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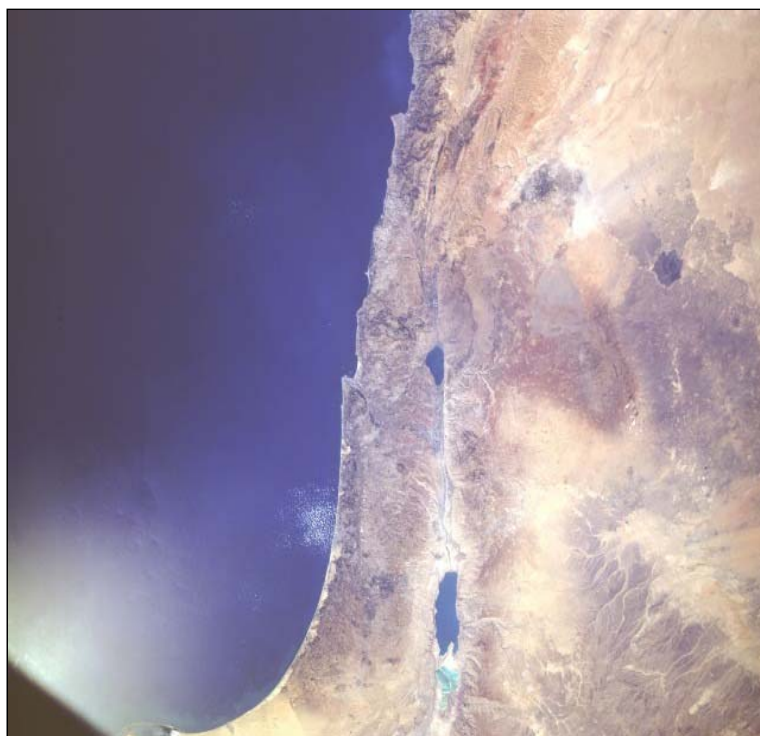
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Eastern Mediterranean Region

While the countries of the eastern Mediterranean region produce only modest quantities of energy, they occupy a strategic location in terms of regional security and potential energy transit routes.

Note: Information contained in this report is the best available as of August 2005.



GENERAL BACKGROUND

Though they occupy a relatively small geographic region, the countries of the eastern Mediterranean region have sharply different economic and political systems. Israel has a highly developed economy and democratic system of government. After experiencing two years of recession in 2001 and 2002 after the renewed Israeli-Palestinian violence which began in 2000, and a year of very slow growth in 2003, Israel's economy is beginning to make a more robust recovery. Growth in real gross domestic product (GDP) in 2004 was 4.3 percent, and is forecast at 3.9 percent for 2005. Strong growth in exports of technology products, as well as a revival in the tourism sector, have contributed to the recovery over the last year.

Jordan also has seen strong economic growth over the last year, after a modest slowdown in 2003 due to the disruption of trade as a result of the war in Iraq. Real GDP growth was 7.5 percent in 2004, and is forecast at 6.1 percent for 2005. The one major problem Jordan faces in the near-term, though, is the loss of subsidized oil supplies from Iraq. Kuwait and Saudi Arabia had provided discounted oil as a stopgap measure through 2004, but Jordan now has to purchase oil at world market prices, which has been a drain on the country's current account balance. Strong growth in exports, however, as well as increased remittances from Jordanian workers in the Persian Gulf region, have offset this effect.

Syria has continued its pattern of economic growth only slightly higher than its population growth in recent years, despite some limited attempts to reform its economy. High prices for its modest quantities of oil exports have offset problems in other sectors of the country's economy in the short-

term. Real GDP growth in 2004 was 3.4 percent, and growth is projected at 3.7 percent in 2005. The U.S. imposed additional economic sanctions against Syria in May 2004, under the provisions of the Syria Accountability Act, though the economic effects have been modest, due to the small volume of U.S. trade and investment with Syria. U.S. energy companies operating in Syria were not forced to divest their investments in Syria. Syria ended its long military occupation of Lebanon in April 2005, under pressure from the international community to implement United Nations Security Council Resolution 1559.

Shortly after the assassination of Prime Minister Rafik Hariri in February 2005, and the subsequent withdrawal of Syrian military forces from the country, Lebanon held elections for a new national parliament in June 2005. The process of forming a new governing coalition is not yet completed, but parties opposed to continued Syrian influence in Lebanon appear to have gained a majority of seats in the Lebanese parliament. Lebanon's economy is experiencing reasonably strong growth, with real GDP growth projected at only 3.9 percent for 2005, after posting growth of 4.5 percent in 2004. The main economic problems faced by the new government are the country's large external debt and budget deficit. External debt is now approximately 170 percent of GDP.

OIL

Syria is the only substantial oil producer in the region, with crude oil production of 410,000 barrels per day (bbl/d) in 2004, and total liquids production of 460,000 bbl/d. Israel, Jordan, and Lebanon all must import substantially all of their oil requirements.

Israel

Israel produces almost no oil and imports nearly all its oil needs (around 274,000 bbl/d in 2004). Traditionally, major oil import sources have included Egypt, the North Sea, West Africa, and Mexico. In recent years, however, Israel has stepped up its imports from Russia and the Caspian region (Kazakhstan, Turkmenistan, etc.) and now reportedly gets a majority of its oil from the former Soviet Union. Israel's Oil Refineries Ltd. (ORL) also reportedly has negotiated with Mexico for annual supplies of around 3.7 million barrels (10,000 bbl/d), and in late November 2002, ORL signed a deal to purchase around 10,000 bbl/d from Angola at a cost of \$100 million per year.

