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**1. Introduction**

Good morning ladies and gentlemen. It is my privilege to represent the European Association for Coal and Lignite, or EURACOAL, at this important conference on the Circular Economy. I'm from the UK where I am a Chartered Mechanical Engineer (CEng). I work in Brussels and my family lives in Paris. So, I am a good European.

Let me cover "Circular Economy" up front.

During my career, I spent five years studying and writing on the coal sector in China. I made a dozen visits to that country and enjoyed every one of them. It is a tremendous country, with a long and proud history.

The Chinese have achieved great things. They were mining minerals long before anyone in Europe, including coal mining. They invented porcelain. They invented explosives in the 10<sup>th</sup> Century. Today, since they abandoned the worst ideals of communism, China is undergoing a renaissance. Market forces are operating, although communist leaders are still in charge.

China is a threat to prosperity we enjoy in the West. I have spent enough time in the country to know that I do not want to live under a communist regime. I want to live in a society where each and every one of us elects our leaders who are then accountable to us.

When I was in China, the Chinese government introduced me to the concept of a "Circular Economy". I thought then that it was simply a communist ideology, and I still think that today.

Let me sum up my thinking by referring to a traditional European dish: the humble omelette. To make a good omelette, you have to break a few eggs. That sums up my thinking on the Circular Economy. To provide us with the things in life that we like, things that are good, things that we need to survive, we have to open up the Earth to extract materials. If it doesn't grow, then we have to mine it.

It is for those reasons that I believe ideology should never be allowed to trump reality. I want to live in a world of realities, not in a world of the unattainable visions.

Let me now turn to coal.

**2. On coal in the US**

These are both good times and bad times for coal.

In the United States, President Obama continues his "war on coal" by supporting the Environmental Protection Agency's "Clean Power Plan" which sets state-wide targets for CO<sub>2</sub> emissions per unit of electricity generated.

The plan is designed to encourage the modernisation of old coal plants – the average age of a coal plant in the US is 42 years, compared with 32 years here in the EU. However, for many US states, fuel switching from coal to gas might be the easier option. And that is the option behind much of the EU's climate and energy policy. The big difference is that the US has

affordable gas of its own. We don't! We rely on external suppliers for over 70% of our needs; they monopolise the gas market in many Member States, operate as an oligopoly in others and take unearned economic rent because EU policy favours gas.

The US "Clean Power Plan" is controversial. This month it was stayed in the US Supreme Court. For the first time in US legal history, the Supreme Court said that a government regulation (the Plan) could not proceed until *after* a judicial review by the federal appeals court. The point being that the Plan was never approved by the US Congress. President Obama tried to implement the Plan by an executive order issued to the Environment Protection Agency which *does* have legal powers to reduce air pollution. But it is *not* air pollution that President Obama wishes to reduce. No, what he wants to reduce are the emissions of CO<sub>2</sub> from coal-fired power plants. He wants to do this so that he can implement the Paris Agreement agreed last December at a theatrical event held at Le Bourget, just north of Paris.

### **3. Share of coal in EU electricity**

Nobody seems to like coal! But, everyone likes using it! Not that many folk admit to using it. Unlike oil and gas, most people never get close to a lump of coal. Yet, coal is the No.1 source of electricity in Europe – similar to nuclear with a 28% share. It is a very cheap fuel for generating electricity. So, you would expect it to be given some respect. Instead, it has become the No.1 target for action on climate change.

In October 2014, the European Council agreed to the toughest climate targets found anywhere in the world. To win the support of those member states who are heavily dependent on coal, including Poland (>80% share in electricity), EU leaders agreed to a compensation package – a carrot, some might say "a bribe", to accept targets that will certainly damage coal use.

### **4. Renewables – growth in capacity, not output**

Renewables are heavily promoted as an alternative to fossil fuels and even to nuclear, in the case of Germany. An enormous investment has been made in renewables – mainly wind and solar with impressive growth in capacity since the year 2000: 71 GW of solar PV and over 100 GW of wind. Unfortunately, the growth in actual output – useful electricity – has been less spectacular. Wind turbines generate less than one quarter of their rated capacity (name-plate capacity in MW), and solar PV panels achieve little more than 10% of their rated capacity. Compare this with a coal-fired power plant which can easily deliver 80% of its rated output (*i.e.* an 80% load factor).

What we are seeing in Europe is the construction of a *second* energy system. We continue to depend on the existing system when the wind doesn't blow or the sun doesn't shine. So investing in renewables should not be seen as an alternative to conventional generation: we need both. The question to ask is whether we can afford both?

### **5. Balanced energy & climate policy objectives?**

EURACOAL's mission is to promote and protect the use of coal. We call for a balanced energy and climate policy so that you and I can live more comfortable and more productive lives with affordable, clean energy.

## **6. EURACOAL – 35 members from 20 countries**

We have 35 members from 20 countries: coal producers, coal importers and coal consumers from Finland in the north to Turkey in the south, from Spain in the west to Ukraine in the east.

