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Today's Agenda of the Regional Energy Development – priorities, technologies, markets

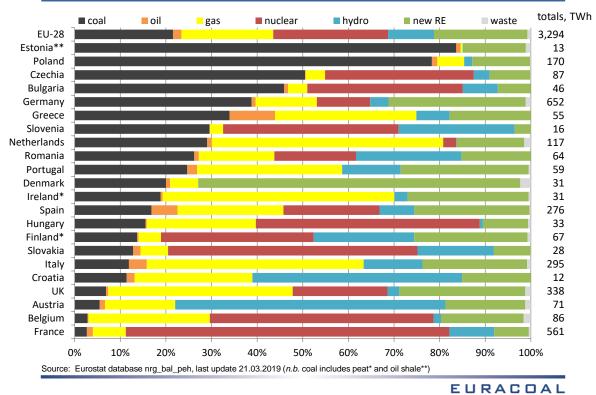
Thank you, chair [Jayesh PARMAR]. Former Minister [Julian POPOV]. President ROGALA. It is an honour to be with you all.

Ladies and gentlemen, I was in Stara Zagora last month for another energy conference. I enjoyed walking along the city's tree-lined streets — in the shade of linden trees. It's a lovely city, with a great history, stretching back to Roman times. And it's looking forward to a great future. Mr. POPOV might not like what the coal miners do around there, but they have contributed more to society than we ever have: providing us with the civilising power of electricity. They have made our lives more productive and more comfortable, simply better than ever before. With electric power, we live longer and we live healthier.

After the conference, my wife and I were lucky enough to spend a day at Nessebar: fantastic fish restaurants and wonderful architecture from a bygone era. Today, some people wish an end to the industrial era from which we have all prospered.

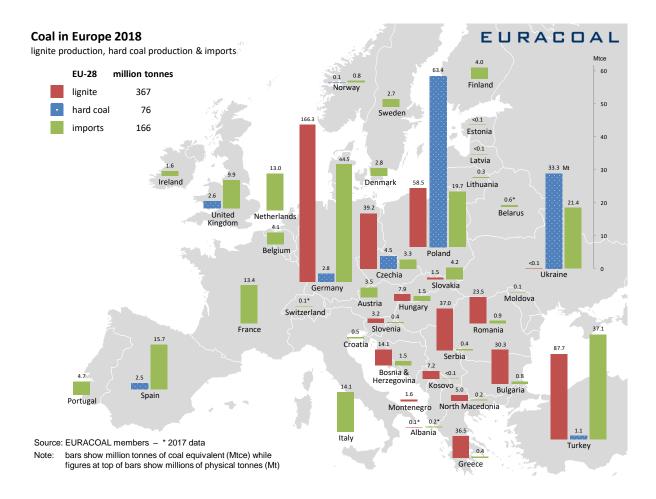
The so-called "energy transition" brings challenges and opportunities for regions like the Maritsa lignite field in southeast Bulgaria near Stara Zagora. 46% of Bulgaria's electricity comes from coal, more than twice the EU average. It's an important fuel, both economically and socially. It avoids a dependence on foreign gas which is the only real option when it comes to guaranteeing power supply anywhere in Europe. Renewables alone, without large-scale energy storage, cannot replace conventional thermal power generation. So we still need coal and gas plants.





However, I think that we can safely say that, in the European Union, there is now a presumption against coal. At EURACOAL, our job is to explain why this is a false presumption. That is not to say we want coal forever. No, all energy sources have their day.

We once depended on wood. Sweden built its great warships out of wood. Iron making depended on charcoal. Europe's vast forests allowed us to become a formidable global power.



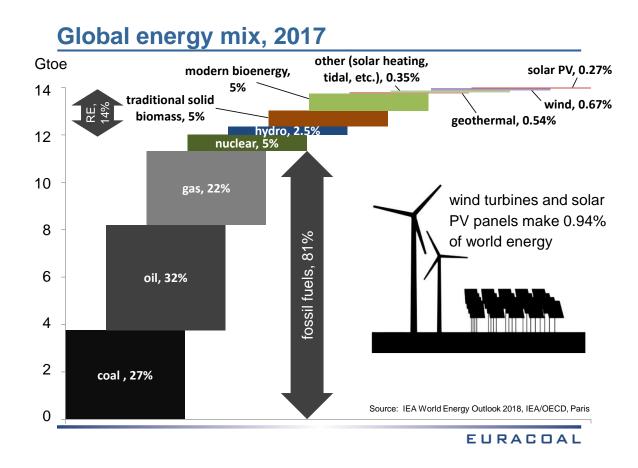
From 1760, we turned to coal to power the Industrial Revolution. It was cheap and abundant. With coal, you could power steam engines and send trading ships anywhere in the world, at any time. In the EU today, we use 500 million tonnes of coal each year. That's less than 7% of global coal consumption which was an estimated 7 billion tonnes in 2018. You can read more about the current coal market in the *EURACOAL Market Report*; we have just published the latest edition, with detailed data for last year. The report is on our website, along with this map.

