in April 2013, the Commission's earlier "back-loading" proposal.
- "Clean Energy for All Europeans" package:
 - Emission performance standard (550 gCO₂/kWh) excludes all coal- and lignite-fired power plants from capacity markets – a way of rewarding reliability and flexibility.
 - EURACOAL and PKEE campaign against the 550 standard.
- Large Combustion Plants Best Available Techniques (BAT) Reference Document (LCP BREF):
 - EURACOAL has brought an action against the European Commission in the European Court of Justice.

Slide 6

EURACOAL

Even if we had 100% renewables, we would still need conventional, thermal power plants for those dark, still nights with no solar PV and no wind power. In response, capacity markets are being introduced across Europe to keep coal plants open. But some in Germany and at the European Commission want to give preference to gas plants for this duty, so have proposed an emission performance standard of 550 gCO₂/kWh. This is an unbelievable market distortion and makes one wonder if the EU any longer believes in energy market liberalisation with real competition.

LCP BREF legal action – background

EURACOAL has brought an action against the European Commission in the European Court of Justice concerning the *Large Combustion Plants Best Available Techniques Reference Document*. During the document's revision, culminating in 2017, the Commission did not follow the required legal procedures, as defined in the Industrial Emissions Directive. As a result, two countries have been granted special derogations, while all others will have to implement unjustifiably strict controls on NO_x emissions at power plants.

LCP BREF legal action – background

- IED Art. 75 Committee decision by Member States on 28 April 2017:
 - 20 in favour v. 8 against (BG, CZ, FI, DE, HU, PL, RO, SK)
 - QMV very close: 34.86% of EU population against
 - 35% would have blocked decision, so lost by 0.14%
- Was the vote legal?
 - BAT-AELs for NO_x and Hg not derived according to BAT
 - Last-minute amendments tabled in violation of Comitology rules
 - Commission did not seek widest possible support
 - No discussion allowed before vote, only afterwards
- Legal actions with 16 plaintiffs and interveners:
 - Poland brought an action before the European Court on 11 October 2017 (Case T-699/17). Bulgaria supports Poland, while France supports the Commission.
 - EURACOAL *et al* brought an action on 7 November 2017 (Case T-739/17). Saxony and many utilities support EURACOAL, while two NGOs support the Commission.

Slide 7

EURACOAL

The government of Poland has launched a similar action in the European Court, with the support of Bulgaria.

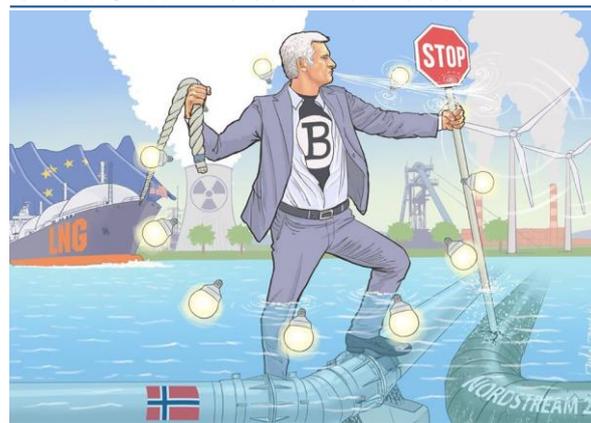
Slide 6 summarises the main regulatory threats – all helping to enforce the EU's climate policy. However, they are not the only threats.

Is Nord Stream 2 also a threat to coal?

Natural gas is probably a bigger threat to coal in Europe. When gas prices are low, coal suffers; and new gas is on its way from Russia. Turkey could use all of TurkStream's gas, but Nord Stream 2 gas is destined for EU member states, in particular Germany where its 55 billion cubic metres is enough to displace all of the coal and lignite that is currently used for power generation in Germany.

The European Commission appears to be against Nord Stream 2 and, in November 2017, proposed amending the Gas Directive to cover import pipelines. This would ban ownership of Nord Stream 2 by gas suppliers such as Gazprom, require non-discriminatory tariffs and demand third-party access.

Is Nord Stream 2 also a threat to coal?



