



EASTERN EUROPE – ENERGY SECURITY AND COAL

Eastern Europe has a complex and often troubled history and continues to be shaped by both internal and external forces. Many factors are in play such as political and economic alignments, disputes over territory and split loyalties between major players such as the European Union (EU) and Russia.

Some countries in the region are EU member states: Bulgaria, Czechia, Croatia, Hungary, Poland, Romania and the Slovak Republic. Other ‘candidate countries’ aspire to join and are in the process of integrating EU legislation into national law: Albania, Montenegro, North Macedonia, Serbia and Turkey. Several others such as Bosnia and Herzegovina (BiH), and Kosovo are potential candidate countries, although they do not yet fulfil the requirements for EU membership.

Full EU membership requires candidate countries to agree to the EU’s plan for carbon neutrality by 2050. The elimination of coal power plus a greater reliance on renewables is seen as a major component of this process, one that wealthier western member states are increasingly adopting. However, eastern European countries are often poorer and continue to rely on electricity generated by hard coal and lignite-fired power plants. Many lack the resources to fully replace their coal capacity with sustainable, affordable alternatives. Various new coal projects have been proposed, but even where modern high efficiency, low emissions (HELE) technology has been suggested, there has been opposition from the EU. Proposals to upgrade and modernise some existing plants have also met resistance. But to comply with EU emission standards, many coal power plants need upgrading and equipping with new emission control systems.

Governments of some prospective member states face conflicting requirements; they aspire to achieve full EU membership, but must provide affordable electricity, crucial for their populations and economies. Despite the continued operation of some outdated and polluting coal-fired capacity, it remains the only reliable cost-effective option. In the absence of what governments consider to be sustainable, affordable alternatives, some intend to continue its use to provide at least part of their supply. On grounds of energy security and cost, some will find the complete elimination of coal power difficult and expensive. The situation has been further complicated by Russia’s invasion of Ukraine and the subsequent impact this has on European energy supplies in general.

THE FUTURE FOR COAL POWER IN THE REGION?

Coal use has been declining in many European countries, driven mainly by EU and national policies promoting the greater deployment of renewables and natural gas, and higher carbon prices under the EU’s Emissions Trading Scheme (ETS). Some member countries have plans to phase out the use of coal for power generation. In 2020, coal provided only 13% of the EU’s electricity, a level surpassed by combined generation from wind and solar. Coal’s share of EU power supply is now lower than in major economies such as Australia, China, India, Japan and the USA, although it has since increased as some regional governments seek to find alternatives to imported Russian fossil fuels.

In more affluent EU member states, coal is being partly supplanted by increases in variable renewable energy (VRE) capacity, mainly wind and solar, but uptake of VRE in some eastern European countries has

been more limited. The EU is attempting to unify national energy policies between eastern and western Europe. But, some eastern European governments fear that as fossil fuels are phased out, their national energy prices are likely to be disproportionately affected. In the west, prices are less likely to increase significantly.

ENERGY SECURITY

The issue of energy security in the region has become increasingly important following Russia's invasion of Ukraine. Russia is the major provider of natural gas to much of Europe, and the subsequent interruptions and reduced supply have highlighted the risks associated with over-reliance on a single external source of energy. Many countries are re-assessing their energy portfolios and attempting to find affordable, sustainable alternatives to Russian oil, gas and coal. This will not be easy, at least in the near term. Those with indigenous energy reserves such as hard coal and lignite will be better placed to meet these new challenges.

There are various projects and proposals for new coal power developments in Bosnia, Serbia, Turkey, and North Macedonia. Some are well advanced in their development although others are unlikely to go ahead, even though the electricity generated would be much cleaner and more affordable than that currently being produced by outdated power plants. Thus, in some eastern European countries, coal power will not be disappearing soon, but future developments are likely to take two forms: all-new coal units or modernisation of existing older capacity.

Clearly, the immediate issue facing many European governments is the impact of the war in Ukraine and the increasing sanctions on Russian fossil fuels. Many countries rely heavily on Russian energy supplies or have planned to use Russian gas to replace coal-fired capacity. However, in general, this is no longer a realistic option. Governments are increasingly examining ways to improve their energy security, and the focus on the use of indigenous energy sources has increased. In some countries, this may provide added impetus for the life-extension of existing coal power capacity development and possibly new coal-based power projects.

The Russian invasion of Ukraine has highlighted the fragility of energy sectors over-reliant on a single technology or heavily dependent on external sources of energy. Future energy planning and strategy should re-evaluate and consider the advantages that can be provided through the deployment of modern, highly efficient coal-fired power plants, with carbon capture and storage, ideally as part of a mixed portfolio of energy sources. The effective use of indigenous reserves of coal or lignite could be a major factor, providing a buffer against external events, and boosting national energy security.

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Each executive summary is based on a detailed study which is available separately from: www.sustainable-carbon.org. This is a summary of the report: Eastern Europe – energy security and coal by Dr Stephen Mills, ICSC/321, ISBN 978-92-9029-644-7, 107 pp, July 2022.