Although oil exploration in Israel has not proven successful in the past (current output is less than 1,000 bbl/d), drilling is being stepped up. Israel's Petroleum Commission has estimated that the country could contain 5 billion barrels of oil reserves, most likely located underneath natural gas reserves. Geologically, Israel appears to be connected to the oil-rich Paleozoic petroleum system stretching from Saudi Arabia through Iraq to Syria.

Overall, around 460 oil wells have been drilled in Israel since the 1940s, with little success. In late September 2000, a contract was signed between U.S.-based Ness Energy International and Lapidoth Israel Oil Prospectors Corp. to commence further work on the Har Sedom 1 well. In May 2004, Givat Olam reported that it may have found up to 980 million barrels of oil reserves at the Meged-4 well near Kfar Sava, north of Tel Aviv. However, the company expects only 20 percent of the new reserves to be extractable. In April 2005, Zion Oil & Gas, Inc., based in Dallas and Tel Aviv, began drilling at the Ma'anit-1 well, located approximately 37.5 miles north-northeast of Tel Aviv.

Israel has sizeable deposits of oil shale, perhaps 600 million tons recoverable, with average production of about 9,000 bbl/d. Most of Israel's shale oil resources are located in the Rotem basin region of the northern Negev desert near the Dead Sea. Oil shale is sedimentary rock containing organic material from which liquid fuel may be extracted, at a rate of perhaps 15-17 gallons of oil per ton of shale.

Since 1998, Israel's government has been working to reform the highly centralized oil sector. Among other things, the process has ended the old cost-plus basis system, eliminated price controls for end users of petroleum products, and created more competitive conditions in general. Israel has two major refineries, both owned and operated by Oil Refineries Limited (ORL). The plants, which are located at Haifa (130,000 bbl/d) and Ashdod (90,000 bbl/d), meet all of Israel's demand for refined oil products. In December 2004, the ministerial privatization committee, headed by Minister of Finance Benjamin Netanyahu, approved a proposal to privatize and split ORL. The Ashdod refinery will be sold to private investors in the first stage. Immediately afterwards, the state will sell its 74 percent share in the company as well as the 26 percent holding of the Israel Corporation in an issue on the Tel Aviv Stock Exchange, or through a private sale of blocks of shares in Israel or overseas. In December 2003, Israel's Yam Thetis group signed an \$8 million deal to supply natural gas to the Ashdod refinery.

Although Israel itself produces almost no oil, a comprehensive settlement of the Arab-Israeli conflict could affect Middle East oil flows significantly. Israel's geographic location between the Arabian peninsula and the Mediterranean Sea offers the potential for an alternative oil export route for Persian Gulf oil to the West. At present, these oil exports must travel either by ship (through the Suez Canal or around the cape of Africa), by pipeline from Iraq to Turkey (design capacity 1.5-1.6 MMBD), or via the Sumed (Suez-Mediterranean) Pipeline (capacity 2.5 MMBD).

Israel has one main operational oil pipeline, known as the "Tipline," built in 1968 to ship Iranian oil from the Red Sea port of Eilat to the Mediterranean port of Ashkelon. During 2003, the [Eilat-Ashkelon Pipeline Company \(EAPC\)](#) conducted work necessary to reverse flows on the 42-inch line, which has a reported, current capacity of 400,000 bbl/d, with possible expansion to 1-1.2 million bbl/d (and 18 million barrels of storage capacity). Russia's Tyumen Oil Company, as well as Kazakh interests, reportedly have expressed interest in the possibility of exporting their crude via the Mediterranean and then through the Israeli line to Eilat, where it could be loaded onto VLCCs (Very Large Crude Carriers) in the Red Sea for shipment to markets in Asia. This would represent an alternative to the Suez Canal, which can accommodate only smaller, "Suezmax" tankers. In October 2003, it was reported that Swiss trader Glencore would ship 1.2 million barrels of Kazakh CPC Blend crude and 600,000 barrels of sour Russian Urals through the line, at a cost of 26 cents/bbl.

Jordan

Jordan has no significant oil resources of its own, and must rely on imported oil for all of its needs (around 106,000 bbl/d -- in 2004). The March 2003 invasion of Iraq has caused major changes in Jordan's energy supply situation. Prior to the war, Jordan had received supplies of crude oil from Iraq -- half free of charge, and half at prices significantly below market levels. The country also received around 20,000 bbl/d of refined petroleum products from Iraq. In the absence of a functioning pipeline, all of the oil supplied to Jordan by Iraq had been transported by trucks.

In the wake of the war, Jordan has had to seek alternative sources of supply, both Kuwait and Saudi Arabia emerging as Jordan's main oil suppliers since 2003. Press reports indicated that at least some of this oil was sold at discounted prices through the end of 2004, and that Jordan has been paying the full market prices in 2005. Meanwhile, Jordan has sharply raised the retail prices charged to consumers for petroleum products.

Jordan has one refinery, at Zarqa, with a capacity of 90,400 bbl/d. The facility is in need of major upgrades, and its owner, the Jordan Petroleum Refining Corporation (JPRC), currently is studying its options. The facility was designed to produce a product mix skewed toward heavy fuel oil, which was needed at the time it was built to run electric power plants, but the local market is now in need

of additional gasoline and diesel, while electric power generation is switching over to natural gas.

