

Offshore Energy in the Levant Basin: Leaders, Laggards, and Spoilers

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The recent tide of Arab political revolt in North Africa and the Middle East has largely overshadowed the accelerating exploitation of offshore gas resources in the Levant Basin. This region is likely to become a significant source of gas exports, generating economic and geopolitical consequences that will help to shape the evolving order in the eastern Mediterranean for better or for worse.

Israel and Cyprus have located offshore gas deposits more than sufficient to significantly diminish, if not end, their dependence on imported energy and enhance their energy security over the very long term. Additional significant amounts of offshore energy are continuing to be discovered off Israel, while Turkey and Lebanon are only just beginning to open their Mediterranean maritime territory to exploration.¹ The only truly unresolved major policy and commercial issue is how much gas will be developed for export markets.

Over the long term, the Levant Basin may offer European and Asian markets a new source of natural gas supply while simultaneously challenging the regional gas transportation strategies of Russia and Turkey. Indeed, Levant offshore gas is well positioned geographically to help Europe further diversify its sources of imported gas and prevent Russia from overly dominating the European gas market. At the same time, the development of Israeli and

1. Derek Brower, "East Mediterranean's New Play Gets Hotter," *Petroleum Economist*, 4 April 2012, www.petroleum-economist.com/Article/3007039/Search/East-Mediterraneans-new-play-gets-hotter.html.

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Cypriot gas resources has aggravated regional rivalries, injecting a new element of tension and uncertainty into regional affairs during a time of major political upheaval in multiple Arab countries, persistent civil war in Syria, and omnipresent tension between Israel and Iran.

The Levant Basin Energy Arena

The Levant Basin is located along and off the coast of Syria, Lebanon, Israel, and the Gaza Strip, extending westward into Cypriot waters. The basin connects to the Red Sea via the Suez Canal and the Black Sea through the Aegean Sea and the Turkish Straits. The basin comprises a total sea and land area of thirty-two thousand square miles, most of which is offshore and bounded by three distinct subsea features: the Tartus Fault to the north, the Erostheneas Mount to the west, and the Nile Delta to the south.²

In an estimate published in March 2010, the United States Geological Survey (USGS) contended that the Levant Basin holds recoverable resources of about 1.7 billion barrels of oil, 122 trillion cubic feet (Tcf) of natural gas (3.45 trillion cubic meters), and 3.0 billion barrels of natural gas liquids at varying depths. While resource estimates are generally less precise than estimates of proven reserves, which reflect detailed seismic studies and exploratory drilling, about 35 Tcf in proven gas reserves have been confirmed since early 2009.

By global standards, the Levant Basin's gas resources are significant but not dominating. Russia, for example, holds the world's largest natural gas reserves at 1,680 Tcf, accounting for about 25 percent of global gas reserves. US proven gas reserves increased to 317.6 Tcf in 2010, a new record, due to the rapid development of unconventional gas resources (mostly from shale formations).³ Proven natural gas reserves in the Caspian Sea Basin are estimated at 232 Tcf, while the five countries of the North Sea region have combined proven gas reserves of 169.8 Tcf.

2. US Geological Survey (USGS), "Assessment of Undiscovered Oil and Gas Resources of the Levant Basin Province, Eastern Mediterranean," Washington, DC, USGS, March 2010, pubs.usgs.gov/fs/2010/3014/pdf/FS10-3014.pdf.

3. US Energy Information Agency (USEIA), "US Proved Reserves Increased Sharply in 2010," Washington, DC, USEIA, 2 August 2012, www.eia.gov/todayinenergy/detail.cfm?id=7370.

By Mediterranean standards, the Levant Basin's offshore natural gas reserves are sizable, but they are less than the gas resources held by key North African producers. Algeria, for example, holds proven gas reserves of 159.1 Tcf, representing the second-largest gas supply in Africa after Nigeria.⁴ Algeria is also Europe's third leading source of gas. (Russia and the North Sea region are the first and second-largest gas suppliers to Europe, respectively.) Egypt holds Africa's third-largest supply of proven gas reserves at 78 Tcf. Over 80 percent of Egypt's gas reserves and 70 percent of its gas production are concentrated in its offshore Mediterranean and Nile Delta regions. Libya holds 54.7 Tcf in proven gas reserves, the third largest supply in the region.

Israel

Since the discovery of its first very large offshore gas deposit in 2009, Israel has become the leading developer of offshore energy in the Levant Basin. Egypt's termination of its gas sales agreement with Israel in April 2012 motivated the Israeli government to accelerate development of offshore gas resources to compensate for the absence of Egyptian gas. As a result, the traditionally energy-insecure country is likely to achieve a high degree of energy independence by the year 2020 or so, with significant gas export possibilities.