The next leap forward came just over one hundred years ago with the internal combustion engine and the motor car. The United States had easy access to the crude oil that powered a century of travel, including to the moon ... and back. Europe depended mainly on imported oil which came at a cost.

After the 2nd World War, nuclear power allowed Europe to become less dependent on oil – especially France. After the oil price shocks of the 1970s, there was a renewed interest in coal and clean coal technologies.

Then came North Sea gas and a push towards renewables. Taken together, these meant that we lost interest in coal technologies. Now, there is even hostility towards coal.

This is surprising. The share of coal in global energy is rising: 27% of global energy supply and 38% of global electricity supply. The Chinese products that we all buy – from shoes to iPhones – come from factories that depend on coal for their electricity and for their raw materials – plastics and steel, all from coal.



Fossil fuels account for over 80% of the energy used in the world. Hydro, nuclear and old-fashioned wood make up most of the rest. Less than 1% of

global energy comes from wind turbines and solar PV. So, it would seem like a good idea to do two things:

- 1. Continue the search for economic alternatives to coal, oil and gas.
- 2. Make sure that the coal we use over the coming years is used cleanly.

Here, we come to the EU budget. A big chunk of that is used to fund R&D. It would be prudent to continue our efforts on advanced coal technologies, such as coal gasification, as well as CO₂ capture and use wherever we can.

There are exciting new developments taking place, but I have to say that these are now largely outside of Europe. The CoolGen project in Japan is a brandnew, super-efficient, super-clean coal gasifier which is already running with a gas turbine [170 MW] and will shortly test solid oxide fuel cells. A novel CO₂ turbine, invented by a British engineer, is being built and tested by GE in the US. If it works, then [thermal] power station equipment of the future will be ten-times smaller and so cheaper.

Let me conclude. There will always be differences between EU member states. Some want nuclear, others don't. Some can afford expensive renewables, others cannot. Some have comparative advantages, like coal in Poland and lignite in Bulgaria; others have no indigenous energy sources. Some are happy to cross subsidise energy-intensive industry, others see this as wrong. Some are willing to rely on imported natural gas, others cannot afford to pay for it.

The question is whether these differences should be eliminated or embraced as part of Europe's diversity? At EURACOAL, we have always promoted market-based solutions, with competition. The recent changes to the EU Emissions Trading System are not market-based; they are politically driven and have resulted in destructively high carbon prices in the EU. Energy businesses are being destroyed. This year, for the first time, Spain began importing coal-fired

electricity from Morocco whilst its own coal-fired power plants lie idle. Some in Brussels are happy to outlaw coal in favour of gas and renewables, regardless of cost and regardless of what this means for energy security. We live in crazy times! So, these are the key points that we should discuss today.

Thank you.

EURACOAL: 26 members from 15 countries

- DEBRIV Deutsche Braunkohlen-Industrie-Verein (DEU)
- GVSt Gesamtverband Steinkohle (DEU)
- MMI Mini Maritza Istok (BGR) observer
- PGG Polska Grupa Górnicza S.A. (POL)
- PPC Public Power Corporation (GRC)
- PPWB Confederation of Polish Lignite Producers (POL)
- ZSDNP Czech Confederation of Coal and Oil Producers (CZE)
- CARBUNIÓN Federation of Spanish Coal Producers (ESP)
- BAZ Borsod-Abaúj-Zemplén County Government (HUN)
- GIPH Górnicza Izba Przemysłowo-Handlowa (POL)
- PATROMIN Asociaţia Patronală Minieră din Romania (ROU)
- VDKi Verein der Kohlenimporteure (DEU)

- CPERI/CERTH Chemical Process and Energy Resources Institute (GRC)
- DTEK (UKR)
- EPS Electric Power Industry of Serbia (SRB)
- GIG Central Mining Research Institute (POL)
- HBP Hornonitrianske bane Prievidza (SVK)
- Lubelski Węgiel "Bogdanka" S.A. (POL)
- Premogovnik Velenje (SVN)
- RMU "Banovići" d.d. (BIH)
- TKI Turkish Coal Enterprises (TUR)
- Finnish Coal Info (FIN)
- KOMAG Institute of Mining Technology (POL)
- Geocontrol S.A. (ESP)
- Subterra Ingeniería S.L. (ESP)
- DMT GmbH & Co. KG (DEU)



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