As Vojislav Kostunica began his term as president of the Federal Republic of Yugoslavia, the attention of policymakers quickly focused on the challenge of rebuilding the country’s crippled infrastructure, which suffered throughout the 1990s as a result of neglect, sanctions, and NATO’s air campaign.

The Yugoslav Republic is only the latest, if arguably the most critical, target of international efforts at rebuilding and upgrading the infrastructure of southeastern Europe. In fact, since the end of the Kosovo conflict, countries in and around the region have, under the umbrella of the Stability Pact, devised plans and allocated funds for significant transportation, energy, and telecommunications projects.

All parties agree that these initiatives will, over time, enhance stability in the region, but specific infrastructure plans are often motivated by distinct, even competitive, rationales. Some actors seek to enhance their geopolitical weight by promoting projects, as in the case of some planned transportation arteries or pipelines. Favorable routes, it is argued, could diminish a country’s dependence on others to ensure flows of needed resources and would give the infrastructures’ operators more influence with downstream countries. The “strategic” perspective, in part, also guides Western support of southeastern European reconstruction efforts, since the region acts as a land bridge connecting Western Europe to resource-rich Central Asia and the Middle East.

In addition, the development of regional infrastructure is a way to increase interdependence among states, facilitating greater political cooperation and fostering a shared stake in regional stability. Since a
number of key projects need to be multinational to be efficient, investments in common networks are high-profile ways to cement ties with neighbors. As described below, international projects can also be used to reaffirm a country’s interest in improving relations with old adversaries.

Most important, regional states and Western donors see development of modern and efficient infrastructures as an engine for growth in a region that has been torn by war and hindered by historically low levels of economic development. The region’s immediate EU member neighbors, such as Greece, also see infrastructure initiatives as opportunities for opening new markets for their own products, services, and capital.

But how does each of the multiple actors and motives shaping the policy debate on southeastern European infrastructure affect the implementation of critical projects and how coherently such projects fit together? This chapter seeks to deepen the understanding of key infrastructure initiatives in each sector and of the policy implications of such efforts.

The following discussion is divided into seven sections. The first outlines the economic backdrop against which several infrastructure projects are being planned and the economic trends and constraints likely to affect further investments. The next five sections focus on particular sectors, describing for each the key issues, prominent projects or initiatives, and the policy implications of such plans. The sectors of interest are transportation, telecommunications, electricity, oil, and gas. The last section concludes with a series of policy implications for Greece and its partners.

THE ECONOMIC ENVIRONMENT

The 1990s were a period of economic decline for southeastern Europe. As indicated in Figure 4.1, the real GDP of several southeastern European countries was lower in 1999 than it had been ten years earlier. On almost all indicators of economic reform, regional

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1The water sector is often included in discussions of infrastructure issues. It is not analyzed here because most water projects are implemented nationally, while this chapter emphasizes regional infrastructure initiatives.
Figures 4.1—Real GDP in Southeastern European Economies, 1989–1999

economies have lagged behind their counterparts in Central Europe and the Baltic.

Figure 4.1 also underscores the erratic nature of regional economic development; this stop-go pattern is strongly related to the precarious macroeconomic picture for southeastern Europe. While several southeastern European states have been able to curb inflation to manageable levels, most economies continue to be plagued by high unemployment rates (the average is about 17 percent, with much higher rates in such countries as FYROM and Bosnia-Herzegovina) and chronic current account deficits (which increasing foreign debt has financed). Wars throughout the decade contributed to this underlying pattern of underdevelopment. According to recent estimates, the war in Kosovo helped turn regional GDP growth from about 1.3 percent in 1998 to –3 percent in 1999.2 Military conflicts

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2For a comprehensive discussion of the economic challenges facing southeastern Europe, see UN Economic Commission for Europe (1999, 2000).
and political unrest have also been critical constraints on inflows of much-needed foreign direct investment. Weak trading links among countries in the region, and between the region and Western Europe, provide a further disincentive for significant foreign direct investment.

Along with macroeconomic and financial factors, poor transportation infrastructure has frustrated regional efforts to achieve vigorous export growth (see Figure 4.2). Because southeastern European economies are small, making trade important, export growth is critical for sustained GDP growth.

![Figure 4.2—Merchandise Exports, 1993–1999, Economic Performance and Infrastructure](image)

**SOURCE:** UN Commission for Europe.

3Some of the causes of poor export performance are strong currencies; wars and instability, which have diverted trade and trade routes; lack of competitiveness in the export mix; and an unsophisticated financial sector. The author is grateful to F. Stephen Larrabee, Sophia Clement, Keith Crane, Ettore Greco, Ian Lesser, Jerry McGinn, and Bruce Pirnie for these and several other insights presented in this chapter.
Poor infrastructure is both a cause and a product of the region’s disappointing economic performance. Conflict has not been the only thing hampering the quality and reliability of the region’s infrastructure systems. Maintenance of existing networks has been neglected, in part because economic decline has decreased government revenues. Equally important, southeastern European governments have generally been unwilling to liberalize the infrastructure sectors swiftly, thereby putting the burden of maintenance and modernization on private investors.

Despite these problems, the infrastructure landscape in southeastern Europe is likely to change significantly in the coming years. The Kosovo conflict has prompted Western financial institutions to highlight infrastructure projects as important items in the southeastern European development agenda and has helped attract the economic and political capital such projects require to succeed. Changes in EU market policies, such as deregulation of the energy and telecommunications sectors, are likely to stimulate regional liberalization and, consequently, new investments. Finally, energy-related developments in the adjacent Black and Caspian sea regions will affect the Balkan peninsula. The next sections discuss sectoral issues in greater detail, highlighting the economic and political implications of key infrastructure initiatives under way or under discussion in southeastern Europe.