A US-Israeli consortium led by Noble Energy (US), and comprising Israeli partners Avner Oil and Gas and Delek Drilling, has been responsible for discovering most of Israel's sizable offshore gas deposits in recent years.⁵ Noble's first notable offshore gas discoveries occurred in 1999 and 2000: the small Noa and Mari B gas fields, which together make up the Yam Tethys reserve. The two fields began supplying Israel with relatively small amounts of gas in 2004, but they are now nearly depleted.

4. British Petroleum (BP), *BP Statistical Review of World Energy, June 2011* (London: BP, 2011), www.bp.com/assets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2011/STAGING/local_assets/pdf/statistical_review_of_world_energy_full_report_2011.pdf.

5. Tobias Buck, "Field of Dreams: Israel's Natural Gas," *Financial Times*, 31 August 2012, www.ft.com/cms/s/2/1dbda574-f16d-11e1-a553-00144feabdc0.html#axzz26wFM9DLR. Avner Oil and Gas and Delek Drilling Limited Partnership, which are subsidiaries of Israel's Delek Group Ltd., are involved in the offshore Leviathan, Tamar, and Yam Tethys gas fields.

In January 2009, the Noble consortium announced its first large discovery at Tamar, a deep-water field located fifty miles off the coast of Haifa. At the time of discovery, Tamar was Israel's largest gas find. According to Noble, Tamar holds an estimated 9.0 Tcf of natural gas, enough to supply Israel's expected gas demand for at least the next twenty-five years. The Noble-led consortium is rapidly developing Tamar, and first gas is expected to arrive onshore as early as April 2013. Tamar's gas will be consumed chiefly in the electricity generation sector.

In December 2010, Noble and its partners discovered a truly massive gas find at the aptly named deep-water Leviathan field located eighty miles west of Haifa. Leviathan holds an estimated 17 Tcf gas reserves.⁶ Indeed, the Leviathan field is the largest deep-water gas discovery to date in the Levant Basin, and one of the world's largest offshore gas finds over the past decade. Leviathan will require an estimated long-term capital investment ranging from \$6 billion to \$8 billion. First gas from Leviathan is expected in 2017.⁷ If Noble and its Israeli partners get their way, gas from Leviathan will go primarily to export markets, while Tamar gas will supply the domestic Israeli market.

Noble's string of impressive offshore gas finds has continued. In February 2012, Noble announced its sixth consecutive offshore discovery of gas at the deep-water Tanin field, which may hold up to 1.2 Tcf of gas. Tanin is located about thirteen miles from Tamar. In March 2012, the Modlin Energy Partnership (Israel) and Adira Energy (Canada) discovered two shallow-water gas fields, Gabriella and Yitzhak, fifteen miles off Tel Aviv. Seismic surveys indicated the fields could hold up to 232.3 million barrels of oil and 1.8 Tcf of natural gas.

The Noble consortium is not the only group to find significant offshore gas deposits. In June 2011, Hachshara Energy (Israel) announced the discovery of two offshore gas fields, Sarah and Mira, located about forty-three miles off Hadera. Initial tests indicate the two fields could hold about 6.5 Tcf of natural gas. In June 2012, Israel Opportunity, an offshore oil and gas exploration company, announced that its offshore Pelagic field complex may contain 6.7

6. In December 2011, Noble announced that Leviathan may hold as much as 20.0 Tcf in gas reserves.

7. In May 2012, Noble temporarily halted drilling into the deeper levels of Leviathan after encountering high pressure conditions. Noble believes the deeper levels of the formation may hold significant amounts of oil.

Tcf of natural gas and 1.4 billion barrels of oil. The Pelagic fields are located about 106 miles off Israel's coast near the Tamar and Leviathan fields.

The Israeli government has significantly developed the policy and laws necessary to enable the development of offshore gas resources to satisfy domestic needs, but it has not yet finalized a gas export policy—a decision that will have major implications for the development of regional energy resources.⁸

In January 2012, the Israeli government, led by Prime Minister Binyamin Netanyahu, passed tax and royalty regulations, setting the government's share of oil and gas revenues between 52 and 62 percent. The Israeli government currently anticipates earning \$80 billion by 2040 from offshore energy development and has already established a sovereign wealth fund, modeled on that of Norway. The fund plans to invest these earnings entirely abroad, ultimately giving the Israeli government an impressive tool of influence by regional standards.

Over the long term, the development of offshore gas resources for domestic consumption will also fundamentally change Israel's primary energy consumption profile, enabling achievement of a high degree of energy independence. Israeli gas consumption has already increased from virtually nothing to 187 billion cubic feet in 2010. By 2030, gas is expected to generate 60 percent of Israel's electricity, significantly reducing consumption of imported coal and fuel oil, which currently account for 70 percent of Israel's electricity generation.