I was in Ukraine last August. The country's vision was of being an energy supplier to the European Union. That vision is in tatters. Instead, the country is on the verge of collapse. The EU has already committed €11 billion, but unless the Ukrainian economy is allowed to get back on its own two feet, then no amount of EU money will fix this problem. From here in Belgium, it might seem remote, but from Eastern Poland, it is a problem that is too close to home.

## **7. Wealth from exploitation of natural resources**

In the European Union, we stand on significant fossil fuel resources: 88% of our energy reserves are in the form of coal and lignite.

## **8. Coal in Europe, 2014**

In 2014, the EU produced 106 million tonnes of hard coal and 401 million tonnes of lignite or brown coal. In addition, we imported 205 million tonnes of coal – with Russia being the largest coal exporter to the EU. Draw a line from Cologne in Germany to Ankara in Turkey and you will find that brown coal is important in many of the countries along that line: Bulgaria, the Czech Republic, Germany, Greece, Hungary, Poland, Slovakia, Slovenia and Romania. Germany is the world's largest lignite producer. Several countries in South East Europe and Turkey are also big lignite producers.

Six EU Member States mine hard coal: the Czech Republic, Germany, Poland, Romania, Spain and the UK. Ukraine is a big producer and Norway a small one, at Spitzbergen within the Arctic Circle.

I was asked to talk about coal and carbon prices. *Les prix de "charbon", mais est-ce qu'on parle de prix de charbon ou de prix de CO<sub>2</sub>?* Well, coal prices are depressed, at around US\$40 per tonne. They were over US\$200 per tonne back in 2008. Prices have been decimated, not only for coal, but for many other industrial commodities. This means a good deal for coal consumers; but coal producers are bleeding and we should all be concerned that these low prices are causing gross instabilities in the world economy.

On carbon prices, the picture is also one of low prices for various reasons. Principally because the EU economy is depressed and demand for emission allowances is lower than expected. Another reason is the heavy subsidies for renewable energy sources which have reduced demand for emission allowances. You cannot run an ETS *and* subsidise particular energy sources. It's either one or the other, but not both.

## **9. 2030 proposals – some good points, some bad**

Turning now to the 2030 framework for EU climate and energy policy, published by the Commission back in January 2014 and largely agreed at a European Council meeting in October 2014.

Firstly we believe that the headline 40% GHG reduction target is too ambitious and should not even be on the table without an international agreement. Unbelievably, the Paris

Agreement imposes legally binding targets only on EU member states (Art.4.18). You might well ask how that can be. It is a long story of “high-ambition coalitions” and the inability of the US to accept any legally binding commitments, because Congress would not approve them.

Secondly, a 27% EU-wide target for renewable energy. EURACOAL does not believe we need any renewable targets. The ETS is designed to deliver greenhouse gas emission reductions. Measures to support renewables simply disrupt the market-based approach preferred by industry.

Thirdly, the ETS allowance cap should shrink by 2.2% each year from 2021. We say that the current 1.74% annual reduction in ETS allowances auctioned or allocated is already tough. If we improve the efficiency of coal-fired power plants in Europe – as is being done in Germany – then we could expect an annual decrease in emissions of around 1%. Achieving over 2% would require dramatic technology changes that are simply not yet available – such as large-scale energy storage – or would be costly – such as nuclear energy or carbon capture and storage.

Fourth, a new market stability reserve for Phase IV of the ETS which might or might not work.

Fifth, the Commission proposes that carbon leakage protection should continue and industry will continue to fight over these titbits.

And finally, new indicators for energy price competitiveness and energy security. We believe that these indicators need to be matched by policy measures.

## **10.CO<sub>2</sub> emission cap under the EU ETS**

Emission reductions in Europe came easily in the 1990s, without any specific policy drivers. The collapse of heavy industry in Eastern Europe and fuel switching from coal and oil to gas in, for example, the UK, Spain and Italy.

The 30 years from 1990 to 2020 are just a warm-up, a stroll in the park before the sprint that is now called for by policymakers for the ten years leading up to 2030. By 2058, policymakers want CO<sub>2</sub> emissions from power generation and industry to be zero. Yes, that’s right, no fossil fuels consumed in European industry. That’s the policy we face. For me, it looks like a suicidal policy.

And even then, the EU accounts for just 11% of global GHG emissions. So acting alone we can make little difference to the global picture. Our policy does not result in any lowering of global CO<sub>2</sub> emissions. Every forecast shows that these will continue to rise.

## **11.2030 package would be a bonanza for gas**

A tough climate target in the EU is a bonanza for gas. To achieve the proposed 40% target in sectors covered by emissions trading – sectors that include power generation and heavy industry – means change. There are various possibilities – renewables, nuclear and CO<sub>2</sub> capture and storage – but these will not be driven by emissions trading, they all need direct subsidy.

The first change to be driven by the ETS is fuel switching from coal to gas. We estimate that this will happen at a carbon price of €55/tCO<sub>2</sub>. It will mean wealth flows out of the EU, to

gas suppliers in Norway and Russia. Overall, electricity consumers in Europe would have to pay an extra €100 billion each year.