Jordan's state Natural Resources Authority (NRA) has been promoting oil exploration within the country, which has been relatively unexplored until now. TransGlobal Corporation holds a concession for the Wadi Araba area in Western Jordan. Sonoran Energy of the U.S. was awarded exploration rights for an area near Amman in December 2004. Other small independent companies have conducted surveys of other areas as well, but without yet finding commercial quantities of oil. To help attract foreign investment, the Jordanian government has plans to privatize its oil sector. In October 1995, the country set up the state-owned National Petroleum Co. (NPC) to handle upstream oil and gas exploration and development. In mid-1999, NPC divested its oil-drilling operation, which now operates as Petra Drilling Company. NPC is still active in the natural gas sector.

Lebanon

Lebanon currently imports all of the oil it consumes, approximately 108,000 bbl/d, in the form of refined products. As a result of its geographic location, Lebanon was once a refining center for crude oil that was exported from Iraq and Saudi Arabia by pipelines to two Lebanese coastal refineries, Zahrani in the south, and Tripoli in the north. However, due to years of internal and regional political unrest and war damage, these refineries have not been operational. The Tripoli refinery has been closed since 1982.

Syria

Syria's oil industry faces many challenges in the years to come. Oil output and production continues to decline due to technological problems and depletion of oil reserves. Since peaking at 590,000 bbl/d in 1996, Syria's oil output has fallen, to an estimated 460,000 bbl/d in 2004, as older fields, especially the large Jebisseh field discovered in 1968, have reached maturity. Syrian oil production is expected to continue its decline over the next several years, while consumption rises, leading to a reduction in Syrian net oil exports. If this trend continues, it is possible that Syria could become a net oil importer within a decade. Export levels, which had been temporarily buoyed by illegal imports from Iraq, fell sharply after the invasion of Iraq in March 2003.

Syria hopes to reverse the trend toward declining oil exports through intensified oil exploration and production efforts, plus a switch from oil-fired to natural-gas fired electric power plants. Syria also has opened up new blocks for oil and natural gas exploration, with the Oil and Mineral Resources Ministry receiving bids from several international companies in December 2001 on five exploration areas. Awards for these blocks were made in January 2003, with Shell receiving exploration rights in the Damascus-Palmyra area and India's ONGC Videsh receiving another onshore block. Independents Ocean Energy and Stratic Energy also received awards. In 2003, three new exploration deals were announced, with companies receiving awards including Canada's Tanganyika and PetroCanada, China's CNPC, and Devon Energy and Gulfsands Petroleum of the United States. Another round of awards took place in January 2004, with companies involved including U.S. independent IPR Transoil, India's ONGC, and Croatia's INA Naftaplin. In May 2005, Gulfsands Petroleum purchased Devon Energy's 80 percent stake in Block 26, then sold a 50 percent stake in the project to Soyuzneftegaz of Russia. Gulfsands remains as operator of the project with a 50 percent ownership stake. INA Naftaplin reported a discovery of oil at the Jihar field in September 2004, which it expects to produce 5,000 bbl/d once it is developed.

Syria's main oil producer is al-Furat Petroleum Co. (AFPC) a joint venture established in 1985 and owned by the Syrian Petroleum Company (SPC), Shell, and PetroCanada. AFPC's fields are located in the northeastern Syria -- particularly the Deir ez-Zour region, where commercial quantities of oil were discovered in the late 1980s -- and are producing about 350,000 bbl/d of high quality light crude.

AFPC's main oil field is al-Thayyem, although production there has been declining since 1991. Another important field -- Omar/Omar North -- began production in February 1989 at 55,000 bbl/d. Shortly thereafter, operator Shell was pressed by the cash-strapped Syrian government to step up production (against Shell's advice) to 100,000 bbl/d. The result was serious reservoir damage, and in April 1989, output plummeted to 30,000 bbl/d. Currently, Omar produces about 15,000 bbl/d from natural pressure and 30,000 bbl/d from water injection. Other AFPC fields include al-Izba (light oil), Maleh (34° API gravity oil), Sijan, and Tanak. Production from fields run by SPC peaked in the late 1970s at more than 165,000 bbl/d.

SPC's fields include: 1) Karatchuk -- Syria's first discovery, located near the border with Iraq and Turkey; 2) Suwaidiyah -- a giant heavy oil field located south of Karatchuk in the Hassakeh region (and extending into northwestern Iraq) which currently produces around 85,000 bbl/d; 3) Jibsa -- a major field producing both oil and gas; 4) Rumailan -- a small field near Suwaidiyah which produces heavy oil; and 5) Alian, Tishreen, and Gbebeh -- three small, depleting fields producing heavy oil. China's CNPC signed a contract with SPC in March 2003 to undertake an enhanced oil recovery project for Gbebeh, which is to increase production from the current 4,500 bbl/d to 10,000 bbl/d.

Other Syrian oil fields include Maleh, Qahar, Sijan, Azraq, and Tanak. Jafra, discovered in late 1991 and located near Deir ez-Zour, is operated by TotalFinaElf and has current production of around 50,000 bbl/d. Besides conventional oil reserves, Syria also has major shale oil deposits in several locations, mainly the Yarmouk Valley stretching into Jordan.