Israeli leaders have also clearly advocated exporting some of Israel's gas riches to strengthen Israel's geopolitical position both regionally and globally. For example, Uzi Landau, minister of national infrastructure, supports sending some of Israel's gas to Jordan and the Palestinian territories by pipeline. Other export options under active consideration include shipment of Israeli gas to Europe via an undersea pipeline linking Cyprus and Greece and the shipment of Israeli gas as liquefied natural gas (LNG) to European Union markets. The Israeli energy industry estimates that Israel will require about \$15 billion in long-term investment to develop its gas export infrastructure.

8. Simon Henderson, *Energy Discoveries in the Eastern Mediterranean: Source for Cooperation or Fuel for Tension? The Case of Israel* (Washington, DC: German Marshall Fund of the United States, 2012).

Other options include the export of Israeli gas to Egypt as LNG for reexport, as Egypt's LNG facilities are currently running at only 40 percent of capacity.⁹ Alternatively, instead of exporting gas, Israel might instead use the gas to generate surplus electricity, perhaps in Cyprus, that could be supplied to European countries by undersea cable.

In April 2012, Israel's government committee on the gas market, chaired by Shaul Tzemach, director general of the Ministry of Energy and Water Resources, tentatively recommended that Israel maintain half its gas resources as a strategic reserve to supply domestic needs through 2040, while committing the remainder for export.¹⁰ The Tzemach committee also recommended that any gas export facilities be located on Israeli territory (instead of on Cyprus, as some have advocated). The development of onshore liquefaction facilities in Israel may prove difficult due to land scarcity and local political resistance. The Ministry of Environmental Protection has called for delaying a decision on gas exports for several years.

International energy company interest in Israeli offshore gas, notably Leviathan, is significant and will likely become intense as soon as the Israeli government formalizes its gas export policy. In November 2011, executives from the China National Offshore Oil Company (CNOOC) visited Israel to discuss CNOOC's possible participation in the development of Israel's gas exports. State-run CNOOC is China's third-largest oil company and the leading Chinese importer of LNG.

In February 2012, Minister Landau visited India to discuss the possibility of Indian state-run energy companies participating in the development of the Leviathan and Tamar gas fields. In March 2012, Gazprom (Russia) signed a preliminary deal with Israel to buy LNG derived from Israel's offshore gas fields. Government-owned Gazprom produces about 94 percent of Russia's gas output. In May 2012, Edison (Italy) expressed interest in Israel's offshore gas reserves and called on the Israeli government to pass new legislation authorizing gas exports.

9. See Brenda Shaffer, *Energy Resources and Markets in the Eastern Mediterranean Region* (Washington, DC: German Marshall Fund of the United States, 2012).

10. The Tzemach Committee was expected to release its final report in June 2012 but later postponed release until September 2012.

As of August 2012, Noble and its partners were reportedly making progress in negotiations to sell a stake in the Leviathan project to a major international energy company. Reports at the time indicated that Total (France) and Gazprom were the leading candidates. Each company is said to be interested in joining the project as a “strategic partner.”¹¹

Cyprus

The Republic of Cyprus (ROC) has also made significant progress in opening its offshore territory to energy exploration and development, commencing in 2003, when Cyprus and Egypt formally delimited their respective Exclusive Economic Zones (EEZs). Similar agreements followed with Lebanon in 2007 and Israel in 2010.¹²

During the prolonged process of establishing its maritime boundaries with coastal states, the ROC sponsored seismic surveys of the subsea terrain beneath Cyprus’s economic waters and conducted its first auction for exploration rights to eleven offshore blocks in February 2007, all within the island’s southern maritime territory. Noble and its Israeli partners were the only companies to win exploration rights, ultimately securing a three-year exploration license for deep-water Block 12 in October 2008.¹³

Noble commenced exploratory drilling in September 2011 and announced the discovery of a significant gas find in December 2011, ranging in size from 5.0 Tcf to 8.0 Tcf. Block 12 is now known as the Aphrodite field and could ensure the long-term energy independence of Cyprus, perhaps for the next 150 years at current rates of consumption.¹⁴ Cypriot officials are currently considering five key gas-related projects: a joint underwater pipeline connected

11. Nadav Neuman and Hillel Koren, “Leviathan Partners in Talks with Foreign Gas Giants,” Globes’ Online Israel Business News Service, 19 August 2012, www.globes.co.il/serveen/globes/docview.asp?did=1000775156&fid=1725.

12. According to the Third United Nations Convention on the Law of the Sea (UNCLOS III), which came into force in November 1994, a state can claim an EEZ out to two hundred nautical miles from its coastline.

13. Noble owns a 70 percent share in the drilling operation, while Israeli companies Delek Drilling and Avner Oil Exploration each hold 15 percent.