The gas industry is lobbying hard for changes to the ETS that would push up carbon prices. I can understand why because the alternative for them is not so attractive. To be competitive today would mean dropping their prices further than they already have. But why offer a 50% discount if policy makers in Brussels can fix the carbon market in your favour?

The unspoken aim of EU climate and energy policy is to reduce coal use in the EU by switching to gas. But gas is not the fuel of choice for power generation because it is too expensive. In Germany, new gas plants are lying idle. And if we turn our back on coal, then competition in the electricity market would completely disappear; prices would rise and make EU industry even less competitive.

## **12. Flexibility is needed to balance renewables**

Some argue that we need flexible gas plants to balance intermittent renewables. We certainly do need flexible plants, but coal plants are just as flexible. The ramp rates for new coal and gas plants are remarkably similar, but coal plants are cheaper to run.

## **13. Coal-fired power plants in EU-28**

Before I conclude, here's some interesting news. Coal-fired power plants may be enjoying something of a renaissance in Europe. New plants have opened and others are being built in Bulgaria, Germany, the Netherlands, Italy, the Czech Republic Poland, Slovenia and perhaps also in Croatia. There are at least 15 GW of new plants planned. If coal remains competitive and if government policy values security, then there is every chance that coal will survive as a strong component in Europe's energy mix.

### **14.3-step clean coal strategy**

In response to the climate challenge, EURACOAL proposes a pragmatic approach to reducing emissions. Our clean coal strategy has three steps: what we can do now, what we can do tomorrow and what we can do the day after tomorrow. State of the art today, research into higher efficiencies for tomorrow, and, for the day after tomorrow, the deployment of CO<sub>2</sub> capture and storage.

The modernisation of existing power plants and the construction of new state-of-the-art power plants would contribute significantly to reducing local air pollution and to climate protection with immediate emission reductions of one third or more in the case of CO<sub>2</sub>.

Unfortunately, there is little political will to support new coal-fired power plants in the EU, because coal use does not fit with the EU's increasingly ambitious and aggressive climate policy. We in the EU are alone trying to save the planet from some destructive force that none of us understands.

We are under threat by the rise of China. We can see that India and then Africa will also develop to become economic competitors. With globalisation, jobs will shift – we cannot stop that and the consequences are not attractive. What will we all do in the future? The only answer is to stay ahead of the technology curve. That's how Europe overtook China, following the Industrial Revolution. To stay ahead, we have to believe in the power of science and not allow ourselves to be seduced by ideological promises of a happy, green world.

I myself don't believe in what the prophets of doom say. I believe in good science. I believe that Europe grew to be the greatest continent on Earth because we all believed in good science. We eventually believed in Galileo's heliocentric view of the solar system. That resulted in a shift of power from the Church to the secular state. Without that shift, Europe would never have become great; we would have remained subservient to the Gods and their representatives on Earth.

I believe in the science that Enlightenment brought us: James Watt and his steam engine; Michael Faraday and electromagnetism. Thomas Edison and his power station, electricity distribution networks and, of course, his light bulb. He wrongly thought that DC was better than AC. It was Nikola Tesla, a Serbian, who got that right, which means that we can now transmit electric power over long distances. Everything that these men did for us is still relevant today: 80% of global electricity generation comes from thermal plants with steam turbines.

There is a new shift in power. Politicians have politicised the scientific process to ensure that they remain in charge during the great technological changes that are taking place in the world. The advent of digital communication allows us all to find out what is going on and to have our say. Those who understand the power of this revolution are doing very nicely. The NGOs, for example, are doing much better than big, bad industry at persuading politicians what is best for humanity.

At the UN COP21 meeting in Paris, the politicians agreed to prepare five-year plans for the energy sectors of almost every nation on Earth. In the EU, we are about to embark on the preparation of 28 national energy and climate plans: five-year plans that come straight out of the communist era.

Communism failed. Are we about to embark again on a failed project? From my perspective, it looks like we are. No one appears to be questioning what the politicians are doing in the guise of saving the planet.

We all want a cleaner more prosperous future. Reducing pollution is a good thing. It is for you to decide if carbon dioxide is a pollutant. In the US, the Supreme Court has said that it is not. As with anything in life, you should make up your own mind. Study the science, reach your own conclusions. If you do not, then the politicians will decide for you and may recreate the communist society that, in many countries, led to two lost generations.

## **15. Conclusions**

According to the International Energy Agency, there are three "Es" of a good energy policy: energy security, economic development and environmental protection. Coal scores well on all three counts and will remain an important fuel in the 21<sup>st</sup> century ... so long as investment in cleaner coal continues.

At the EU level, we have a climate and energy policy that assumes a further shift to imported natural gas. This policy is destroying the EU's wealth and leaves us strategically vulnerable. We need a pragmatic policy that encourages investment to modernise of our energy infrastructure and make it fit for the 21<sup>st</sup> century – valuing all energy sources. And that must include investment in coal and lignite. They are not forbidden fruits, they are resources to be used wisely for the benefit of us all. Thank you!