**TRANSPORTATION INFRASTRUCTURE**

Upgrading the region’s transportation infrastructure has become the focus of several Stability Pact initiatives: 71 percent of the Quick Start construction projects approved in 2000 are devoted to this sector. The emphasis on transportation is understandable, since the effective capacity and density of road networks in southeastern Europe are well below European standards. Only Bulgaria can claim a relatively comprehensive network of four-lane highways. The Yugoslav Republic’s north-south artery to Greece and the motorway linking Belgrade to Zagreb and Ljubjana were also constructed to support more-intense traffic. But these routes have also suffered from lack of maintenance and physical destruction. Such trends have affected the region’s relatively rudimentary system of smaller highways and secondary roads even more deeply.
Southeastern Europe’s rail networks do not compare favorably with those in Central Europe, although existing railway lines constitute less of a regional transportation bottleneck than do the roads. Having said that, such countries as FYROM and Albania greatly need railway system improvements.\(^4\) Officials in Skopje are especially keen to diversify their access to the international railway system after the Greek embargo of the mid-1990s, during which several FYROM firms (especially in heavy industries) wishing to export or import faced prohibitive transportation costs.

Ports are also a key part of the region’s transportation networks, since most countries (with the exception of FYROM and Bosnia-Herzegovina) have a coastal outlet on either the Adriatic or Black sea. Soviet-era investments in ports made these facilities less obsolete than other transportation infrastructure, but they need additional funding to expand their capacity and modernize.

**Specific Programs**

The development of the transportation infrastructure in southeastern Europe will be largely shaped by the Pan-European Transportation Corridors initiative, sponsored by the EU and international lending institutions. These multinodal (road, rail, and water) transportation arteries are designed to serve as the major channels of exchange within Europe and between Europe and adjacent regions. Table 4.1 lists the major nodes on each corridor and branch of the entire system. Six of the ten designated corridors involve countries in southeastern Europe; this portion of the system is shown in Figure 4.3. Corridors 5 (Hungary to Croatia), 9 (Romania to Alexandroupolis, Greece), and 10 (Austria to Thessaloniki, Greece) are the major north-south routes, while the major east-west routes are corridors 4 (Romania to Turkey, with a branch leading to Thessaloniki), 7 (following the Danube river, from Hungary to Romania), and 8 (Albania to Bulgaria).

\(^4\)In general, these two countries have the least-developed transportation networks. Albania’s poor infrastructure is a legacy of Hoxha’s regime, while FYROM’s poor East-West connections are a result of the former Yugoslavia’s emphasis on north-south links with Serbia.
These corridors represent the EU’s long-term transportation strategy, and investments will be made over a long period. Short-term investments will focus on critical bottlenecks. Most efforts in the region have thus far been directed toward the Albanian and FYROM portions of corridor 8. The Albanian section of corridor 8 benefits from a $200 million credit from the EU; projects include a road connecting the Adriatic port of Durres (which in turn is being modernized thanks to a $23 million grant from the World Bank) with Qafe on the FYROM border. To support FYROM’s growing reliance on the Greek port of Thessaloniki, the European Investment Bank (EIB) has agreed to finance the portion of corridor 10 running from Skopje to the Aegean port (Reid, 1999). The EIB is also lending funds for a highway between Durres and Tirana (Economist Intelligence Unit [EIU], 1999–2000a, and 1999a), while a direct rail connection between FYROM and Bulgaria is also being constructed. The Danube (corridor 7) will shortly benefit from international funding aimed at restoring unimpeded transit to the Black Sea. The clearing of debris obstructing the passage of transport ships should be completed in 2001.

Other key projects not directly related to the Pan-European Transportation Corridors include a planned north-south highway from Trieste to the Greek frontier at Igoumenitsa through Slovenia, Croatia, Montenegro, and Albania. The countries this route affects would like the EU to designate the highway as a new corridor, although the EU response has been cool so far (EIU, 1999c). Starting at Igoumenitsa, Greece’s Egnatia road will constitute an important motorway connecting Greece to the Turkish border (passing through Thessaloniki). The Greek government is also contemplating funding a rail line from Pogradec (on Lake Ohrid) to Florina, the starting point of another rail line to the port of Thessaloniki (EIU, 1999–2000a).

**Policy Implications**

As with all other infrastructure sectors, the viability of particular transportation projects is likely to be affected by both economic considerations and strategic priorities. While Milosevic was still in power, Western transportation planners focused much of their attention on routes that bypassed Serbia, such as corridors 4 and 8.
Table 4.1

Pan-European Transportation Corridors

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Route Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corridor 4</td>
<td>Berlin and Nuremberg (Germany) to Prague (Czech Republic) to Budapest (Hungary) to Constanta (Romania), Thessaloniki (Greece), and Istanbul (Turkey)</td>
</tr>
<tr>
<td>Corridor 5</td>
<td>Venice (Italy) to Trieste (Italy) and Koper (Slovenia) to Ljubljana (Slovenia) to Budapest (Hungary) to Uzgorod (Ukraine) to Lvov (Ukraine)</td>
</tr>
<tr>
<td>Branch B</td>
<td>Rijeka (Croatia) to Zagreb (Croatia) to Budapest (Hungary)</td>
</tr>
<tr>
<td>Branch C</td>
<td>Pluce (Croatia) to Sarajevo (Bosnia-Herzegovina) to Osijek (Croatia) to Budapest (Hungary)</td>
</tr>
<tr>
<td>Corridor 7</td>
<td>Danube river and ports</td>
</tr>
<tr>
<td>Corridor 8</td>
<td>Durrës (Albania) to Tirana (Albania) to Skopje (FYROM) to Sofia (Bulgaria) to Varna (Bulgaria)</td>
</tr>
<tr>
<td>Corridor 9</td>
<td>Helsinki to St. Petersburg to Moscow and Pskov to Kiev (Ukraine) to Ljubasevka to Chisinau to Bucharest to Dimitrovgrad to Alexandroupolis</td>
</tr>
<tr>
<td>Corridor 10</td>
<td>Salzburg (Austria) to Ljubljana to Zagreb to Belgrade to Nis to Skopje (FYROM) to Veles to Thessaloniki</td>
</tr>
<tr>
<td>Branch A</td>
<td>Budapest (Hungary) to Novi Sad to Belgrade</td>
</tr>
<tr>
<td>Branch B</td>
<td>Nis to Sofia (on Corridor 4 to Istanbul)</td>
</tr>
<tr>
<td>Branch C</td>
<td>Veles to Bitola to Florina to Via Egnatia</td>
</tr>
</tbody>
</table>

SOURCE: EIB
Figure 4.3—Transportation Corridors in Southeastern Europe
The change in the leadership of the Yugoslav Republic has reinforced earlier concerns about competition and duplication. Romanian and Bulgarian officials fear that progress on corridor 4 will slow considerably as investments are redirected toward corridor 10, a shorter north-south route. Greek observers are concerned that corridor 8 will compete with Greece’s east-west Egnatia motorway project.  