14. Mike Lee and Stelios Orphanides, “Noble’s Cyprus Gas Find May Be Complicated by Turkey,” Bloomberg, 29 December 2011, mobile.bloomberg.com/news/2011-12-28/noble-s-cyprus-gas-discovery-may-be-complicated-by-turkey-2-

to Israel's Leviathan field, an LNG export facility, a methanol plant, a one-thousand-megawatt power plant, and a strategic gas reserve onshore. However, delivery of first gas from Aphrodite is not expected until 2018. Initial construction of requisite gas infrastructure is expected to commence in 2013.

Cyprus remains committed to attracting additional foreign investment in its offshore gas sector. On 11 February 2012, the ROC government issued a request for bids in a second auction for rights to twelve offshore blocks in southern Cypriot waters. In May 2012, twenty-nine companies made fifteen bids for some of these blocks. Marathon (US), Premier Oil (UK), Total (France), Petronas (Malaysia), Kogas (South Korea), Eni (Italy), Novatek (Russia), and Woodside (Australia) were among the more familiar international companies to make bids. However, Chinese, Indian, and Japanese companies noticeably did not participate in the auction. Perhaps Asian companies will seek to acquire stakes in Cypriot offshore gas after initial development work or production commences in some cases.

The Cyprus government is strongly interested in developing an export market for the island's offshore gas. However, by itself, Aphrodite is deemed inadequate to supply both domestic needs and LNG exports. For this reason, Noble and its partners want to develop a joint LNG export facility in southern Cyprus that would process gas from the Aphrodite and Leviathan gas fields for shipment abroad.¹⁵ Although Israel and Cyprus are separated by about 298 miles of sea, the Leviathan and Aphrodite fields are merely 21 miles apart. During his visit to Cyprus in February 2012, Prime Minister Netanyahu confirmed that Israel and Cyprus were discussing construction of a pipeline that would connect the fields. At the same time, however, Netanyahu also emphasized that Israel and Cyprus should first guarantee the availability of ample supplies for domestic consumption before exporting any gas.

Turkey

Turkey plays an outsized role in regional energy affairs due to its immense dependence on imported oil and gas and its status as a major oil and gas

15. About 10.5 Tcf to 12.4 Tcf of gas are considered the minimum amount needed to make construction of an LNG export facility commercially viable over the long term.

transit country. In 2011, Turkey paid an estimated \$50 billion for energy imports, accounting for about two-thirds of its massive current account deficit. To feed this appetite, Turkey is intensifying efforts to locate new sources of fossil energy offshore in both the Black and Mediterranean Seas. However, Turkey's maritime territory in the eastern Mediterranean is quite limited, because many of Greece's islands are located close to the Turkish coast, compressing the area available to explore for offshore oil and gas.

Nevertheless, in November 2011, three months after Noble started exploratory drilling in Block 12, the Turkish state-run oil company *Turkiye Petrolleri AO (TPAO)* signed an agreement with Royal Dutch Shell to explore for and produce oil and gas off Turkey's Mediterranean coast near Antalya (and shale gas near the southeastern city of Diyarbakir). Until the deal with Shell, Turkey's offshore exploration efforts had been concentrated in the Black Sea. In April 2012, TPAO said that ExxonMobil and Chevron (US), Total, Petrobras (Brazil), Statoil (Norway), RWE (Germany), and Royal Dutch Shell were interested in exploring offshore areas near Iskenderun, east of Antalya. TPAO reportedly expects to sign new exploration deals sometime in the spring of 2013.¹⁶

To enhance its energy security, Turkey has promoted diversification of supply since the early 1990s, connecting itself to Russian, Azerbaijani, and Iranian gas by pipeline. To increase its regional weight and to diminish the amount of tanker traffic through the narrow Turkish Straits, Turkey also hosts pipelines that carry Azerbaijani and Iraqi oil to international markets.

Turkey is now extending this policy to regional gas transportation. In late 2011, Turkey and Azerbaijan agreed to construct the Trans-Anatolian gas pipeline (TANAP) to carry second-phase production from Azerbaijan's offshore Shah Deniz gas field to Turkey. Current plans envision the further export of Azerbaijani gas by pipeline to Greece and Bulgaria and perhaps to the EU-backed Nabucco West gas pipeline project, which has not yet received final approval. Construction of TANAP is expected to begin in 2014, followed by first gas deliveries in 2018.

16. Orhan Coskun, "Turkey's TPAO, Shell Sign Exploration Deal," Reuters, 23 November 2011, www.reuters.com/article/2011/11/23/turkey-shell-idUSL5E7MN1AA20111123.

