

European Union member states gather in Sofia, Bulgaria, for the EU-Western Balkans summit this week, some of the most urgent questions they will take up have to do with infrastructure and investment. Even before the European Commission laid out its Western Balkans roadmap for membership, the questions of energy security and clean energy transitions were an integral part to the ascension hopes of the EU's prospective Balkan members.

Though many of the countries meeting in Sofia see accelerating the uptake of renewable energy as a priority, the poorer countries of the Balkans still see relying solely on solar and wind power as an unrealistic dream. Many of Bulgaria's neighbours cannot afford to break their dependence on coal, at least not without feasible alternatives such as nuclear energy. Sofia has its own energy woes. It's true Bulgaria, the EU's poorest member state and its most greenhouse gas-intensive country, has made significant progress towards renewable energy targets. But (and there is always a "but") that picture gets less rosy when you look at how this particular sausage is made.

Bulgaria has only achieved the progress it has made thanks to substantial subsidies, which weighed so heavily on consumers' electricity bills mass protests toppled the government in 2013.

In addition to soaring costs, observers are concerned Bulgaria's single-minded focus on its 2020 renewable energy targets has left it with an unsustainable system. They also warn Bulgaria has no clear legislative framework, energy companies in danger of going bankrupt, and there is a "total lack of vision" for what's to come after 2020.

It's against this backdrop that Bulgaria is resurrecting its 2000 MW Belene nuclear power project, first proposed in 1981, but put on ice for years after the US and the EU pressured Bulgaria to drop the idea. The Bulgarian government plans to make a final decision on what to do with the plant, for which it has already purchased some equipment, by June.

The main hurdle keeping Belene from completion is financing. The Bulgarian government would likely have to mitigate risks by getting equity investors on board. That could take the form of a power purchase agreement at a fixed price per kWh (as in Turkey) or a Contract for Difference in which the government commits to paying a "strike" price (the difference between an agreed price and actual market prices). The latter is the UK's approach to Hinkley Point, for which the British government had to agree to a strike price of £92.5 (€105) per MWh for 35 years. Actual figures will be significantly higher once adjusted for inflation.

Understandably, Sofia hasn't demonstrated much interest in either of these expensive alternatives.

Bulgaria does have another choice: intergovernmental loans, like those Hungary used to secure €10bn of €12.5bn in financing for its Paks-II expansion project. With the lower interest rates enjoyed by sovereign borrowers, Rothschild estimated a new build project of 2.4 GW in Hungary would break even selling electricity at €40-45 per MWh . The European Commission approved the Paks-II arrangement in March 2017, setting a precedent for future deals.

Belene, alongside other existing and planned nuclear projects in Bulgaria, but also Romania and Hungary, offer a potential solution for how Bulgaria's Balkan neighbours, some of whom are current EU members and others are candidate countries, can step up their transition towards a low-carbon economy and improve connectivity between their energy grids.

The Western Balkans has a deeply precarious energy sector. Even Serbia and Montenegro, touted as the frontrunners for EU accession, have poorly-diversified and highly-polluting energy mixes. Montenegro gets a third of its energy from a single, nearly 40-year-old coal plant; the vast majority of the rest comes from large-scale hydro. Serbia's mix is even more lopsided. Roughly 73% of its electricity production comes from lignite coal, with hydro making up much of the rest.

This reliance on coal is devastating for efforts to cut down on greenhouse gas emissions, especially since lignite is one of the dirtiest fuels in the world. Since lignite plants take a long time to turn on and each flip of the switch shortens the plant's lifespan, operators generally keep the furnaces running constantly regardless of need.

The other major component in the Balkan energy mix, hydroelectric, has its own issues. Overreliance threatens rare gems such as the Vjosa, Europe's last wild river, and the Balkan lynx, an endangered species. Dependence on hydro also leaves countries vulnerable to adverse weather. In Albania, which gets almost all of its electricity from hydro, drought caused production to drop sharply and forced Albania to import 80% of its electricity in the summer of 2017. Bosnia and Serbia compensated for the hydro shortfall by ramping up production at their coal plants.

Without a drastic increase in diversified capacity, Southeast Europe is likely to become a net electricity importer in the early 2030s—sooner if EU accession procedures hasten the decommissioning of old coal plants, or if electric vehicles take off faster than expected. With further renewable energy expansion above and beyond existing targets prohibitively expensive, the Balkan peninsula reaching the limit of how much hydroelectric capacity it can build without incurring serious environmental damage.

To sidestep the problems inherent to coal and the geopolitical risks of natural gas, both

Bulgaria and its Balkan neighbours could see expanded nuclear capacity as a logical compromise. A new report presented at this month's summit by the New Nuclear Watch Institute on Southeast Europe's electricity market estimates finishing the Belene project before 2027, and completing all planned nuclear new build in Hungary and Romania, would push back an electricity shortfall in the region to at least 2030.

As EU member states look for a consensus on how to achieve "clean energy for all Europeans", the Union will need to devise a holistic solution to emissions without compromising energy security, independence or affordability. However, an overhasty transition and the neglect of a reliable nuclear baseload will only result in skyrocketing electricity bills and increased reliance on coal, as Germany has already learned.

Source: intellinews