For the most part, these fears are exaggerated. To be sure, the Yugoslav Republic’s central location on the Balkan peninsula and its potential to become a regional transportation hub will prompt Western investors to focus on facilitating road transit on corridor 10, as well as on other critical improvements to Serbia’s road and rail networks. At the same time, however, it is very unlikely that corridor 10 investments will displace those earmarked for corridor 4, both for strategic and economic reasons. Strategically, funding sources, such as the EU, will want to support a series of north-south options to hedge against future instability in the region. From an economic standpoint, the attractiveness of corridor 4 depends only fractionally on the potential for blocked access to corridor 10. In fact, such corridors are not mere “pipelines” channeling traffic from Europe to areas at the edge of southeastern Europe but can also provide significant benefits to local firms that depend on low transportation costs to compete successfully and grow, inside and outside a particular country. Moreover, since investment decisions are made on particular sections of a corridor, analyses of viability for an entire route can be misleading.

Similarly, corridor 8 and the Greek Egnatia road can be undertaken in a way that minimizes duplication. The former is necessary, given

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5For instance, Axel Stiris Wallden (1999, p. 110) argues that the Via Egnatia is more feasible than corridor 8 and assumes that the two projects are mutually exclusive.

6Planners have put a high priority on funding and completing certain near- to medium-term roadway projects: the trans-Serbia motorway, running some 300 km from the Hungarian border to the Bulgarian and FYROM borders; a 570-km roadway between Belgrade and Bar, Montenegro, which is Yugoslavia’s sole port; the roadway between Belgrade and the border with Croatia, for 40 km; and a roadway from Belgrade to the Romanian border, a distance of 100 km. Another goal is completion of a series of railway projects by 2010: modernizing the railway network from the Hungarian border to Belgrade and the Belgrade-to-Nis railway to the twin-track standard and making major repair and electrifying the railway between Nis and the Hungarian border. See EIU (2000–2001).
the lack of basic transportation networks in FYROM and Albania and, when complemented by robust transportation links between Greece and corridor 8 countries, it will benefit firms operating in northern Greece that are already active in cross-border trade. Indeed, as long as the Yugoslav Republic (including Kosovo) remains politically volatile and has a damaged infrastructure, linking Albania and FYROM to both Italy and Bulgaria on the east-west axis and to Greece on the north-south axis represents the best chance of keeping these countries engaged in regional cooperation and development.

Finally, policymakers need to consider a broader resource allocation issue when contemplating financial support for transportation projects in southeastern Europe. New projects are desirable and necessary when there is little existing infrastructure, such as in Albania. At the same time, however, a great number of transportation problems can be tackled effectively not by building new roads but rather by devoting more funds to maintenance and expediting border procedures. Allocating resources in a way that strikes the right balance between building new networks and improving existing ones is key for this and other infrastructure sectors.

TELECOMMUNICATIONS INFRASTRUCTURE

As in the transportation sector, southeastern Europe’s telecommunications networks are relatively underdeveloped. Fixed and mobile telecommunications line densities vary significantly across countries, with Croatia and Bulgaria on the high end of the distribution and Albania on the low end. Penetration is generally low, largely because network investment was insignificant for most of the 1990s (as a result of low tariffs and low bill collection rates) (World Bank, 2000). The Yugoslav Republic, whose telecommunications networks compared favorably with those of its neighbors for most of the 1990s, now has to embrace basic reconstruction tasks in order to repair the damage from NATO air strikes.

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7Two key efforts to remove bottlenecks at border crossings are the Southeast Europe Cooperative Initiative and the World Bank’s Trade and Transport Facilitation in Southeast Europe project.
Specific Initiatives

While there have been government-sponsored infrastructure initiatives, such as fiber-optic trunk lines connecting Europe to Asia and the Balkan countries to each other, the liberalization of telecommunications markets in southeastern Europe has prompted the most significant developments. In the late 1990s, a number of governments decided to privatize their existing telecommunications companies to raise funds and spur foreign investment in this sector. The trend toward privatization has sparked the interest of foreign telecommunications firms; Hellenic Telecommunications (OTE) in particular is emerging as a key player. The Greek telecommunications operator is seeking to consolidate its ownership in southeastern European counterparts to create an integrated Balkan network. OTE already owns 35 percent of Romania’s Romtelecom and 20 percent of the Yugoslav Republic’s Telekom Srbija. Along with KPN, a Dutch telecommunications provider, OTE sought to acquire a joint 51-percent stake in the Bulgarian Telecommunication Company for a reported $510 million, although negotiations have been suspended (EIU, 2000c). OTE has also expressed an interest in buying one-third of Makedonski Telekomunikacii, FYROM’s state-run telecommunications company, and 25 percent (worth about $800 million) of Croatia’s Hrvatske Telekomunikacije (EIU, 1999–2000b). The process of privatizing Makedonski Telekomunikacii began in early 2001 with the sale of a majority stake to MATAV, the Hungarian telecommunication company. Albania’s fixed-line monopoly, Albtelecom, is expected to be privatized in 2001.8

Policy Implications

Poor telecommunications systems can significantly hinder growth, given their importance in today’s business environment. Foreign involvement is critical because it transfers capital and know-how to investment-starved telecommunications networks in southeastern Europe. The plans of foreign carriers, such as OTE, to create regional networks will add coherence to a market that has hitherto been both small and highly fragmented.