Oil exploration activity in Syria has been slow in recent years due to unattractive contract terms by SPC, poor exploration results, and concerns about the possibility of additional U.S. sanctions. For these reasons, only a few companies out of more than a dozen operating in the country in 1991 remain in Syria at present. The recent bid rounds are an attempt to reverse this trend, but it is unclear how successful this will be. Officials of TotalFinaElf publicly expressed their intention to scale down their Syrian operations in May 2002, and ConocoPhillips announced in February 2004 that it was ending its operations in Syria.

Syria's two refineries are located at Baniyas and Homs. Total current production from these refineries is 239,865 bbl/d (132,725 bbl/d and 107,140 bbl/d, respectively). Syria is planning to construct a third refinery, with an initial capacity of 60,000 bbl/d (possibly increasing to 120,000 bbl/d), at Deir ez-Zour to supply products to the eastern part of the country. A feasibility study on this project reportedly was completed in January 1998, but it has not been implemented. In addition, Syria plans to upgrade its two current refineries, both of which are in urgent need of overhauling, to replace output of fuel oil with lighter products.

International Pipelines

The Trans Arabian Pipeline (Tapline) was originally constructed in the 1940s with a capacity of 500,000 bbl/d, and intended as the main means of exporting Saudi oil to the West (via Jordan to the port of Haifa, then part of Palestine, now a major Israeli port city). The establishment of the state of Israel resulted in diversion of the Tapline's terminus from Haifa to Sidon, Lebanon (through Syria and Lebanon). Partly as a result of turmoil in Lebanon, and partly for economic reasons, oil exports via the Tapline were halted in 1975. In 1983, the Tapline's Lebanese section was closed altogether. Since then, the Tapline has been used exclusively to supply oil to Jordan, although Saudi Arabia terminated this arrangement to display displeasure with perceived Jordanian support for Iraq in the 1990/1 Gulf War. Despite these problems, the Tapline remains a potential export route for Persian Gulf oil exports to Europe and the United States. At least one analysis indicates that the

transportation cost of exporting oil via the Tapline through Haifa to Europe would cost as much as 40 percent less than shipping by tanker through the Suez Canal. In early 2005, rehabilitation of the Tapline at an estimated cost of \$100 to \$300 million was one of the strategic options being considered by the Jordanian government to meet oil needs.

The pipeline between the Syrian port of Baniyas and the "Strategic Pipeline" in Iraq, which connects its northern and southern oil infrastructure, has been inoperative since the war began in March 2003.

Another international pipeline option under consideration for the future involves a pipeline which would run from Haditha in Iraq to an export terminal at Aqaba in Jordan. The proposed \$2 billion project would have a capacity of 1.2 million bbl/d, and would facilitate an increase in exports from Iraq once additional production capacity is developed.

Oil	Proven Reserves (1/1/05E)	Production (2004E)	Consumption (2004E)	Net Imports/ (Exports) (2004E)
	<i>Million barrels</i>	<i>Thousand barrels per day (bbl/d)</i>		
Israel	2	0	274	274
Jordan	1	0	106	106
Lebanon	0	0	108	108
Syria	2,500	460	265	(195)
Total	2,503	460	753	293

NATURAL GAS

Israel

Israel hopes to increase the share of natural gas in its fuel mix (especially for electricity generation, currently dominated by coal-fired plants) for energy security, economic, and environmental reasons. Over the next few years, natural gas will be replacing fuel oil in several of the older coastal power plants, as well as newer inland facilities. Demand for natural gas is expected to reach 282.5 billion cubic feet (Bcf) by 2010 and increase significantly thereafter. Israel has been looking into various supply options. One possibility is natural gas imports from Egypt's Nile Delta and offshore regions, either overland across the Sinai peninsula, or via underwater pipeline to the Israeli coast. Israel also is developing its limited domestic natural gas reserves.

The East Mediterranean Gas (EMG) Company, a consortium of the Egyptian General Petroleum Corporation (EGPC), the Merhav group of Israel, and Egyptian businessman Hussein Salem, was established in 2001 to pursue the option of importing Egyptian natural gas. A government-to-government framework agreement, which was signed in June 2005, and calls for 60 Bcf per year of Egyptian gas to be imported to Israel for fifteen years, beginning in October 2006, with a possibility of a five year extension. A \$300 million, 80.8-mile marine pipeline with a maximum capacity of 247.2 Bcf per year will be constructed from El Arish on Egypt's Sinai peninsula to the Israeli coastal city, Ashkelon, with delivery and receiving facilities in both Egypt and Israel. Besides Israeli consumption, Egyptian natural gas could theoretically be used for power generation in the Palestinian Authority at a reported cost 3.5 cents per kilowatt-hour, about half the price charged by the IEC. Currently, Gaza is almost totally dependent on the IEC for its electricity needs. However, the EMG line is likely to bypass Palestinian territorial waters off the Gaza Strip and go directly

from Egyptian to Israeli waters. A commercial agreement has yet to be signed.