In late December 2011, Turkey agreed to allow Russia to route its South Stream gas pipeline across Turkish territorial waters in the Black Sea to gas markets in Bulgaria and Hungary, thus giving Gazprom the ability to bypass the Soviet-era gas export pipeline network running through Ukraine. Construction is currently expected to commence in 2012, and the delivery of first gas is expected in 2015.

Lebanon

Although Lebanon has not yet discovered any offshore (or onshore) oil and gas resources, the Lebanese government is optimistic that Lebanon's offshore territory contains substantial gas reserves promising both energy independence and export revenues. In August 2010, the Lebanese government approved a petroleum law after significant political wrangling among Lebanon's competing political factions.

The government has also funded extensive offshore seismic explorations, hiring at least twenty-seven companies to survey significant portions of Lebanon's EEZ. Although Lebanon has not drilled any exploratory offshore wells, optimism is growing that sizable offshore gas finds will be discovered. For example, in late August 2012, the chief executive officer of Spectrum, a Norwegian gas exploration company, announced that seismic surveys had indicated a "high possibility of very promising commercial quantities of gas."¹⁷ Royal Dutch Shell and a number of UK firms, including BP, Cairn Energy, Cove Energy, and Genel, have reportedly expressed interest in bidding on Lebanon's offshore energy resources.

Lebanon initially planned to conduct its initial offshore license auction during the first quarter of 2012, but in April 2012 the Ministry of Energy announced that the auction would be delayed until 2013, after the establishment of a government oversight committee. Although advancing the development of offshore resources has proven difficult due to factional differences, the Lebanese government continues to press forward.

17. "Lebanon Gears Up for Gas Work," United Press International, 23 August 2012.

Egypt

Egypt was the first eastern Mediterranean nation to develop its gas reserves, with onshore production starting in 1970 and offshore production in 1997. British Gas, BP, Eni, and other significant international energy companies are actively involved in the upstream gas sector, both onshore and off.

Egypt holds sizable undeveloped offshore gas resources. According to the USGS, the Nile Delta Basin alone has 223 Tcf of recoverable gas in addition to 1.8 billion barrels of recoverable oil and 6 billion barrels of natural gas liquids.¹⁸ However, development of these offshore resources remains handicapped by multiple problems: the high cost of development; a 2008 moratorium on new gas deals; the persistence of cheap domestic gas prices; heightened domestic political instability since the ouster of President Hosni Mubarak; greater public criticism of existing gas export deals, particularly with Israel; and the prospect that domestic gas demand could exceed gas output once Egypt's economy rebounds.¹⁹

Although Egypt is not a major gas producer, it remains the leading gas supplier to Lebanon, Jordan, and Israel (until the termination of the gas sales agreement with the latter). Egypt also is a significant LNG exporter, accounting for 5 percent of global LNG trade in 2011. However, Egypt's gas exports to the Levant countries through the Arab Gas Pipeline have been severely disrupted by acts of sabotage in the northern Sinai Peninsula. These attacks commenced soon after the ouster of President Mubarak in February 2011. As a consequence, Israel and Lebanon are separately developing floating LNG import facilities to replace the loss of Egyptian gas. Jordan also is considering construction of an LNG import terminal at its Red Sea port of Aqaba, with Qatar as the designated LNG supplier.

Gaza

The Palestinian coastal enclave of Gaza is also positioned to play a role in the development of regional gas resources, most likely as a spoiler. Gaza's

18. USGS, "Undiscovered Oil and Gas of the Nile Delta Basin, Eastern Mediterranean," Washington, DC, USGS, May 2010, pubs.usgs.gov/fs/2010/3027/pdf/FS10-3027.pdf.

19. See Mark Watts, "Gas Export Prospects Undermined in North Africa," *Middle East Economic Digest*, 27 April–3 May 2012.

offshore area contains significant gas resources. In 1999, British Gas signed a deal with the Palestinian Authority, acquiring a majority stake in the development of Palestinian gas reserves in Gaza's offshore area.

In 2000, British Gas drilled at least two exploratory wells in the Gaza Marine deposit, claiming the presence of at least 1.4 Tcf of proven gas reserves. British Gas's efforts to develop this resource, however, encountered significant political difficulties. For example, discussions between British Gas and the Israeli government to bring Gaza's gas onshore to Israel reached an impasse, and by 2006 British Gas had shifted its focus to carrying the gas to Egypt for re-export as LNG. However, that same year the Hamas resistance movement gained control of Gaza. In March 2012, British Gas announced its intention to sell its stake in the Gaza Marine gas deposit.

Regional Geopolitics and Energy Security

The development of offshore gas in the Levant Basin is aggravating regional tensions, perhaps increasing the chances of conflict while prompting the creation of new geopolitical alignments involving outside powers.