8The Albanian government expects the full market to be liberalized by 2003. See EIU (2000b).
In fact, it is very likely that market dynamics will eventually determine the regional telecommunications landscape. Even the Greek government’s full ownership of OTE is likely to be diluted soon, as Deutsche Telekom and Telecom Italia consider acquiring a 20-per-cent stake in the company (Telecoms Deal Report, 2000). More generally, liberalization in and around the region is expected to unleash flows of private funds (both for fixed-line and mobile telephony) that will eventually dwarf public investment.

The challenge for governments, therefore, will not be deciding where and how resources should be allocated but rather on establishing a robust regulatory framework that will encourage much-needed inflows of capital to improve and expand existing infrastructures. In parallel with private-sector initiatives, southeastern European states may want to consider a World Bank proposal for the creation of an integrated regulatory framework for regional telecommunications. This would also entail the establishment of “clubs” to promote cross-border service provision and even the possibility of eliminating international call surcharges for cross-border calls made within the “clubs” area (World Bank, 2000).

**ELECTRICITY INFRASTRUCTURE**

Southeastern Europe’s power-generation sector is more developed than its transportation and telecommunications networks—mainly as a result of high Communist-era priorities on electric power and universal coverage. In fact, as energy-intensive industries declined in importance after the end of the Cold War, some countries in southeastern Europe have far more generating capacity than their domestic markets require. Romania, for instance, can generate twice as much power as it currently consumes. Overcapacity is coupled with inefficiency: While consumption per capita is approximately half that of Western European countries, consumption per unit of output actually exceeds the OECD-Europe average by a factor of 2 to 3 (EIB, 2000).

Against this backdrop, the reintegration of southeastern Europe’s national networks with each other and with Western Europe’s system, the Union for the Coordination of Transmission of Electricity, has been high on the agenda. A host of feasibility studies and preliminary bilateral interconnection agreements have led to the recent approval of plans to create, by 2006, a regional electricity market.
connecting Albania, Bosnia-Herzegovina, Bulgaria, FYROM, Greece and Romania (Sofia BTA, 1999). The Yugoslav Republic will most likely be added to these plans in the near future, since the NATO bombing cut its international and long-distance power connections.³

**Specific Initiatives**

Three principal rationales are driving the push toward interconnecting the region’s power markets. First, interconnection allows greater network efficiency, including stability improvements, sharing of spinning reserve, and cost savings. Second, some countries wish to diversify their sources of imported electricity for strategic reasons. Greece, for example, is keen to establish alternative connections to Western Europe’s system because the original line through Serbia was rendered inoperable in the 1990s. The option of establishing a link to the Italian grid will soon become a reality with the recent approval of an underwater link between Puglia, Italy, and Ipiros, Greece. Additional lines may cross the Adriatic to augment this link in a few years (Energy Information Administration [EIA], 1999b).

Third, better network integration gives countries with large overcapacity a greater ability to export surplus electricity. Other countries, such as Albania and Bosnia-Herzegovina, also stand to gain from integrated electricity markets given their considerable potential for hydroelectric power generation (EIU, 2000a). Most power-rich countries are eager to export electricity to Turkey, whose energy demand is projected to grow substantially. Bulgaria is already supplying power to Turkey and plans to expand its exports by building additional facilities built in conjunction with Turkish construction firms (Sofia BTA, 2000b). Romania also wants to provide electricity to Turkey, although negotiations for transmission of Romanian electricity on Bulgaria’s grid have proven thorny (Sofia BTA, 2000a). Improving ties between Athens and Ankara were instrumental for the approval of a plan to connect Greece’s power grid to Turkey’s. The agreement led to the formation of a consortium of Greek and Turkish companies to build a natural gas power plant in Greece that will serve the Turkish market (Ankara Anatolia, 2000a).

³Before the Kosovo conflict, the Federal Republic of Yugoslavia had devised plans to augment capacity by building new plants with a capacity exceeding 3,000 MW and upgrade existing facilities. Most of these have now been shelved (see EIU, 2000–2001).
Liberalization of EU’s own electricity market is also likely to help shape southeastern Europe’s power-generation sector. EU deregulation will prompt existing operators to expand internationally, including in southeastern Europe. Italy’s ENEL agreed to partner in 1999 with the Greek firm Prometheus Gaz to develop and implement energy projects in and around Greece. In addition, other Greek power suppliers are becoming increasingly involved in southeastern Europe. The Greek Public Power Corporation has established a presence in Romania and, in conjunction with other Greek firms, has won a contract to construct, upgrade, and maintain FYROM’s power stations and distribution network.\(^\text{10}\)

**Policy Implications**

Southeastern Europe’s future electricity market will be more interconnected today’s. Interconnection brings economic and political advantages. Linking the Greek and Turkish grids, for instance, could help satisfy a real need for more power in Turkey and serve as a highly symbolic affirmation of improving political ties. At the same time, however, an integrated electricity market is not a panacea for all the problems afflicting southeastern Europe’s power-generation sector. While such markets as Turkey’s will serve as sources of export revenue for some countries in southeastern Europe, they will not be able to absorb all the excess capacity; moreover, EU electricity providers will likely prove to be tough competitors.

The development of regional electricity sector projects should promote efforts that, in addition to being politically useful, can also offer a high-enough rate of return and generate significant efficiencies. The chances that economic logic will prevail as the leading criterion for investments are going to improve as regional electricity markets become progressively liberalized. Several governments in the region, such as those of Albania and FYROM, have already announced plans to deregulate their electricity sectors to conform to agreements with the EU.

\(^{10}\)The FYROM government and the Greek company Biolignit have also signed a 10-year, $300 million agreement under which FYROM will import lignite from Greece in exchange for power produced from the lignite. See EIA (1999b).
NATURAL GAS INFRASTRUCTURE

With the exception of Albania, all southeastern European countries have a natural gas link to Russia, from which they obtain the most of their gas. These systems, however, are not integrated with alternative suppliers or with each other. According to the World Bank (2000),

the full market potential for gas can only be realized with the construction of new gas transport pipelines, the further development of gas distribution infrastructure and greater integration of the gas markets in the region.