Over the past four years, in an important development for a country which has never had significant domestic energy resources, several energy companies (Israel's Yam Thetis group, Isramco and British Gas) have discovered significant amounts of natural gas off the coast of Israel (and even more off the Gaza Strip). Israel's new offshore gas reserves belong mainly to two groups: 1) the Yam Thetis group (comprising the Avner Oil, Delek Drilling, and Samedan); and 2) a British Gas partnership with Isramco and others. In August 2000, Isramco/BG announced that it had discovered a large natural gas field 12 miles offshore at its Nir-1 well. The field reportedly contains natural gas reserves of 274 Bcf, and represents the third natural gas field discovered offshore Israel during 2000 (the largest two being Mari and Noa, with combined reserves of nearly 1.5 Tcf). However, in February 2004, Isramco announced that the Nir-1 well was not commercially viable. In July 2003, Yam Thetis had decided to abandon its Hana-1 well to the north of Mari. In early September 2001, Isramco had announced that BG was abandoning the Tommy, Orly, Shira and Aya concessions after analyzing geological and geophysical findings. In March 2005, Isramco announced plans to drill off the Ashdod coast at a cost of \$13 million as part of the Med Ashdod oil and gas exploration partnership, which the company heads. It remains unclear as to which partners will participate in the project. Also, in March 2005, BG announced that it was quitting the Gal natural gas partnership, which it headed, almost completely abandoning its search for natural gas off the coast of Israel. BG concluded that the investment was not worthwhile without the certainty that it could sell natural gas to the IEC.

Natural gas has been discovered not only on Israel's side of the border, but also in areas that lie in Palestinian territorial waters off the Gaza Strip. British Gas, which first struck gas in this area with its Gaza Marine-1 well in August 1999, signed a 25-year contract to explore for natural gas and set up a natural gas network in the Palestinian Authority (PA). In December 2000, BG successfully completed drilling a second natural gas well offshore Gaza. The drilling confirmed findings from the Marine-1 well, which had flowed at 37 Mmcf/d, indicating possible reserves of around 1.4 Tcf. In August 2003, Prime Minister Sharon reportedly vetoed a BG plan to import natural gas from the Marine field, citing concerns over where the money might flow. The Palestinian Authority wants to move forward with development of Marine-1, both for its own power generation needs as well as for export, but the project likely would not be economical based on demand in Gaza alone. BG does plan to proceed, however, with a third exploration well in August 2005.

In April 2002, Belgium's Tractebel indicated that it was withdrawing from a \$400 million project to construct a natural gas distribution grid in Israel, ostensibly due to security concerns. Tractebel, which had held a 60 percent stake in the project consortium, had been the only bidder on the project, which was awarded in December 2001, and its expertise was considered crucial to the project. Following Tractebel's withdrawal, Israel's National Infrastructure requested that Israeli companies Paz Oil and Africa-Israel Investments, each of which held a 20 percent stake in the Tractebel consortium, come up with a replacement for Tractebel by mid-May 2002. In July 2002, BG decided not to join, dealing a major blow to the project, and triggering cancellation of the tender. Israel's gas law requires that an experienced foreign company hold at least a 10 percent stake in the project. In August 2002, an Israeli consortium of Paz Oil, Africa-Israel Investments, and Batemen Engineering proposed adding a new foreign partner, Itera, which is affiliated with Russia's Gazprom. In September 2002, IEC was authorized to build the entire grid, but in April 2003, Israel's cabinet decided to reverse course and prevent IEC from building the grid. The cabinet reportedly was concerned that IEC should not be a monopoly in both electricity and in natural gas. In 2004, the Ministry of National Infrastructure granted Israel National Gas Lines (INGL), a state-owned company, a license for the construction and operations of the natural gas transmission system, which is expected to be completed by 2010.

Jordan

Jordan has modest reserves of natural gas, 230 billion cubic feet (Bcf), and has developed one gas field, at Risha in the eastern desert near the border with Iraq. The current output of around 30 million cubic feet per day (Mmcf/d) from the Risha field is used to fuel one nearby power plant, which generates about 10 percent of Jordan's electricity.

In August 2003, Jordan began imports of natural gas from Egypt. In May 2001, a 30-year agreement had been concluded with Egypt for gas sales to begin at a rate of 100 Mmcf/d beginning in 2003. Construction of the section of the pipeline in Egypt began in late 2001, starting from the existing pipeline terminus at El-Arish in Sinai. This section was completed in mid-2003, allowing deliveries to begin to one power plant at Aqaba. The second phase of the project, which will connect to the Rihab power plant in northern Jordan, is currently under construction and scheduled for completion by the end of 2005.

Arab governments also have been discussing the potential of extending the Egypt-Jordan pipeline and increasing its capacity - dubbed the Arab Gas Pipeline (AGP) project. The extensions under discussion include links to Syria and Lebanon and an extension to Turkey. At present, though, it seems unlikely that an extension to Turkey will be built in the near term.

Lebanon

Lebanon is in the process of converting its power generating plants from oil to natural gas. To help meet this demand, a 26-mile natural gas pipeline, called GASYLE 1, that links the Baniyas plant in Syria to the Deir al-Ammar-Beddawi power plant in northern Lebanon was completed in March 2005. GASYLE 1 will allow Syrian natural gas from the Syrian Petroleum Company to flow into Lebanon for the first time providing some 53 million cubic feet per day. Syrian officials have said that this amount could eventually double to 105 million cubic feet per day.