The Extension of Israel's Security Zone into the Eastern Mediterranean

The Israeli navy's traditional mission is to protect Israel's sea lines of communication in the Mediterranean through which Israel acquires most of its imported goods. Israel's maritime area (territorial waters and EEZ) extends westward about 117 miles from the coast and comprises a total area of about seventeen thousand square miles—more than double the entirety of onshore Israel.

Israel's maritime environment, particularly in its economic waters far beyond the coast, is now home to a growing number of production platforms and other critical infrastructure, including a floating LNG import terminal located several miles off the coast of Hadera. This terminal is expected to transfer 87.25 billion cubic feet of imported gas to Israel's power generation sector per year, starting in 2013, until Tamar's production can replace gas imports.

Primary threats include the proliferation of sea-skimming cruise missiles and the possibility of seaborne terrorist attack. The Israeli military is upgrading its ability to protect the country's offshore gas fields and related infrastructure through the deployment of additional missile-carrying patrol vessels, unmanned aerial vehicles, and a sea-based defense radar system. In particular, the Israeli navy is planning to acquire four new warships and to deploy sophisticated antimissile defense technology to counter the threat of sea-skimming cruise missiles. Overall, the deployment of an augmented maritime security presence will cost an estimated \$756 million per year.

In terms of regional geopolitics, Israel is developing closer relations with Cyprus and Greece to counter Turkey. In January 2012, Israel and the ROC signed a defense cooperation agreement. During Prime Minister Netanyahu's visit to Cyprus in February 2012, it was widely reported that Israel was seeking permission to deploy combat aircraft to the Andreas Papandreou air base in Paphos, located on the southwestern tip of the island. The Israeli air force also periodically conducts joint exercises with the Greek air force.

Turkish Opposition to Cypriot Offshore Energy Development

The ROC's development of offshore gas resources has generated significant friction with Turkey. Turkey forcefully occupied the northern third of Cyprus in 1974 and continues to maintain about thirty thousand troops in the Turkish area of the island. The Turkish-Cypriot administration, known as the "Turkish Republic of Northern Cyprus" ("TRNC"), is not recognized by any country except Turkey. The ROC, in contrast, is universally recognized and enjoys strong diplomatic support for its offshore energy activities from the EU, which it joined in 2004.

Ankara insists that the majority Greek-Cypriot population has violated Turkish-Cypriot rights by unilaterally developing the island's offshore energy resources. The government of Cyprus has expressed a willingness in principle to share the newfound energy wealth with the Turkish Cypriots, but United Nations-sponsored intercommunal reunification talks, which could include discussion of energy issues, remained on hold as of late summer 2012.

In September 2011, Ankara ratified a continental shelf delimitation agreement with the "TRNC," dispatched a naval flotilla outside Cypriot waters

near Noble's drilling site, dispatched the *Piri Reis* to survey Cypriot waters, and deployed F-16 fighter jets to the "TRNC." Israeli F-15 fighter jets reportedly buzzed the *Piri Reis*, further stoking tensions at the time. In October 2011, Ankara dispatched a second survey ship to Cypriot waters, while the Israeli air force conducted air exercises.

On 15 February 2012, the Turkish Foreign Ministry issued a formal protest against the ROC's request for offshore bids: "This situation would bring those international companies that might be interested in bidding for this illegal tender into confrontation with the TRNC and the TPAO, and thus would lead to an undesired tension in the region."²⁰

Ankara is said to be concerned about the potential development of offshore blocks near the Turkish portion of the outer continental shelf. Turkey's foreign ministry has stated that no development will be allowed in this area.

In April 2012, TPAO commenced exploratory drilling in the "TRNC" near the Greek-Cypriot border. After the ROC's second gas auction in May 2012, the Turkish government threatened to blacklist any oil and gas companies working with the ROC to develop offshore energy resources in Cypriot waters. However, no military clashes or incidents at sea had occurred as of early October 2012.

Long-Term Turkish Naval Plans and Tensions with Israel

The discovery of major offshore gas deposits has roughly coincided with the unraveling of the Israeli-Turkish strategic relationship. This process commenced in early 2009 following Israel's brief, but fierce, military incursion into Gaza and culminated in late May 2010 after Israeli naval commandos killed eight Turkish "protestors" on the *Mavi Marmara*, which had sailed toward Gaza as part of a larger protest flotilla aimed at drawing world attention to the plight of Palestinians. During the summer of 2011, Ankara downgraded its diplomatic relations with Israel following the Israeli government's refusal to apologize for the raid on the *Mavi Marmara*.

In September 2010, Prime Minister Recep Tayyip Erdogan announced

20. "Turkey Warns Greek Cyprus on Oil Drilling ahead of Israeli PM Visit," *Hurriyet Daily News*, 16 February 2012.

that the Turkish navy would maintain a constant, expanded presence in the eastern Mediterranean, Red Sea, and Indian Ocean. Erdogan's announcement generated concerns at the time about a looming Israeli-Turkish naval confrontation in regional waters. However, there has been no discernible increase in Turkish naval operations in Israel's EEZ.