To create a more efficient and integrated gas market, there are plans to augment the existing pipeline network with a number of new trunks. As Figure 4.4 shows, several of the existing and proposed pipeline routes originate in Russia and some in Western Europe, while others are expected to deliver gas from the Caspian Sea and the Middle East.

Gas from Russia

Russian natural gas reaches southeastern Europe through two distinct routes. The first is a system of pipelines connecting Russia with Hungary, and eventually with the former Yugoslav republics. The second route is a north-south trunk line crossing Romania and Bulgaria into Turkey, with branches delivering gas to FYROM and Greece.\(^\text{11}\)

Bulgaria, in its quest to become a key distributor of Russian gas in the region, has signed a memorandum to build additional pipeline capacity so that more Russian gas can flow to Greece, Turkey, and FYROM.\(^\text{12}\) According to other plans, Bulgaria would also play a role

\(^{11}\)Russian gas has been flowing to Greece since 1997, covering approximately 15 percent of its energy needs. Prometheus Gas, the joint venture between Russia’s Gazprom and its Greek partner, the Kopelouzos group, is considering extending the pipeline northward to Albania. See EIA (1999b).

\(^{12}\)Bulgaria’s relationship with Gazprom has at times been rocky: The two parties have disagreed over arrangements for transporting Russian gas exports to the Balkans and Turkey. Gazprom has also complained that Bulgaria has delayed construction of the
in supplying Russian gas to the Yugoslav Republic with a pipeline linking its network to Serbia proper, Montenegro, and eventually Kosovo. The NATO air strikes disrupted Serbia’s current link with the Russian gas network through Hungary, and Belgrade sees an alternative southern route as a way to lessen its dependence on a single conduit. The future of this pipeline remains uncertain, largely because of Russian reluctance to channel more gas to the Yugoslav market.\textsuperscript{13} The continuing potential for instability in Kosovo is also

\textsuperscript{13}Belgrade has defaulted on a mounting debt to Gazprom several times, forcing the latter to cut off supplies.
working against further consideration of pipelines linking this territory with Serbia proper and Montenegro (EIU, 2000–2001).

To better serve booming markets, such as Turkey’s, and to curtail Bulgaria’s hold on its exports, Gazprom is promoting Blue Stream, an underwater pipeline linking Russia and Turkey across the Black Sea. Blue Stream was approved in 1997 and is being built in conjunction with Italy’s ENI.14 Blue Stream competes with other projects to deliver gas to Turkey (discussed below). Despite these challenges, Blue Stream has begun construction, supported by loan guarantees from Italy’s and Japan’s export-import banks (Petroleum Economist, 2000).

**Gas from Western Europe**

Some southeastern European countries keen to diversify their sources of gas are seeking to integrate their networks with those of Western Europe. Croatia is hedging its natural gas bets—after experiencing supply problems during the conflict in Bosnia—by building a pipeline connecting its system with Italy’s.15 Romania also sees gas imports through Italy as an alternative to Gazprom; the Romanian state gas group, SNGN Romgaz, signed an agreement in 1998 to pipe gas from Italy through the Croatian gas network (Beckman, 1999). Romania’s diversification strategy may also lead to the construction of a pipeline linking to Hungary and eventually to the northern European gas distribution system. Officials in Bucharest have argued that this pipeline could eventually be extended to Bulgaria and the Yugoslav Republic (Russian Oil and Gas Report, 2000).

The EU has also sanctioned plans to build a $600 to 800 million gas connection between Greece and Italy. Gas is expected to be flowing beneath the southern Adriatic by 2002.16

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14 In April 2000, a $1.8-billion funding agreement was reached for the Blue Stream pipeline. Construction work began earlier that year (see Rome ANSA, 2000).

15 The deal between Croatia’s energy monopoly INA and its Italian counterpart ENI was signed in November 1997 and calls for supplying 3 billion m³ of natural gas annually (Business Eastern Europe, 1998).

16 If this pipeline is not completed, it is possible that another liquefied natural gas terminal will be constructed in Greece (see EIA, 2000b).
Gas from Central Asia and the Middle East

Resource-rich countries in Central Asia, such as Azerbaijan and Turkmenistan, are seeking avenues for transporting their gas to Europe that bypass the Russian network, in response to Gazprom’s past reluctance to grant inexpensive access to its pipelines (Sofia Kontinent, 1998). One of the routes bypassing Russian territory would bring Turkmen gas first to Turkey, then possibly to Europe, under the Caspian Sea and via Azerbaijan (which could also pump its own gas) and Georgia (Shenoy, Gulen, and Foss, 1999). The United States and Turkey support the so-called Trans-Caspian Pipeline (TCP) as part of plans to bring Caspian oil and gas to international markets, while avoiding passage through Russia or Iran. The fate of this project remains unclear, however. In late 1999, Turkmenistan signed a contract to export a large amount of its gas production through Russia, and negotiations for expanding such an agreement are ongoing. Moreover, Western companies in the TCP consortium have been dissatisfied with Turkmene terms and conditions for the deal, and some have recently withdrawn their support (Hart’s E&P Daily, 2000).

Pipelines channeling gas from Central Asia, through the TCP or eventual substitutes, could eventually expand to include Greece, after its gas network is integrated with Turkey’s. A Greco-Turkish gas link became more likely after the July 2000 establishment of a joint working group of Greek, Turkish, and European Commission energy officials. However, this initiative remains at the early planning stages, and the implementation of concrete projects remains a medium-term prospect (Ankara Anatolia, 2000c).

Further gas export options for Turkey, and indirectly for southeastern Europe as a whole, may come from Egypt’s deepwater offshore fields. In early 2000, these two countries signed a protocol calling for Turkey to purchase Egyptian natural gas, either through an ambitious 1,200-km pipeline or by ship, in liquefied form (analysts have raised serious questions about the economic feasibility of this project, however) (Cairo MENA, 2000). Another possible, if unlikely, source of natural gas for Turkey is Syria. In a recent statement, a Turkish government official claimed that, if significant gas reserves were to be discovered in Syria, these could be connected to the planned terminal at the Turkish city of Iskenderum (Ankara Anatolia, 2000b). Finally, Algeria
is emerging as an important direct gas supplier to southeastern European markets; terminals have recently been built in Greece and Romania for the import of Algerian liquefied natural gas (LNG).17

Policy Implications

Unlike oil, gas is essentially a regional, rather than global, commodity. Still, the expansion of the gas transit infrastructure across Eurasia, the Middle East, and Europe is creating a larger, more diverse, and more interdependent system of supply. Southeastern Europe is set to occupy an increasingly important place in this network in the near future.