Syria

Syria's proven natural gas reserves are estimated at 8.5 trillion cubic feet (Tcf). Most (around three quarters) of these reserves are owned by SPC, including about 3.6 Tcf in the Palmyra area, 1.6 Tcf at the al-Furat fields, 1.2 Tcf at Suwaidiyah, 0.8 Tcf at Jibsah, 0.7 Tcf at Deir ez-Zour, and the remainder at al-Hol, al-Ghona, and Marqada. About half of Syria's gas is non-associated, with the rest either associated (with oil) or "cap" gas. In June 1999, a new natural gas field, called North al-Faydh, reportedly was discovered by SPC. The field reportedly has production potential of 35 million cubic feet per day (Mmcf/d).

In 2003, Syria produced about 245 Bcf of natural gas, up sharply from 205 Bcf in 2002. Syria plans to increase this production in coming years as part of a strategy to substitute natural gas for oil in power generation in order to free up as much oil as possible for export. A number of new gas-fired power projects are currently under construction or being planned. Another possible source of natural gas is imports. Syria signed agreements with Egypt, Jordan, and Lebanon in early 2001 for an onshore pipeline network (the "Arab Gas Pipeline") which would link the four countries and make Syrian imports of natural gas from Egypt a possibility. The section of the pipeline running from Egypt to northern Jordan currently is in the final stages of construction. An agreement was signed in January 2004 between Egypt, Jordan, Syria, and Lebanon for the extension of the pipeline into Syria and Lebanon. Syria issued an invitation for bids for the extension project in June 2005. Meanwhile, Syria has begun exporting a small quantity of natural gas to Lebanon.

In October 1997, Syria announced discovery of a large new natural gas field in the Abi Rabah area of the Palmyra region. In addition to supplying a new (completed in 1997), 375-megawatt, power plant at Zaisoun in central Syria, the Palmyra fields have been linked with a new pipeline to Aleppo,

as well as to the Tishreen power plant in Damascus and the Mhardeh power plant in Homs. Najib, the fourth and final field to be developed in the Palmyra region, started production in 2000 at a capacity of 100 Mmcf/d. A modest-sized new discovery was reported in the Palmyra area in August 2002 by the Croatian company INA Naftaplin, which tested at about 9 Mmcf/d.

In September 2001, several months ahead of schedule, an important new, integrated natural gas project (called "Desgas") was completed in the Deir ez-Zour region, three years since a \$430 million service agreement was signed between SPC on the one hand, and ConocoPhillips and TotalFinaElf on the other. The new complex utilizes approximately 175 Mmcf/d of previously-flared, "associated" (found together with oil) natural gas, in the Deir ez-Zour oil fields. TotalFinaElf and ConocoPhillips each hold 50 percent interest in the project, with ConocoPhillips as lead operator. ConocoPhillips announced in February 2004 that it intended to end its operations at Deir ez-Zour in the future, likely by letting the current contract lapse in 2005. The Deir ez-Zour complex now includes a natural gas gathering system and processing plant, plus a 155-mile pipeline to carry 150 Mmcf/d of natural gas to the grid serving western Syria.

Natural Gas	Proven Reserves (1/1/05E)	Production (2003E)	Consumption (2003E)	Imports (2003E)
	<i>Trillion cubic feet (Tcf)</i>	<i>Billion cubic feet (Bcf)</i>		
Israel	1.4	7	7	0
Jordan	0.2	13	14	1
Lebanon	0	0	0	0
Syria	8.50	245	245	0
Total	10.1	265	266	1

ELECTRICITY

Israel

As of December 31, 2004, the Israel Electricity Corporation, Israel's monopoly national utility, reported 10,083 MW of installed electric generating capacity (at 17 power stations). In 2003, 79.1 percent of its installed capacity was generated by coal, 16.8 percent by fuel oil, and 4.1 percent by gasoil. Israel also is a world leader in solar technology research, and relies heavily on solar energy for water heating (around 80 percent of Israeli homes have solar water heaters). The 1,645-mile, IEC transmission grid is a closed loop system connecting power stations to major load centers throughout Israel and to the Palestinian Authority. The system includes EHV-400 KV transmission and 161 KV sub-transmissions systems, and serves 2.3 million customers. The power grid reportedly is reaching full capacity, with reserves of only 3 percent-5 percent, well below Western norms of 15 percent-20 percent. IEC has warned of possible blackouts during peak demand periods. From 1995 to 2004, Israel's aggregate demand for electricity grew at an average rate of 5.3 percent, which exceeded the average annual rate of GDP growth (approximately 2.9 percent) during the same period. The IEC has estimated that this growing power demand would require an increase in production capacity to nearly 15 GW by 2010. To meet this increased demand, IEC is aiming to raise \$1.2-\$1.3 billion a year in financing for generation, transmission, and distribution systems. However, in January 2003, following financial difficulties which resulted in a downgrade of the

company's credit rating, the IEC was reportedly reviewing its development strategy.

Privatization of the power sector has been a government objective since the mid-1990s. In April 2003, Israel's government approved a reorganization of the IEC in preparation for its privatization. According to the reform, the IEC is to be split into three subsidiaries based on business function (generation, transmission and distribution) by 2006. The three companies would be broken up into smaller firms by 2012, and then privatized to allow more firms into the market. The goal is to have no single company control more than 70 percent of Israeli production or transmission by 2008, or 50 percent by 2010. In September 2003, IEC and the Israeli Infrastructure Ministry agreed to delay reform of the country's power sector by 2-3 years, possibly to 2007-2008. The IEC wanted to increase its power generation capacity by 25 percent before the company is privatized, in part to ensure that the country has spare power generating capacity before the reforms kick in. However, in January 2005, new regulations, which open the market to competition, were passed. The regulations allow private power producers to build power plants and sell electricity directly to end users rather than the IEC. They also allow companies to build private cogeneration plants and to sell the excess electricity to consumers at lower prices. This law is expected to largely eliminate the IEC's monopoly as new power producers begin competing with the IEC over the next few years.