Nevertheless, in May 2012 Turkey reportedly scrambled war planes to intercept an Israeli aircraft that violated northern Cypriot airspace, once again highlighting the potential for conflict between Israel and Turkey.

Lebanon's Offshore Friction with Israel

Israel and Lebanon remain in a formal state of conflict, do not have direct diplomatic relations, and have not delimited their respective maritime boundaries. Since the Israeli-Hezbollah conflict of 2006, relations between Lebanon and Israel have stabilized, with minimal military clashes. Nevertheless, Israel's discovery of the Leviathan field has injected a relatively new point of contention in bilateral relations, which became apparent during the summer of 2010, when the two feuding countries submitted their respective maritime claims to the UN. To date, Israel and Lebanon have avoided any direct conflict over offshore energy resources, but the two antagonists may ultimately establish an informal offshore modus vivendi by avoiding any drilling in disputed areas.

Iranian Power in the Eastern Mediterranean

The risk of conflict between Israel and Lebanon remains significant. The Lebanese government is dominated by Hezbollah, the Iran-backed Shiite militia, which operates a heavily armed state within a state in southern Lebanon. There is a clear risk that during any conflict between Israel and Iran, or Israel and Lebanon, that Hezbollah would attempt to strike Israeli offshore energy facilities. In July 2011, Hezbollah leader Hassan Nasrallah warned Israel against "plundering" Lebanon's gas and threatened retaliation against Israeli offshore gas activities: "Those who harm our installations will have their own installations harmed."²¹

21. "Hezbollah Warns Israel against 'Stealing' Gas from Lebanon," Associated Press, 27 July 2011.

Hezbollah has not yet tried to disrupt or attack Israel's offshore gas installations. Nevertheless, the organization and its Iranian allies have demonstrated a capability to strike offshore targets. During the July-August 2006 military conflict between Israel and Hezbollah, an Iranian team hit an Israeli naval corvette, the INS *Hanit*, patrolling less than 6.2 miles off the coast, with a Chinese-designed C-802 cruise missile, severely damaging the vessel. A second C-802 missed its intended target and sank a Cambodian-flagged merchant ship 37 miles off Lebanon's coast.

Iran has also tried to supply Palestinian militants in Gaza with missiles capable of hitting ships operating in nearby waters. For example, in March 2011, the Israeli navy intercepted a ship carrying fifty tons of Iranian weapons, including Chinese designed, subsonic antiship missiles, destined for the Palestinian Islamic Jihad militant group. Iran has also recently started demonstrating its naval power in regional waters. In February 2011, an Iranian navy destroyer and supply ship transited the Suez Canal into Mediterranean waters, marking the first such passage since Iran's 1979 Islamic Revolution. In February 2012, two Iranian naval ships docked at the Syrian port of Tartus, irritating Israel. Any attack by Hezbollah or Iran is likely to provoke a fierce Israeli military response.

Russia, the United States, and Levant Basin Energy

Despite clear strains over multiple issues, including the Syrian civil war and US missile defense plans, the United States and Russia enjoy a general convergence of interest in facilitating development of Levant offshore energy.

At the same time, however, the development of Israeli and Cypriot offshore gas will complicate Moscow's complex strategy for maintaining its leading 34 percent share of the EU gas import market by providing a nearby source of ready gas exports. Russia is keenly interested in maintaining its hold on this critical market, which provides Moscow with major foreign currency earnings as well as enhanced geopolitical clout. Russia already confronts serious challenges posed by the rapid development of sizable US unconventional gas resources and efforts by Poland and other European countries to develop similar resources.

While strong Russian opposition to the development of Levant Basin gas

resources might be expected under these circumstances, Moscow has taken an opposite approach, seeking openings for Russian energy companies, notably Gazprom and Novatek (Russia's largest independent gas company). Gazprom is focused on deals with Israel, leaving Cyprus to Novatek. In March 2012, Gazprom signed a preliminary deal to buy Israeli LNG derived from offshore gas, while Novatek bid on an offshore exploration block offered by Cyprus in May 2012.

Gazprom's lack of apparent interest in Cyprus is notable. The company is already heavily involved in gas sales to Turkey and may not wish to anger Ankara by pursuing business in Cyprus—particularly at a time when Turkey is clearly interested in importing more gas from Azerbaijan. Moscow's likely aim is to redirect as much Israeli and Cypriot gas exports away from the European market as possible by backing LNG export schemes that would enable this gas to be sent to other markets.