Unsurprisingly, both economic and political objectives drive gas pipeline projects in southeastern Europe. Strategically, countries that perceive a risk in heavy dependence on a particular gas source find diversification of the supply to be a source of security. Moreover, the construction of pipelines between two countries looking to cement their ties, such as Turkey and Turkmenistan or Greece and Turkey, is often politically advantageous.

A more deeply integrated gas network is economically beneficial in principle, since it would allow matching supply and demand more competitively. This, however, does not automatically make all the projects described above viable. In fact, unlike some other investments discussed here, natural gas pipelines are primarily financed and built by private companies, which demand a high enough rate of financial return to justify involvement. Some of the pipelines under discussion would not meet that criterion, especially when implemented in conjunction with others (such as Blue Stream and the TCP). To be sure, demand for gas will increase as these countries move away from more-inefficient coal-burning factories; however, the potential markets are relatively small, and increasing competition from Western Europe will probably diminish the potential gains from selling surplus gas to third parties.

17 Greece also agreed to purchase 600 million m$^3$ of Algerian LNG per year over a 20-year period (see EIA, 1999b).
OIL INFRASTRUCTURE

The southeastern European oil sector is likely to change significantly. While some of the proposed oil infrastructure projects will be geared toward meeting the region’s energy requirements, other pipelines crossing southeastern Europe will instead be built to bring crude oil from Russia and Central Asia to Western markets. In particular, Bulgaria and Romania are promoting their Black Sea ports of Burgas and Constanta as alternatives to the already-crowded Bosphorous Straits.

Four planned routes for bringing Caspian oil westward, either from Black Sea ports or from Turkey’s Mediterranean coast (all bypassing the Bosphorous) are particularly relevant to this analysis: (1) Baku, Azerbaijan, to Ceyhan, Turkey; (2) Burgas, Bulgaria, to Alexandroupolis, Greece, on the Aegean; (3) Burgas to Vlore, Albania, on the Adriatic; and (4) Constanta, Romania to Trieste, Italy. As Figure 4.5 illustrates, all routes except Baku to Ceyhan cross the Balkan peninsula. Another significant oil infrastructure project is the oil pipeline that will link Thessaloniki to Skopje. Each of these initiatives is reviewed in the subsections below.

Baku-Ceyhan

Baku to Ceyhan is one of three options for the main export route for oil from the Caspian Sea region. This pipeline, which the British Petroleum-Amoco–led AIOC consortium is considering, would begin moving oil from Azerbaijan and the eastern Caspian Sea to Turkey’s Mediterranean coast by 2004–2005. AIOC is also considering such other options as pipelines connecting Baku to the Georgian port of Supsa and Novorossiysk in Russia.

The path toward development of the Baku-Ceyhan pipeline has been tortuous, despite strong support from Turkey and the United States. The project’s eventual profitability has been the subject of much debate. On the cost side, Turkey believes that the pipeline could be built for $2.7 billion, but AIOC has argued that it would take as much as $3.7 billion. On the revenue side, the oil companies have claimed that the pipeline is not likely to have enough oil volume to justify its capital cost. The most influential members of AIOC have hinted that
they would prefer expanding the Baku-to-Supsa pipeline.\(^\text{18}\) Georgia, however, has resisted upgrading the Baku-Supsa route, under heavy pressure from Turkey and the United States. For its part, Moscow would like AIOC to rely on the existing pipeline from Baku to Novorossiysk and recently proposed expanding this pipeline’s capacity and diverting it from Chechnya to Dagestan.\(^\text{19}\)

The likelihood that the pipeline will be constructed was recently increased by AIOC’s discovery of the Shah Deniz gas-condensate in Azeri waters in 1999. This large gas field could help alleviate the oil-reserve shortfall for the Baku-Ceyhan oil line and make the project financially viable.\(^\text{20}\) Moreover, the recent agreement among Azerbaijan, Georgia, and Turkey on the regulatory formula for the

\(^{18}\) AIOC has suggested that proven reserves in Azeri oil fields are not, by themselves, sufficient to make Baku-Ceyhan economically viable (they could supply 800,000 barrels per day, while the consortium indicated a minimum of 1 million) (Demirmen, 1999).

\(^{19}\) This has run into some problems however. Given the high viscosity of AIOC’s oil, the Russian pipeline operator has decided to mix it with lower-grade oil, devaluing the crude (see Useinov, 2000).

\(^{20}\) On the other hand, adding a gas line to the Baku-Ceyahn route may make the TCP less feasible.
project—including the tariffs Georgia and Turkey will apply to the transiting crude—has added to this option’s momentum (Oil & Gas Journal, 2000). The project’s viability will remain uncertain, however, until the sponsor group of governments, oil companies, and international lending institutions secures appropriate financing. Beyond this, there are larger questions surrounding the future of Western relations with Iran and the possibility of a lower-cost route that would bring Caspian oil to world markets via the Persian Gulf—an option with strategic complications of its own. The future feasibility of an Iranian route could affect the commercial and political calculus for Baku-Ceyhan.

Burgas to Alexandroupolis

In June 1995, Greek, Bulgarian, and Russian officials signed a protocol for a $700 million trans-Balkan pipeline to transport Caspian oil to the Aegean. According to the plan, Russian and Kazakh oil shipped from Novorossiysk would be transported across the Black Sea to Burgas and then travel to Western markets through a 280-km pipeline ending at the Aegean port of Alexandroupolis. The pipeline could potentially be a conduit for Caspian crude shipped from the Georgian port of Supsa.