Slide 8

EURACOAL

In the European Parliament, MEPs, including the former Polish Prime Minister, Jerzy Buzek, who chairs of the Industry Committee, have taken a tough stand against the pipeline as it would, they say, reduce gas supply security and divide Europe.

Prof. Buzek's preferences are for indigenous coal, nuclear and wind, as well as imported LNG from the US and pipeline gas from Norway. He wants to stop Nord Stream 2.

Coal Regions in Transition Platform

In response to all the issues facing coal, the European Commission launched a new Coal Platform in December 2017. The Platform aims to turn the long-term trend of coal decline into something positive for Europe, while recognising the differences between member states.

In some regions, the coal industry will fade away, and so needs to be replaced with alternative employment

opportunities. In other regions, where mining and imported coal are still economic and competitive, there is a longer-term role for coal:

- Firstly, to balance the growing share of intermittent renewables and to provide Europe with secure energy from our own energy resources. The alternative would be expensive, with more imported natural gas from outside the EU.
- Secondly, to make Europe the leading location for the innovations that will see coal resources being used in new ways. Society will still use carbon, but the EU is committed to eliminating carbon emissions.

Coal Regions in Transition Platform

The Coal Platform is one of the key accompanying actions announced by the European Commission as part of its "Clean Energy for All Europeans" package in December 2016. It aims to boost the *clean energy transition* by fostering new skills, structural transformation and financing for the real economy.

The platform brings together stakeholders with an interest in the successful economic diversification and technological transformation of coal- and carbon-intensive regions, such as national and regional public authorities, business representatives, social partners and civil society.



L-R: Dr. Lars Kulik, EURACOAL; Dr. Renata Eisenwortová, EURACOAL; Ms. Anna Calucci, DG Energy; and Commissioner Creţu at the launch of the Coal Platform in Strasbourg on 11 December 2017.

EURACOAL is an active partner in the Coal Platform's technology WG.

Slide 9

EURACOAL

It is for this reason that the coal industry is working with the European Commission on a new project called CoalTech2051.

Strong partners, stakeholders & political support

The European coal industry must look to the future and prepare itself for change. To assist with the change process requires good communication, active co-ordination and effective collaboration between all those involved in future developments, whether they come from academia, research centres or industry.

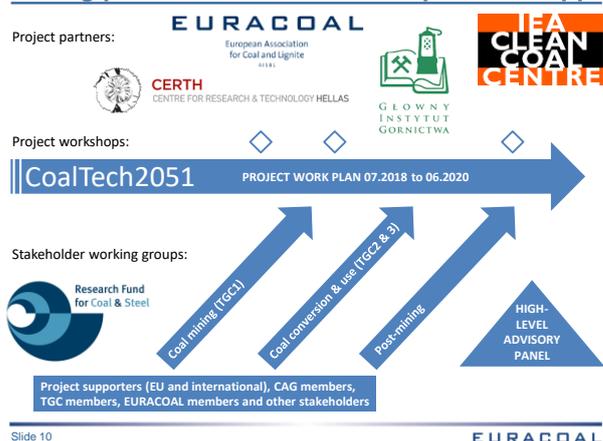
By establishing a common understanding of future needs, and building on the current state of the art, we can set today's research priorities, including research funded by the EU Research Fund for Coal and Steel or RFCS. To achieve this requires the research community to be well organised and informed.

The CoalTech2051 project will:

- disseminate and promote results from projects supported by the EU Research Fund for Coal and Steel;
- develop and present a strategic research agenda in collaboration with the RFCS Coal Advisory Group; and
- establish a self-sustaining European Network of Clean Coal Technologists.

EURACOAL (rev.03)

Strong partners, stakeholders & political support



Slide 10

EURACOAL

CoalTech2051 prepares the ground for change with workshops, working group meetings and a strategic report, all overseen by a high-level panel of recognised experts and politicians.

EURACOAL and its members are working with some of the most prestigious partners in the world of coal R&D. The London-based Clean Coal Centre of the International Energy Agency is leading the project. Other partners include the highly regarded Central Mining Institute in Katowice, the capital of coal in Poland, and the Chemical Process and Energy Resources Institute of Greece which brings its experience and enthusiasm to the project.