From a geopolitical perspective, the Novatek bid is only the latest in a series of Russian moves designed to strengthen bilateral ties with Cyprus, which is now beholden to Moscow due to a series of loans enabling the heavily indebted country to avoid fiscal crisis. Developing stronger relations with Israel and Cyprus also enables Russia to hedge against the increasingly likely loss of Syria, which has long provided Moscow with sustained port access in the eastern Mediterranean.

Russian president Vladimir Putin's state visit to Israel in June 2012 was noteworthy for its positive atmospherics, and observers noted the growing alignment of Israeli and Russian geopolitical interests in the region. Israel has sought to offset the relatively recent loss of its strategic relationship with Turkey and hedge against Islamist Egypt by developing closer strategic relations with Cyprus, Greece, and Bulgaria. Russia also has cultivated closer relations with the three countries by buttressing Cypriot government finances with well-timed loans, conducting military exercises with Greek naval forces, and working with Bulgaria to develop the South Stream gas pipeline.

Russia's naval activity in the eastern Mediterranean has steadily increased in recent years, particularly since the eruption of sustained civil war in Syria. The Russian navy has pulled ships from the Black, Baltic, and Arctic Seas to enhance Russia's naval presence in the eastern Mediterranean, conducting

sustained naval maneuvers in regional waters from December 2011 to February 2012. Since 1971, Russia has maintained a small naval base at the Syrian port of Tartus and in 2012 deployed several hundred Russian marines to the port, most likely to protect Russian personnel and equipment from rebel attack and to give Western capitals reason to avoid taking any military action against Syria.

The United States is committed to maintaining close relations with powerful regional countries (Israel, Egypt, and Turkey) and preventing the considerable tensions among them from devolving into open conflict. Washington clearly supports the peaceful development of regional energy resources while seeking to prevent exploitation of these resources from provoking armed conflict. For example, in 2011 and 2012 the United States, Greece, and Israel quietly conducted naval exercises (Noble Dina) that included drills focused on the protection of offshore energy production facilities. This annual naval exercise, previously called Reliant Mermaid, included Turkish participation until 2009.

Washington has a long-standing interest in helping Europe diversify its sources of imported natural gas, chiefly to prevent Russia from leveraging its gas supplies to pull Europe away from the United States or otherwise thwart transatlantic security cooperation. Since the early 1990s, this competition has largely been focused on the development and transportation of oil and gas from Central Eurasia and Russia to global energy markets. Washington has long favored the development of oil and gas pipelines that would bypass Russia and thereby undermine its monopoly on the transportation of hydrocarbon energy.

While Washington supports the development and eventual export of Israeli gas, it would likely oppose any Russian-Israeli gas export scheme that would further strengthen Russia's gas market position in Western Europe.

Regional Energy Development and the Risk of Conflict

Israel and Cyprus are only just starting to develop their massive offshore gas resources, as Turkey and Lebanon race to initiate exploratory offshore drilling efforts. Syria is likely to remain out of the competition indefinitely due to

its escalating civil war. Lebanon also is experiencing some spillover from the Syrian conflict, which might ultimately undermine its planned offshore opening. Turkey's offshore exploration efforts are proceeding, but events in Syria also remain a major concern.

The competition to develop Levant Basin energy resources is likely to proceed unevenly. The economic fortunes of Israel and Cyprus are likely to improve as offshore gas resources are developed over time, further increasing their international weight. Other countries, such as Turkey, Lebanon, and Syria, may fail to discover commercially viable reserves or fail to develop them for whatever reason.

Over time, this uneven pattern of energy development may further aggravate existing regional rivalries and conflicts centered on Israel and Cyprus. In particular, Israel's efforts to help Cyprus develop and protect its offshore gas resources increase the chances that Israel may be drawn into any conflict including Turkey and Cyprus. However, Ankara's willingness to confront Israel over offshore energy may have been already reduced by the Syrian conflict, which now confronts Turkey with arguably its toughest external security challenge in recent years. Similarly, any conflict between Israel and Lebanon over offshore energy resources increases the risk of Israeli conflict with Iran.

To minimize the prospect of Turkish interference, Israel and Cyprus are pursuing a "multivector" strategy for attracting international investment into their offshore oil and gas sectors from US, European, and Asian firms. There is a clear security and defense component as well, involving an Israeli interest in deploying military assets on Cyprus. At the same time, the United States has quietly demonstrated its military capability to protect offshore oil and gas activity in the region, while Russia has pursued closer relations with Israel and Cyprus, visibly increasing its naval presence in regional waters. Both Washington and Moscow are betting that they can straddle multiple regional conflicts and balance the contending parties while continuing to facilitate the development of offshore energy. In the final analysis, the risk of conflict over the development of offshore energy resources will remain a defining feature of the regional order in the eastern Mediterranean, but other factors, such as the outcome of the civil war in Syria and Egypt's experiment with political Islam, are likely to have a greater impact.