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Europe's East should go solar

An energy transition across South East and Eastern Europe would bring security, economic growth and peace to the region

Read this article in Russian.

South East and Eastern Europe, South Caucasus and Central Asia – a region spanning over 18 countries and home to over 300 million people – has a vast potential for the deployment of renewable energy technologies. Yet, during 2015 and 2016, the region added just over 2 gigawatt (GW) of new renewable power capacity, with hydropower accounting for 70 per cent. By comparison, Germany installed 5 GW of onshore wind energy in 2016 alone. By the end of 2016, new renewable power capacity in the entire region reached 85 GW, less than in Germany with 104 GW. Such slow progress is the result of multiple barriers that make investment in green energy extremely challenging.

Most countries in the region have inherited the energy supply infrastructure from the Soviet era, characterized by strong centralisation and monopolies as well as large-scale and inefficient generation facilities. The centralisation of the fossil fuel energy industry makes it much more vulnerable to corruption than decentralised renewable energy. In many cases, government officials have a vested interest in existing business structures, with no interest in changing the status quo.

Subsidies to fossil fuel and nuclear energy

High fossil fuel and nuclear energy subsidies, and artificially low energy tariffs across the region significantly reduce the competitiveness of renewable energy and discourage investment. The percentage of fossil fuel and nuclear energy subsidies compared to those countries' GDP is one of the highest in the world, with 61 per cent in Ukraine for instance, 37 per cent in Bosnia and Herzegovina and 35 per cent in Serbia.

Although some countries have started addressing the problem, electricity

prices for households in the region are much lower than the EU average of €0.2 per kWh, ranging from €0.1 in Montenegro, €0.04 in Russia and Ukraine to €0.009 per kWh in Kyrgyzstan. Increases in tariffs are a very sensitive topic for the population but the elimination of fossil-fuel subsidies, combined with targeted social assistance and compensation mechanisms, would release financial resources for targeted support for vulnerable social groups as well as for health care and energy efficiency.

Currently, the region remains extremely dependent on the use of fossil fuels and nuclear in its total primary energy supply.

Unstable regulatory frameworks, complex administrative procedures and regulations on permits and licensing, leading to long project development periods and additional transaction costs, result in an insecure investment climate. This translates into high costs of capital for renewable energy technology. As a result, almost all recent utility-scale renewable energy projects – solar and wind parks in Kazakhstan as well as wind parks in Georgia and Serbia, among others – were only possible with the financial backing and guarantees of the European Bank for Reconstruction and Development (EBRD).

High risk perception also leads to very limited access to affordable capital for individual investors, farmers and communities. Energy cooperatives are almost non-existent in the region. Municipalities, often more interested in local energy efficiency measures, have extremely limited budgets for retrofitting buildings. Several countries, including Ukraine and Bosnia and Herzegovina, have started to address this issue through specialised funds with the support of international donors.

Energy security and economic growth

A successful energy transition would be beneficial for the region, and a number of drivers and opportunities could advance this process.

Currently, the region remains extremely dependent on the use of fossil fuels and nuclear in its total primary energy supply. Most countries are net energy importers, depending heavily on oil and gas imports. In Armenia, Belarus and Georgia net energy imports account for over 60 per cent of total energy use. In Moldova it's as high as 90 per cent. The deployment of renewable energy and energy efficiency measures could help to solve pressing energy security and energy poverty issues in these countries.

Meanwhile, the economies of countries like Russia, Azerbaijan and

Kazakhstan heavily depend on revenues from local oil and gas production. They could increase their resilience to external shocks, such as volatile oil prices, by diversifying their energy supply.

Power generation, transmission and distribution infrastructure across the region is poorly maintained and often operating beyond its design life. In the coming years, many countries will have to replace their aging and inefficient fossil fuel and nuclear energy infrastructure, which opens up a great opportunity for advancing the transformation of the energy sector towards clean energy.

Investment in renewable energy would encourage economic growth and the creation of new domestic jobs, helping to slow the rising rural depopulation, labour emigration and brain drain across the region. In 2013, about 37 million emigrants came from the countries of the region – 16 per cent of all international migrants in the world and nearly 10 per cent of the total population in the countries of origin.

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The energy transition would also help to dramatically reduce air pollution and to solve pressing health and environmental problems in the region, resulting from fossil fuel and nuclear energy generation. A recent HEAL report showed that coal power plants in five Western Balkan countries are among the most polluting in Europe, causing about 7,200 premature deaths every year. Depending on weather and wind conditions, air pollutants can travel more than 1,000 km and cause damage to health in neighboring EU countries and beyond.

The deployment of decentralised renewable energy could also help to advance democratisation. Investments and support for renewable energy projects by energy cooperatives, communities and citizens can help significantly to reduce oligopolistic control of large conventional power plants and levels of corruption.

Last but not least, renewable energy deployment can foster regional cooperation and peace-building through the expansion of interconnection capacities to neighboring countries and cross-country trade. It can also help to end conflicts over limited and unevenly distributed fossil fuel energy and water resources.

The EU and regional cooperation

The European Union is currently the most significant driver and financial supporter of sustainable energy cooperation across the region. The Energy Community, an organisation trying to create pan-European energy market, is a key institutional advocate and watchdog on progress when it comes to renewables and energy efficiency. However, the current progress of the member countries remains much slower than needed, partly due to a lack of sanctions in case of non-compliance. The countries that have performed better than others – Montenegro, Serbia and North Macedonia – have EU candidate status, which represents a stronger leverage in advancing the pace of renewable energy policies and energy market reforms.

Across the region, numerous interconnections between power grids were established across national borders during the Soviet era, but in many cases were either abandoned or have deteriorated over recent decades.

The EU engagement is particularly important in light of China's controversial 'Belt and Road Initiative', which includes plans to construct new coal power plants across the region. This would lock the countries into coal assets for decades, further damaging people's health and the environment, and aggravating climate change.

With the targeted and concerted cooperation of the EU and international organisations, the region could overcome multiple challenges and significantly accelerate its currently slow energy transition. This cooperation should include know-how transfer and dialogue on favourable sustainable energy legislation and investment climate, as well as technical capacity-building on integration, planning and operation of renewable energy.

Increased financial support and the introduction of de-risking and financing mechanisms would help to decrease the cost of capital and enable access to affordable finance. Such a mechanism for the countries of South East Europe – the European Renewable Energy Cost Reduction Facility, which aims to lower the financing costs for renewable energy – is currently under discussion. Programmes, supporting research and education on renewable energy and energy efficiency, capacity-building and exchange of best practices would help to increase public awareness and support for the energy transition.

Regional cooperation and interconnectivity could also facilitate the integration and balancing of renewables in energy systems. Across the

region, numerous interconnections between power grids were established across national borders during the Soviet era, but in many cases were either abandoned or have deteriorated over recent decades. The existing infrastructure could be re-established and improved, which would help to overcome many of the technical challenges of renewable energy deployment.

A number of highly promising regional energy initiatives, including by the EU and the International Renewable Energy Agency, already exist and should step up their support to the region, contributing to global efforts to tackle climate change.

Thy article is based on the report 'Energy transition in South East and Eastern Europe, South Caucasus and Central Asia: Challenges, opportunities and best practices on renewable energy and energy efficiency', published by the Friedrich-Ebert-Stiftung.



Komila Nabiyeva
Berlin

Komila Nabiyeva is a freelance journalist writing articles on climate change, energy and development. Previously, she worked for the UN and various political organisations as a communications consultant, as well as a moderator and trainer on climate and energy issues. From 2014 to 2019, she coordinated the work of Energy Watch Group, an international community of academics and parliamentarians.