Strategic research agenda for coal R&D

The main aim of the CoalTech2051 project is to develop a new strategic research agenda for coal R&D in Europe.

It would be wrong to pre-empt the results of a project which only starts in July 2018, but the research agenda must reflect EU policy objectives. Without that, there would be no political support.

Strategic research agenda for coal R&D



Slide 11

EURACOAL

Number one for the coal industry is HEALTH AND SAFETY: it always has been and always will be.

The overriding priority of the Commission is CLIMATE ACTION. It trumps everything else in Brussels and this

must be acknowledged. For the coal and gas industries, that means massively reducing fugitive methane emissions, using new solutions especially for the methane in the ventilation air that is needed to keep mineworkers safe. In power generation, we have to look again at carbon capture and storage which needs a big push if global GHG emissions are to be reduced.

The aim of INDUSTRY4EUROPE is to increase the share of industry in GDP back to 20%, so that we can continue to enjoy the prosperity that comes with making and selling things to the rest of the world. For the mining industry, that means increasing productivity using the latest technologies: the digitalisation of mines.

CLEAN AIR FOR EUROPE means new ways of further reducing pollution from coal use.

Some say that CLEAN COAL is an oxymoron. It is not. Go to a coal-fired power station in Japan and the white cotton gloves that you are given on the way in will still be white on the way out. Japan's ultra-supercritical steam technologies achieve the highest efficiencies. More research is needed to find ways of designing such plants at a lower cost, so that developing countries can also benefit from this state-of-the-art technology.

HYDROGEN is that elusive fuel, or "energy carrier", that has not yet been harnessed, but can be with carbon-based fuels and materials made from coal or CO₂ and "green" hydrogen from renewable sources. Some call this a closed-carbon-cycle economy or a CIRCULAR-CO₂ ECONOMY with carbon capture and use (CCU). Now is the time to look again at what is possible, because there is already a surplus of electric power at midday on windy days in Germany.

The Commission has identified a list of CRITICAL RAW MATERIALS. Coking coal for iron and steel making is on that list. It is important to find new sources for all critical raw materials and coal can be a source, including rare earth metals recovered from coal ash.

In the case of SMART GRIDS we need to flesh out what that term really means and assess how coal power plants might contribute to ensure grids remain stable, with enough rotating inertia and enough reserve capacity to avoid trips and blackouts.

Finally, POST MINING – it is always impressive to witness how mine sites are restored, after decades of industrial activity. The return to nature or other productive uses offers many opportunities for innovation to reshape the landscape and improve it for future generations.

In all of this, we need to talk with our INTERNATIONAL partners. The EU wants to lead on climate, but it does not want to be alone. If others do not follow, then it would be a worthless exercise. The coal industry needs to show that there are better ways of doing things.

Conclusion

2051 will be the one hundredth anniversary of the Treaty of Paris that established the European Coal and Steel Community in 1952. Looking forward to that anniversary, we should not forget the contribution that the coal industry made to a successful European Union.

Coal will be here in Europe for a few more decades to come. It is our duty to ensure that it is *clean coal*. That means some investment, not to expand coal use, but to continue the long-term trend of contraction in a realistic, respectful and responsible way.



EURACOAL
European Association
for Coal and Lignite



Brian RICKETTS, Secretary-General
European Association for Coal and Lignite AISBL
Rue de la Science 14b
1040 Brussels
Belgium
ricketts@euracoal.eu
www.euracoal.eu

There are new coal-fired power plants in the Netherlands, e.g. Uniper's 1 100 MW Maasvlakte plant pictured here, in Germany, Italy, Slovenia, Poland, in the Czech Republic, Greece, Bulgaria and in Bosnia Herzegovina. New ones are planned in Romania, Montenegro, Kosovo and elsewhere. We must ensure that these coal plants are the best, ones to be proud of, because they will be keeping the lights on during those long, dark, winter nights that won't go away with global warming.