As part of an effort to increase privatization of the country's power sector, Israel in 1996 set a goal for 10 percent, which has since risen to 20 percent, of all electricity to be produced by IPPs. In June 1997, IEC announced the first tender for a large-scale private power plant in Israel -- a 375-MW, dual-fired, combined-cycle plant to be built at Ramat Hovav (by a consortium of PSEG Global and the OPC energy company) in the Negev Desert. In February 2003, OPC reportedly decided to drop out due to difficulties in financing the \$250 million project. The agreement was officially ended in 2004 after seven years of delays. A second IPP in which OPC is involved, a 370-MW plant at Mishor Rotem, also is under consideration. Although OPC was the only company to bid in the tender to build the power station, the Ministry of Finance has not yet declared a winner in the tender. Since 2004, at least seven private companies have announced plans to build gas-driven power stations that will compete with the IEC.

The IEC is converting its oil and diesel-fired generators to natural gas, and hopes to generate 50 percent of its electricity from gas by 2010. Natural gas will serve at least three goals: diversity in energy sources; benefits to the environment; and reductions in IEC's electric generation costs. In February 2004, IEC's Ashdod plant was the first to convert from fuel oil to natural gas. IEC plans to convert the rest of its coastal fuel oil-fired power plants to natural gas by late 2005. In December 2002, IEC announced plans to acquire three new gas generating turbines, at a cost of \$230 million, from Siemens AG of Germany and Alstom of France. The turbines will boost IEC's generating capacity by 650 MW. In January 2004, IEC approved the emergency purchase of gas turbines for the Zafit combined cycle plant near Tel Aviv. Also in February 2004, IEC received a \$380 million loan to build gas-fired power plants near Tel Aviv and Haifa, plus natural gas turbines for plants near Ashdod and Afula. IEC is also constructing a \$2 billion combined-cycle plant that will be operational in 2007.

In December 2002, the Israeli government granted final approval for construction of the country's fifth coal-fired plant at Ashkelon. The 1,100-MW plant, which was originally approved in 2001, could enter service in 2009 (following a recent two-year postponement) at a cost of \$1.3 billion. When finished, the plant will consume around 3 million tons of coal per year. In March 2005, however, it was announced that the construction is three to four years behind schedule. The plant is not expected to begin supplying electricity until 2012.

At the present time, Israel has no nuclear power plants, although the country operates a reactor at

Dimona, in the Negev Desert 25 miles west of the Jordanian border, as well as a smaller research facility at Nahal Sorek south of Tel Aviv. In December 2002, Israel's Infrastructure Ministry announced that it was proceeding with plans to study construction of a 1,200-MW nuclear plant at Shivta, in the Negev Desert near the border with Egypt. The Ministry has set 2020 as a target date for the plant.

One area of potential regional cooperation involves integration of individual national power transmission grids into a regional power network. Such a network would, among other benefits, allow power companies to take advantage of differences in peak demand periods, reduce the need for (and the costs associated with) installation and maintenance of reserve generating capacity, and provide outlets for surplus generating capacity (mainly from Israel to Jordan). Israel and Jordan held talks in October 1999 regarding possible cooperation on a shale-oil-fired plant as stipulated in the two countries' peace treaty. The two countries also have talked about linking their power grids and have discussed several proposed joint power stations, including a \$1 billion, 1,000-MW plant to be located on the two countries' border, a 100-MW wind farm, a 150-MW solar thermal plant in the southern Arava desert near Eilat, and an 800-MW plant in Jordan that would supply power to Israel.

Jordan

Almost all electricity production in Jordan currently is carried out by the National Electric Power Company (NEPCO), a state-owned utility, and its subsidiaries. The Zarqa power plant, with a capacity of 400 megawatts (MW), and the Aqaba power plant, with a capacity of 650 MW, are the country's two main power generation facilities. Electricity demand is growing, and the Jordanian government has been seeking ways to attract foreign capital to fund additional capacity. In December 2001, the Jordanian government awarded a contract to the UK's Rothschild and Sons to provide advice on the privatization scheme. Jordan's basic plan for the future of its electric utility system involves having NEPCO maintain ownership of transmission assets, but relying on private power generation and privatizing existing generation assets. NEPCO's distribution subsidiary, the Central Electric Distribution Company (CEDC), also is to be privatized, along with the Central Electric Generating Company (CEGC). Under a decision adopted by the Jordanian cabinet in March 2004, CEDC will be sold off, along with a 60 percent stake in CEGC. Two other private distribution firms already exist - the Jordan Electric Power Company (JEPSCO) in the Amman area and the Irbid District Electricity Company (IDECO) covering the area around Irbid.

In May 2000, Jordan awarded its first contract for an independent power producer (IPP) to Tractebel of Belgium. The Rihab power plant will have a capacity of 450 MW, and will be located near Amman. It is to be fuelled with natural gas from Egypt when it is completed in late 2005. A contract for an additional combined-cycle gas-fired plant was awarded to Black and Veatch (U.S.) in July 2004. The 170-MW plant, located at al-Samra, is expected to be completed by late 2006.

