Regional Cooperation and Trade: Examples in Southeastern Europe and Central Asia

Southeastern Europe

Regional cooperation is critical for Southeastern Europe, where many countries will likely rely on imports to close temporary supply shortfalls or on exports to improve the economics of developing new capacity in their small domestic power systems. If investment capacity lags, the sub-region may experience power deficits, becoming increasingly reliant on imports from outside. But the availability of enough imported power on affordable terms remains a question in view of the stresses facing most European countries.

Countries that plan to rely on gas-fired generation capacity must be confident that other countries will also follow this regional priority rather than pursue self-sufficiency in generating capacity based on non gas sources. But many Southeastern European countries have announced plans to build new generating capacity without a gas-fired component—not promising for gas supply infrastructure in the region.

Electricity trade in Southeastern Europe accounts for about 10 percent of final power demand in the region (15 percent including trade with Greece and Turkey). The main exporters are Bosnia and Herzegovina, Bulgaria, and Romania. The other countries are net
importers. Trade is typically on a short-term basis, characterized by limited competition, high transaction costs, and low flexibility in exploiting trading opportunities.

The countries of Southeastern Europe have established an integrated market in natural gas and electricity under the Energy Community Treaty. But progress toward an efficient market in the Western Balkans has been uneven (table A.1). Bulgaria and Romania have progressed much farther than countries in the Western Balkans. The Energy Community Treaty’s requirements for the gas sector largely mirror those for electricity. They include (a) establishing an independent regulator, (b) unbundling different gas industry functions and legally separating transmission and distribution from other functions, (c) opening access to network and storage facilities, and (d) opening access to the gas market.

To support the development of the electricity market, the World Bank assessed the required investment in power generation. The Southeastern Europe Generation Investment Study was carried out in 2004–05 and updated in 2007 to account for large increases in fuel prices (box A.1).

Developing the region’s gas supply infrastructure requires that countries include in their plans new gas-fired capacity on their territories or imported electricity based on gas-fired capacity in neighboring countries. The Energy Community Gas Ring concept will promote regional market integration, which is critical to developing substantial gas infrastructure in the region and helping its countries exploit others’ choices for gas supply (box A.2). The capital cost is estimated at $1 billion, and the gas-fired power plants needed to secure an

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Note: A — all provisions are available; B — some provisions are missing; C — some provisions are available; D — bottlenecks to progress. The EU Directive on the creation of an integrated electricity market focuses on breaking up vertically integrated supply chains to allow competition in the power market, regulated third-party access to the power network, coexistence of regulated and competitive components side by side, and freedom for eligible consumers to choose their suppliers. Directive 2003/54/EC
anchor load will cost $1.3–$2.3 billion. This infrastructure would be developed incrementally. The first stages would bring gas to new power stations in non gasified areas on the Adriatic Coast, where power shortages constrain growth in tourism.
The big questions are whether new gas sources will be available to supply new demand and whether Russian and indigenous gas resources can continue to supply existing demand. Options for incremental new supply are gas through pipelines from the Russian Federation, the Caspian Basin, or Central or Eastern Europe and liquefied natural gas from North Africa and the Middle East. The most promising options are the following:

- Exporting Russian gas through Macedonia (although mountainous terrain increases cost)
- Linking to the Greek pipeline system (to carry Russian/Caspian gas)
- Building liquefied natural gas facilities in Fieri (Albania), Krk (Croatia), or both
- Constructing a trans-Adriatic pipeline (to carry Russian/Caspian gas)
- Extending the Croatian pipeline through Hungary
- Backhauling gas from Italy, with Russian gas swaps
- Backhauling Revithoussa liquefied natural gas from Greece.

Which of these options will be developed depends on the assured availability of the gas; given uncertainties about availability, countries should not base their energy strategies on an assumption that any particular project will materialize. In practice, large external gas suppliers and consumers may make the choices subject to strong geopolitical rivalries between Russia and the European Union. South-eastern European countries should be ready to exploit those choices, finding ways to advance their interests in the presence of large external influences.

Given the high capital intensity of pipeline projects, other key issues are whether there will be enough investment in infrastructure to bring the gas to market and whether that investment will come soon enough to displace coal and oil products. A technical feasibility study for the Energy Community Gas Ring shows that transmission charges would have to be 11 percent higher if only half the required anchor load were in place when the pipeline was commissioned and half added over the next 10 years compared with the charges if all the anchor load were present at commissioning (Economic Consulting Associates Ltd., Penspen, EIHP, and Untergrundspeicher und Geotechnologie System GmbH, 2008). The added charge would be 30 percent if only a third of the anchor load were in place at commissioning and the rest added over the following 15 years.
Central Asia

Central Asia has considerable potential for exporting energy, both within its boundaries and beyond. But the prospects for realizing this potential are uncertain because of the long history of distrust among the region’s countries and their lack of institutional and financial capacity. The Central Asian Regional Economic Cooperation (CAREC) and other regional forums supported by international institutions and donors may hold some promise for overcoming those obstacles.

