



UNITED STATES
ENERGY ASSOCIATION

Powering the Digital Economy

Energy Security and Investment
in the Western Balkans

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THE DIGITAL ECONOMY'S ENERGY IMPERATIVE

We are meeting at a remarkable moment for the electric power industry. The digital revolution built around artificial intelligence, cloud computing and data centers is accelerating—and the digital economy ultimately depends on something very physical: enormous amounts of electricity.

The International Energy Agency estimates that global data-center electricity consumption will more than double, from roughly 415 terawatt-hours in 2024 to about 945 terawatt-hours in 2030. By the end of this decade, the world's data centers alone could consume slightly more electricity than all of Japan consumes today.

The United States gives us some indication of what may be coming. The IEA expects U.S. data-center electricity consumption to increase by roughly 130 percent between 2024 and 2030. And North American electricity planners are now projecting extraordinary demand growth over the coming decade, driven in significant part by data centers and other large loads.

This will not be only an American phenomenon.

Countries around the world will compete to host AI, cloud computing and data centers. They will want the investment and economic activity that comes with them. But they will also increasingly view domestic and regional computing infrastructure as an element of digital sovereignty—the ability to protect sensitive data, reduce dependence on infrastructure located elsewhere, and participate fully in the benefits of the digital economy.

For the Western Balkans, this creates both an opportunity and a challenge.

FIVE CHALLENGES FOR THE WESTERN BALKANS

I see five challenges to the region's energy systems.

First, much of the Western Balkans continues to rely on aging coal and lignite generation. These plants are increasingly expensive to maintain, environmentally challenging, and in many cases approaching the point where they will need to be replaced.

So the region faces a dual challenge: replacing existing capacity while simultaneously adding new capacity to support economic growth and the digital economy.

Second, the region has significant transmission constraints. The Western Balkans is well interconnected physically, but internal congestion within national systems often limits the amount of cross-border capacity that can actually be made available to the market.

A more liquid regional electricity market makes the region more attractive to independent power producers and investors.

Recent Energy Community analysis indicates that flow-based capacity calculation can significantly increase available cross-border capacity compared with traditional NTC calculations and help move the region toward the European Union's 70-percent minimum cross-zonal capacity requirement. Progress is being made, but it remains slow and uneven.

Third, distribution systems are being asked to perform functions for which many were never designed. Networks built primarily to deliver electricity in one direction must now accommodate rooftop solar, batteries, electric vehicles and other distributed energy resources.

Fourth, the region must continue to improve the security and diversity of its fuel supplies. Recent experience has demonstrated the risks of

excessive dependence on any single supplier or supply route.

And fifth, perhaps most importantly, infrastructure must be bankable. Developers and lenders need creditworthy counterparties, transparent markets, predictable regulation, enforceable contracts and confidence that legitimate costs can be recovered over the life of an investment.

OPPORTUNITY FOR A STRONGER PARTNERSHIP

These are significant challenges. But they also create an opportunity for partnership.

The United States today brings an extraordinary combination of energy resources, private capital, technology and project-development expertise.

We can provide fuel.

We can provide technology.

And we can provide investment and the experience needed to structure and develop major energy projects.

American LNG can help diversify the region's natural-gas supply. U.S. developers, investors, utilities and equipment manufacturers have decades of experience developing independent power projects around the world. And American companies are leaders in many of the advanced technologies needed to increase the capacity and efficiency of modern electricity networks.

This partnership should complement, not replace, the region's other energy relationships.

Caspian gas, East Mediterranean resources, European markets and greater regional integration can all contribute to a more secure and competitive energy system.

The objective should be diversity—diverse suppliers, diverse routes, diverse technologies and diverse sources of capital.

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FIRM POWER AND DIVERSIFIED FUEL SUPPLIES

On generation, the region will need a broad portfolio. Wind, solar, hydro, storage and demand-side flexibility all have important roles to play.

But the power system will also require firm, dispatchable capacity.

In the near to medium term, modern combined-cycle natural-gas generation is one of the few mature technologies capable of being deployed at scale, replacing aging thermal plants while providing the flexibility needed to integrate growing amounts of renewable energy and meet new electricity demand.

The United States can help on both sides of that equation.

American companies can supply LNG. They can provide generating equipment and engineering expertise. And U.S. developers and investors can help finance and operate independent power projects—if the commercial and regulatory framework makes those projects investable.

But molecules cannot reach markets without infrastructure.

The Western Balkans must continue developing the interconnectors and market arrangements needed to access U.S. LNG, Caspian gas and potentially additional East Mediterranean resources.

It should also continue integrating its natural-gas markets. Larger regional markets create greater demand, stronger counterparties and a better foundation for the long-term supply contracts that

infrastructure investors and LNG suppliers often require.

The same principle applies to electricity.

MAKING MORE OF THE EXISTING GRID

New transmission will be necessary, but major transmission projects take years to permit and construct. So we also need to ask: how much more capacity can we get from the infrastructure we already have?

This is another area where the United States can be an important partner.

American companies are leaders in grid-enhancing technologies—dynamic line ratings, advanced power-flow control, sensors, advanced analytics and artificial intelligence.

These technologies can increase the usable capacity of existing transmission and distribution networks, often at far lower cost and in far less time than building entirely new infrastructure.

But the regulatory framework must support their use.

Traditional utility regulation often rewards companies for building more physical infrastructure—more steel, more wire and more substations. Regulators should also reward utilities for using technology to make existing infrastructure more productive.

THE INVESTMENT IMPERATIVE

But ultimately this is about investment.

Capital is mobile.

The Western Balkans is competing not only with its neighbors, but with Central Europe, the Gulf, Asia, the United States and other regions seeking the same capital, the same technology companies and the same data-center investment.

Investors will go where projects can be permitted, financed and connected to the grid; where markets are transparent; where contracts are enforceable; and where there are credible counterparties capable of paying for the energy they consume.

The United States can be a strong partner in that effort.

We can help provide the fuel, capital, technology and project-development expertise needed to modernize the region's energy systems.

But the countries of the Western Balkans must create the conditions that allow those investments to succeed.

If the region can combine secure and diverse energy supplies, integrated electricity and gas markets, modern transmission and distribution networks, and an attractive environment for private investment, then the digital revolution need not simply be another challenge for the region's power systems.

It can become one of the Western Balkans' most important opportunities for investment, economic growth and deeper integration into the European and global economy.

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