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The first step in this enterprise, the linking of the Egyptian and Jordanian power grids via an underwater cable between Aqaba and Taba (across the Gulf of Aqaba in Sinai), was completed in October 1998 and formally inaugurated in April 1999. Syria and Jordan also have linked their electric grids. Israel, for the time being, has been excluded from the grid linking projects, but has continued discussions with Jordan on the subject and may join the network once political hurdles related to the Arab-Israeli peace process have been overcome.

Lebanon

Electricité du Liban (EdL), established in 1964, is Lebanon's state-owned public utility, operated under the Ministry of Energy and Water Resources. EdL is in charge of power generation, transmission, and distribution. EdL generates over 90 percent of all electricity used in Lebanon while the remainder is imported from Syria and acquired through private power providers. According to the Ministry, EdL currently spends \$400-\$500 million per year on fuel to produce 1,700-2,000 megawatts (MW) of electricity. The generation of electric energy in Lebanon is predominately thermal (97.2 percent) plus a small amount of hydro power (2.8 percent).

Lebanon has seven thermal electricity generating plants, which have a total installed capacity of over 2,300 MW: Zouk (607 MW installed capacity), Jieh (346 MW installed capacity), Baalbek (70 MW installed capacity), Tyre (70 MW installed capacity); Zahrani (435 MW installed capacity), Hreiche (272 MW installed capacity), Deir Ammar-Beddawi (435 installed capacity) and Alhreesha (75 MW installed capacity). EdL also purchases hydroelectric power from the Litani, Al-Bared and Safa power plants. All plants operate below their nominal capacity. The transmission system measures approximately 620 miles and there are 58 major power substations in the country. In 2005, the Ministry of Energy and Water Resources began to work on a five-year, emergency energy plan to reform EdL. If implemented, the plan will require a \$1 billion investment to be funded by the World Bank and others.

In 2002, Lebanon imported 1.09 billion kWh of electricity, including around 200 MW of electricity from Syria. Electricity imports began in 1995 and have since tripled. Lebanon plans to draw more power from others in the Middle East region via a six-way grid linking the countries of Jordan, Syria, Iraq, Egypt, and Turkey with Lebanon. This project will allow Lebanon to receive 300 MW in the short term and close to 600 MW in the medium to long term. Lebanon plans to expand installed power capacity to 2,100 MW by 2012.

Syria

As of January 2003, total installed Syrian electric generating capacity was around 7.6 gigawatts (GW), with fuel oil and natural gas the primary fuels, and 1.5 GW of hydroelectric capacity. With Syrian electric power demand growing, adding electricity supply capacity is an important national priority. Also, Syria is aiming to replace its oil-fired power plants with natural-gas-fired plants, in order to free up oil for export and to avoid becoming a net oil importer in a few years. Since then, existing power stations have undergone maintenance and four new generating plants have been built (including the 600-MW al-Zara gas/oil plant near Hama, completed by Mitsubishi in November 2000). Also planned are the 300-MW Zeizoun plant and the 630-MW Tishreen hydro station. Overall, Syria hopes to add 3,000 MW of power generating capacity by 2010, at a probable cost of around \$2 billion, but progress toward implementing these projects has been slowed by a lack of investment capital. Foreign-owned power projects are still not under consideration.

As part of its strategy to save oil for hard currency exports, Syria has plans to build several natural gas, combined-cycle power plants, and to convert the country's major oil-fired plants to natural gas. Two of Syria's largest power stations -- the Mahrada and Baniyas plants -- have been converted from fuel oil to natural gas in recent years. Natural gas for these two plants comes from the Palmyra fields. Syria also plans to increase natural gas usage at the dual-capacity (fuel oil or natural gas) Tishreen power plant. Gas for Tishreen is to come from the Omar treatment plant. In addition to these plants, Suwaidiyah Station II had five new natural gas turbines installed in 1989, while Suwaidiyah I operates mainly on associated gas from nearby fields.

In 2005, the Deir Ammar-Beddawi power station will start producing electricity by burning natural gas - a first for Lebanon. The Ministry of Energy and Water claims that EdL will be able to save

millions of dollars annually by generating 90 percent of its total electricity from natural gas.

Electricity	Installed Capacity (2003E)	Generation (2003E)	Consumption (2003E)
	Gigawatts (GW)	Billion kilowatthours (Bkwh)	
Israel	9.7	44.2	39.6
Jordan	1.7	7.5	8.0
Lebanon	2.0	10.7	10.7
Syria	6.1	27.2	25.3
Total	19.7	99.6	83.6

Sources for this report include: AP Worldstream; Agence France Presse; Associated Press, BBC Summary of World Broadcasts; CIA World Factbook; Dow Jones News Wire service; Economist Intelligence Unit; Electricity Daily; Energy Compass; Financial Times; Global Insight; Global Power Report; Ha'aretz; Hart's Africa Oil and Gas; International Herald Tribune; Israel Business Arena "Globes"; Jerusalem Post; Jordan Times; Middle East Economic Digest; New York Times; Nucleonics Week; Oil and Gas Journal; Petroleum Economist; Petroleum Intelligence Weekly; Petroleum Review; Platt's International Coal Report; Platt's Oilgram News; PR Newswire; U.S. Energy Information Administration, World Gas Intelligence; World Markets Research Centre.

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