Central Asian states have traditionally depended on one another for energy and water. For example, hydropower plants in the Kyrgyz Republic and Tajikistan operate on schedules that suit crop irrigation. These upstream states release more water in warmer seasons, when the downstream states need it for irrigation, in exchange receiving gas, coal, and electricity imports to alleviate their cold season shortages and agreements to purchase the surplus electricity from warmer months.

The arrangement has not always worked well in practice. In 1998 Kazakhstan, the Kyrgyz Republic, and Uzbekistan concluded a long-term framework agreement on the water and energy resources of the Syr Darya River. Tajikistan later signed as well. But the agreement did not spur adherence to commitments. The arrangements weakened when Uzbekistan’s interest in importing electricity in the summer declined and it insisted on cash for its gas, rather than electricity and the benefits of water storage and seasonal release. Because the demand patterns in Central Asia coincide (winter peak, summer off-peak), there is little market for surplus hydropower in the summer.

There is no framework agreement on water and energy exchange in place for the Amu Darya River, shared by Tajikistan, Turkmenistan, and Uzbekistan. Uzbekistan expressed concern about the planned expansion of Tajik hydroelectric production on the Vakhsh River, a tributary of the Amu Darya, fearing that it will restrict water flow into Uzbekistan and enable Tajikistan to block the Vakhsh, which provides a quarter of the Amu Darya flow. Uzbekistan expanded its reservoir capacity to reduce vulnerability to the upstream countries.

Meanwhile, Uzbekistan monetized gas trade with its neighbors and, like Gazprom, raised the price of its natural gas considerably in a series of increases, from $42 per thousand cubic meters in 2005 to $240 in 2009.

These price hikes encouraged the Kyrgyz Republic and Tajikistan to look to hydropower, not gas, for their energy needs. They also made these states reluctant to depend on downstream suppliers’ willingness to sell fuels during political strains or disputes over
Without agreements on electricity export or monetization of the benefits of water storage, the Kyrgyz Republic and Tajikistan lean toward solutions that increase their energy self-sufficiency. Both states, especially Tajikistan, hope to export hydroelectric power to other clients (Afghanistan, China, Iran, Pakistan, and others). They therefore prefer to develop water storage and release schedules for those exports rather than for the irrigation needs of downstream states.

Afghanistan, the Kyrgyz Republic, Pakistan, and Tajikistan are developing a Central Asia Regional Electricity Market (CASAREM) to develop electricity trade through projects and concomitant
investments, underpinned by the necessary institutional and legal arrangements. The idea is to exploit Central Asia’s surplus hydropower in summer to meet high and growing demand in South Asia and monetize it. The countries have intensified cooperation since 2005, both among themselves and with international financial institutions and bilateral donors. It is envisaged that other countries could join as trade expands.

Sustainable regional cooperation in Central Asia on energy requires two things: regional cooperation and government willingness to create business climates that attract the huge investments required. These conditions are vital for ensuring adherence to contract commitments (including payments), stopping side deals that undermine investment viability, and countering the prevailing non-performance of obligations. In turn, the cash flow needed to make contract payments will be available only if service providers remain financially solvent and are able to charge prices that reflect costs. Today, both conditions are absent.

A key change will be adoption of a more commercial approach to structuring and regulating energy markets. Because markets develop best with many buyers and sellers that can trade freely among themselves, these countries should separate their energy transmission businesses into entities that are independent of producers and distributors and allow traders to access these facilities on nondiscriminatory, regulated terms. Kazakhstan and the Kyrgyz Republic have already done this, but Tajikistan and Uzbekistan have yet to start (World Bank 2008b).

The countries of the sub-region need to conclude agreements for exploiting the international water resources of their many rivers. These agreements need an equitable basis for sharing benefits, through the construction and operation of large hydropower storage plants. The agreements should incorporate a multiyear (10 years at least) perspective and an explicit recognition of downstream states’ obligation to pay for the annual and multiyear water storage services that upstream countries provide at considerable economic cost.

These agreements will be subject to external geopolitical influences, especially from Russia, the European Union, China, and South Asia. Strategic objectives are diverse. Russia has projects to export oil and gas to China and other countries and is helping Kazakhstan with its oil exports to China. The European Union focuses on facilitating Central Asian oil and gas exports to Europe. China invests in developing production in Central Asia and imports from the region. South Asia is becoming a potential market for major electricity exports from Tajikistan.
Notes

1. Uncertainty faces the liquefied natural gas facilities along the Adriatic Coast, including in Krk and Fieri. Competing projects are under development on the Italian Adriatic coast, in Rovigo (Panigaglia), and Brindisi. Agreement may not be imminent given the many parties involved—six foreign companies and three national in Croatia for example—and the environmental considerations.

2. Uzbekistan has cut gas shipments to the Kyrgyz Republic and Tajikistan because of nonpayment. It has also cut supplies for political reasons (in response to the Kyrgyz Republic’s acceptance of refugees from Andijan in 2005, for example). In the past it has also blocked the transit of electricity from the Kyrgyz Republic and Turkmenistan to Tajikistan.