While this scheme could prove economically viable, it has yet to be implemented, given differences between Greece, Bulgaria, and Russia over expected volumes of Russian crude, transit fees, and sharing of capital costs. Some progress has recently been made with the completion of feasibility studies and the creation of a formal consortium—the Transbalkan Pipeline Company—for the construction and operation of the pipeline.21

Burgas to Vlore

Bulgaria’s oil-sector ambitions are also reflected in its support for the Albania-Macedonia-Bulgaria Oil Corporation (AMBO) pipeline. The AMBO pipeline is expected to be 913 km long and would cross the

21Russia controls half the company’s equity; private Greek firms hold a 30-percent stake; the Greek and Bulgarian State oil companies each hold 5 percent; and U.S.-based ChevronTexaco holds 10 percent (see EIA, 2000a).
Balkans from Burgas to the Albanian port of Vlore on the Adriatic at an estimated cost of about $1 billion. Like the Burgas-Alexandroupolis line, the AMBO project would carry Russian and Caspian oil transported across the Black Sea and on to the markets of Western Europe and North America. AMBO officials have claimed that the pipeline could also be extended from Vlore to the Italian port of Brindisi.

This project is in the planning stages, but construction is scheduled to start in 2001 or 2002. AMBO has secured letters of acceptance from the governments of Albania, Bulgaria, and FYROM and has attracted the interest of large oil industry investors, such as ENI, BP, and Lukoil, and financing institutions, such as the EBRD (see EIA, 2000a). Despite concerns over cost and the construction challenges posed by the mountainous terrain, the AMBO pipeline received a boost from the results of a U.S.-sponsored feasibility study confirming its viability (Perkins, 2000).

**Constanta to Trieste**

Like Bulgaria, Romania wishes to use its Black Sea ports as starting points for pipelines carrying Russian and Caspian oil to Europe. A pipeline joining Constanta to Trieste has recently generated significant interest. Two routes for this line have been proposed: the Constanta-to-Trieste Pipeline (CTPL) and the Romanian-Italian project for a Southeast European Line (SEEL). The technical specifications for the two planned pipelines are virtually identical, and these plans are certain to be combined into a single project. Several alternative paths exist for this oil transportation corridor, with southern—and shorter—routes passing through the Yugoslav Republic and Croatia toward Slovenia and Italy, and northern ones through Hungary bypassing the Yugoslav Republic and/or Croatia altogether. Croatia is pressing to have the pipeline cross its territory, since Zagreb would like to redirect some of the oil to its Adriatic seaport of Omisalj.22

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22Omisalj is currently an import terminal and serves as the starting point of a pipeline that delivers oil to Central Europe and FRY. Converting this port into an export facility would prompt the Federal Republic of Yugoslavia to consider obtaining oil directly from Russia’s Druzhba pipeline (the flow of the pipeline terminating at Omisalj would
Planning for the construction of the CTPL has already begun. In 1998, Italy’s ENI signed a protocol with its Romanian counterpart for the construction of a $1 billion pipeline, to be operational by 2002. The CTPL project also gained U.S. support, after a U.S. Trade and Development Administration–financed study concluded the project would be feasible. The Constanţa to Trieste route is the shortest connection for Caspian oil to Western European markets and would leverage Romania’s existing oil storage and refining infrastructure (Romania’s refining capacity of 34 million tons greatly surpasses domestic consumption) (EIU, 1999–2000c). Moreover, the SEEL and CPTL pipelines would both also serve markets in southeastern and central Europe and allow for a future linkup with the Trans-Alpine oil network in Austria and Bavaria (Beckman, 1999).

Thessaloniki to Skopje

In May 1999, FYROM government agreed to privatize Skopje’s oil refinery, OKTA, granting control of this facility to a consortium led by the Greek state oil company, Hellenic Petroleum. This acquisition was a part of a $150 million investment program for which the Greek side will build a 220-km pipeline from the port of Thessaloniki in northern Greece to Skopje. The pipeline will have an annual capacity of 2.5 million tons, exceeding FYROM’s current demand of 1 million tons a year. There are plans eventually to utilize the excess capacity to pump oil northward to Serbia (EIU, 1999b).

Policy Implications

Like regional gas infrastructure initiatives, a series of political and economic factors deeply affect the development of the oil pipeline projects described above. Since the demand and supply volumes required to render all of these schemes viable are unlikely, some of the proposed lines will not be constructed. The two Balkan export pipelines from Burgas to Alexandroupolis and Burgas to Vlore have the greatest potential for needless overlap.

\[23\] The CTPL is more complementary, because one of its key purposes is to supply the region with Caspian oil, not solely to export it to Western markets.

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movers—those able to secure financial backing and forge the necessary consensus among partners in the least amount of time—will have a significant advantage. At this stage, Burgas to Alexandroupolis appears to be the more precarious route, not because it is intrinsically less viable from an economic standpoint but primarily because of project implementation delays caused by Russian skepticism.

As in other infrastructure sectors, the features and very feasibility of some of the projects outlined here will change to the extent that the Yugoslav Republic becomes integrated into Western reconstruction and financing plans. Given its central location, the Yugoslav Republic should figure prominently as an attractive location for several routes. For instance, the Skopje-Thessaloniki pipeline could be extended northward, and the CTPL could cross northern Serbia, significantly shortening its total length.

CONCLUSIONS AND OVERALL POLICY IMPLICATIONS

The previous sections have underscored the fact that the infrastructure landscape in southeastern Europe is likely to change significantly in the near to medium term. The implementation of transportation, telecommunications, electricity, natural gas, and oil infrastructure projects will have substantial economic and political effects on the region. These infrastructure issues and schemes will also have significant implications for Western policy as a whole and for Greece as a key actor in southeastern Europe and the eastern Mediterranean.

Implications for Western Policy

Four key policy implications emerge for the United States, the EU, and other international institutions:

- **The risks of duplication are fairly small and are confined to specific projects.** The only initiatives (from those examined above) with a clear potential for duplication are the Burgas to Alexandroupolis and AMBO pipelines. It is also apparent that not all the gas pipeline projects examined here will ultimately prove to be viable. Blue Stream and the TCP stand out as likely competitors, although it is impossible to predict at this stage
which “constellation” of pipelines will make the transition from the drawing board to full implementation.

At the same time, however, projects in the energy sector, as well as most of those in other infrastructure areas, should not be viewed simply as parts of a zero-sum game. This is also particularly relevant when considering the effects the reintegration of the Yugoslav Republic will have on the calculus of donors and investors. Given its geographic location and the significant damage to its infrastructure during the Kosovo war, the West should give the country a prominent place in its regional reconstruction strategy. Undoubtedly, the features of some projects will be reviewed in light of the regime change in Belgrade. That said, some of the region’s most pressing long-term infrastructure development deficits are outside of Serbia—for instance, transportation routes in Albania, Bulgaria, FYROM, and Romania—and the Yugoslav Republic’s participation in regional projects will not greatly diminish their economic rationale.

• The role of states in determining southeastern European infrastructure policy will change—and in many ways be weakened—over time. The fact that governments in the region are heeding EU calls for the gradual liberalization of such sectors as energy and telecommunications will also help limit a “Great Game” approach to infrastructure development. As market forces begin to shape southeastern European infrastructure networks, the role of governments should shift away from setting top-down policy and move toward providing institutional and regulatory frameworks that promote competition and encourage increased investments.\(^24\)

• Western institutions and investors should make economic return the dominant criterion for allocating resources. As illustrated above, infrastructure reconstruction efforts are often motivated by reasons other than economic efficiency. While politically popular infrastructure programs may enhance short-

\(^{24}\)This shift will not apply to all sectors, however. In fact, some of the infrastructure projects discussed above, such as roads, are unlikely to attract much private-sector interest in the near future. Governments and institutional investors will have to continue filling the financing-and-implementation gap for projects that are not attractive to private-sector firms but that are nonetheless economically beneficial.
term stability, Western countries and institutions should not lose sight of the fact that, in the long run, only high-return infrastructure projects will help economic development and regional cooperation. To be sure, it will be impossible to ignore political considerations when making investment decisions, and it may even be appropriate to support the rare projects whose political or strategic benefits greatly outweigh economic costs. Western donors and recipient countries also need to keep in mind that infrastructure development is, by its very nature, a long-term endeavor and that costs incurred in the short run will often yield benefits several years after project completion.

- **Infrastructure investment, even if well managed, will not suffice to guarantee regional development and stability.** The presence of a robust infrastructure is a necessary but not sufficient condition for sustained growth and integration. Economic development will still depend in large part on macroeconomic policymaking in the countries of southeastern Europe, as well as on the strength of their supporting institutions.

**Implications for Greek Policy**

Given its geographic location and regional economic interests, Greece has a particularly strong stake in the development of southeastern European infrastructure networks. Greece is arguably the EU country with the most to gain from the fall of the Milosevic regime. In fact, Athens will now be able to play a key role in the reconstruction of essential infrastructure arteries connecting the country to southeastern Europe, as well as with the rest of the EU. The importance Greece attaches to rebuilding the Yugoslav Republic is reflected in the recent decision to allocate more than half of the five-year regional development aid program to projects in Serbia (*Athens to Vima*, 2000).

At the same time, however, Greek links with other countries will remain important and should not be neglected in future years. In particular,

- **FYROM.** Greece is currently the largest foreign investor in FYROM and the latter’s second-largest trade partner; the Kosovo crisis has also made clear the stake Athens shares in the social
and political stability of FYROM. The series of large transportation, energy, and telecommunications infrastructure efforts that will link the two states even closer, coupled with the rising level of Greek investment in the country, should assuage fears that Greek involvement in the region is being threatened by an east-west axis linking FYROM with Bulgaria and Albania. By building robust north-south links with FYROM (as well as Albania), Greece will itself be able to tap into new east-west routes, and use FYROM as a base for expanded commercial activities elsewhere in southeastern Europe.

- **Turkey.** Greece-Turkey linkages are also proliferating in all infrastructure sectors. Once completed, Via Egnatia will offer international-standard motorway access between major Greek cities and Istanbul. The decisions to link electricity grids and eventually to build a shared natural gas pipeline are signs of improving relations between Athens and Ankara and are, to be sure, good politics. Greece should continue to cement ties with Turkey through joint involvement in infrastructure development but should pay attention to the economic logic. Indeed, infrastructure linkages, such as gas pipelines, may not be economically efficient for a number of years. Greco-Turkish infrastructure cooperation could be kept on the rise by the creation of cooperative ventures (in construction, for example) targeting markets in other southeastern European countries. These efforts would reinforce the view that Greece and Turkey need to cooperate to meet regional requirements and capture regional opportunities of joint benefit.

- **Albania.** This country will remain an important focus of Greek involvement because it provides both a new market and an alternative north-south route bypassing Serbia. Athens continues to be attracted to the idea of a new Adriatic transportation corridor from Trieste to Igoumentisa, and Greek involvement in the country's energy market will increase over time. Provided that these ventures are economically justifiable, Greece should encourage them.

- **Italy and Bulgaria.** Greece should continue to diversify its energy access through Bulgaria and Italy, with a keen eye toward the real economic and strategic implications of projects in this area. Italy will continue to be a key country for Greek infrastruc-
ture policy, both as a supplier of gas from North Africa and as a partner in joint ventures focusing on southeastern Europe. Bulgaria is also emerging as a key distributor of energy resources in southeastern Europe and will remain important to Greek companies as long as it supplies the Greek market with natural gas. If developments in the Caspian region make Bosphorous bypass routes feasible and desirable, Greek companies may want to reach a swift agreement with their counterparts in Sofia and Moscow for the implementation of the Burgas-to-Alexandroupolis pipeline. However, the economic and strategic importance of this project should not be exaggerated. Implementation of the rival AMBO pipeline would not greatly compromise Greek interests, and the subsequent loss of transit fees is probably insignificant at an aggregate level.

More broadly, Greek involvement in regional infrastructure development should help Athens play a constructive role, both bilaterally with southeastern European countries and in partnership with Brussels and Washington. In this context, Greece should continue to advocate greater Western attention to—and funding for—the region and its development needs as a means of stabilizing a crisis-prone hinterland.