

Summary: The discovery of significant reserves of natural gas offshore Israel in 2009 and 2010 and rather smaller volumes of natural gas offshore Cyprus in 2011 has sparked interest in their potential to contribute to regional cooperation and peace. The switch to natural gas can reduce pollution and carbon emissions, improve public health, lower electricity prices, and provide a stable and secure source of energy for power generation and desalinated water production in the region. However, the probability that these new natural gas resources may serve as a lever for conflict resolution or produce far-reaching geopolitical effects is rather low because the volumes of the reserves is relatively low, the potential economic benefits are insufficient to overcome deep-rooted political conflicts, and there is no precedent from other parts of the world of energy trade functioning as an incentive for peace between states in conflict.

Can New Energy Supplies Bring Peace?

by Brenda Shaffer

Introduction

The discovery of significant reserves of natural gas offshore Israel in 2009 and 2010 and rather smaller volumes of natural gas offshore Cyprus in 2011 has sparked interest in their potential to contribute to regional cooperation and peace. These newfound resources, it is often said, can serve as peace catalysts and promote reconciliation between Israel and its neighbors, facilitate the reunification of Cyprus, foster cooperation between Cyprus and Turkey, and improve relations between Turkey and Israel.¹ The risk that conflicts over ownership of the resources in disputed sea areas could exacerbate long-standing conflicts has also been widely noted.

Against the background of these contending views, a number of conclusions can be reached at this stage. Newly discovered natural gas resources can indeed contribute to positive trends in the Eastern Mediterranean, though conflict resolution may not be among them. The switch to natural gas can reduce pollution and carbon emissions, improve public health, lower electricity prices, and provide a stable and secure source of energy for power generation and desalinated water production in the region. However, the probability that these new natural gas resources may serve as a lever for conflict resolution or produce far-reaching geopolitical effects is rather low for three main reasons:

- The overall volume of the natural gas reserves discovered offshore Israel and Cyprus remains modest. While these discoveries will have a significant impact in the region itself, they are too small to significantly influence major export markets in Europe or Asia, unless there are major additional discoveries.
- Potential economic benefits are insufficient to overcome deep-rooted political conflicts that, in some cases, have persisted for several generations.

¹ See, for instance, "With the discovery of significant gas resources off Cyprus... gas could play as important a role in healing the island's divisions as the coal and steel industry played in 1949 between France and Germany," *Prepared remarks by Assistant Secretary of State for European and Eurasian Affairs Victoria Nuland, delivered on November 12, 2013 at the Atlantic Council*, <http://www.atlanticcouncil.org/news/transcripts/prepared-remarks-by-victoria-nuland-on-a-transatlantic-renaissance>; former U.S. ambassador to Azerbaijan, Matthew Bryza, "Building an Israel-Turkey pipeline connected to a Cyprus LNG terminal offers strategic opportunities that transcend economics, including a chance for Israel and Turkey to restore their strategic partnership. It would also push Turkey to reach an agreement on the Cyprus question, removing a 40-year irritant in relations with Europe and re-energizing Turkey's flagging efforts to join the EU. The U.S., working with the EU, should help to shape this future." Matthew Bryza, writing for Bloomberg, <http://mobile.bloomberg.com/news/2014-01-20/israel-turkey-pipeline-can-fix-eastern-mediterranean.html>

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- There is no precedent from other parts of the world of energy trade functioning as an incentive for peace between states in conflict.

However, cooperation in the development of these resources can *reinforce* any political breakthroughs in the Middle East Peace Process or in efforts to find a comprehensive solution to the problem of the division of Cyprus. Similarly, energy cooperation could reinforce any political progress made in relations between Israel and its neighbors, including Turkey and Lebanon.

The development of these resources has the potential to benefit all the peoples of the region:

- By lowering the costs of desalination and increasing the supply of fresh water, these new natural gas reserves can contribute to the elimination of water conflicts. The new natural gas volumes have already increased water supply in the region.
- By increasing economic prosperity, the new resources creating a more favorable climate for successful implementation of any political agreements concluded.
- By providing reliable and affordable electricity to the Palestinian territories, Jordan, Lebanon, and Syria, the new natural gas resources will favor economic development. This is especially significant for a region in which most countries' electricity supply is limited to certain hours of the day and where electricity production is unstable and cost-prohibitive.
- By producing electricity in a more environmentally safe manner, public health will improve.

The Size of the Natural Gas Volumes and the Prospects for Export

The volumes of natural gas resources found in the Eastern Mediterranean to date remain modest by global standards. Israel's natural gas reserves are: Tamar (10 trillion cubic feet – TCF, 283 billion cubic meters – BCM, proved reserves), Leviathan (18-19 TCF, 510-540 BCM, estimated reserves), and a number of small fields, together totalling about 3 TCF (85 BCM, estimated). The volumes of Cyprus's natural gas discovered so far are 3-5 TCF (80-140 BCM, estimated). The Gaza Marine field (offshore of the Gaza strip) holds 1 TCF (30 BCM, estimated). Known reserves in the region have the potential of satisfying local demand in Israel, Cyprus, Jordan, and the Palestinian territories for the next 40-50 years. However, the quantity available

for export beyond the region at present is limited. The size of the reserve available for export from Israel and Cyprus is approximately 400-500 BCM, given projected domestic demand and export limitations imposed by the government of Israel (which will allow the export of between 260-360 BCM, depending on the size of the proven reserves). The Palestinian territories and Jordan are likely to absorb about half of that quantity. The remaining amount of gas available for export beyond the immediate region is currently estimated at 200-300 BCM.²

Some analysts and journalists who have examined the prospects for the export of natural gas from Cyprus and Israel to markets beyond the region have described the gas as being “trapped by politics” or as “diplomatically trapped gas.” In reality, however, the export of natural gas has not been constrained by inter-state politics or by government policies but rather by the small size of the reserves and the strong existing demand for gas by Israel and its neighbors. The governments of Israel and Cyprus have established clear and transparent regulatory frameworks for licensing natural gas exploration and for taxation as well as guidelines for exports. In fact, the United States, EU, and even Turkey have given significant positive diplomatic attention to these new resources.

The recent natural gas discoveries in the Eastern Mediterranean have been accompanied by major new natural gas discoveries elsewhere in the world (for instance, East Africa) and a dramatic increase in proved reserves in the United States and Canada. These developments will affect global gas supplies and prices. It normally takes more than ten years from discovery and production, so companies considering export options from the Eastern Mediterranean over coming decades will need to factor in likely developments in world markets.

Why No Peace Pipelines?

There is no evidence from elsewhere in the world that trading in energy is an incentive for peace. Case studies show no instances in which the incentive of energy trade led countries to make concessions on issues critical to peace agreements such as borders and the status of refu-

² For more data on reserves, see EIA, “Overview of oil and natural gas in the Eastern Mediterranean region,” August 2013, p. 5., http://www.eia.gov/countries/analysis-briefs/Eastern_Mediterranean/eastern-mediterranean.pdf; <http://energy.gov.il/Subjects/NG/Pages/GxmsMniNGEconomy.aspx> (Hebrew).

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gees.³ Energy trade reflects existing peaceful relations; it does not create them. In many cases, the causal arrow points the other way; disputes over energy resources or commercial conditions of trade can exacerbate existing political conflicts.⁴

The “peace pipelines” theory is founded on the assumption that trade in energy leads to interdependence, and interdependence, in turn, favors peace. However, this assumption is fundamentally flawed since natural gas trade does not create interdependence in most cases.

Natural gas trade can generally take place in three forms: 1) trade in which neither supplier nor consumer is dependent on the energy source; 2) trade in which the supplier or the consumer is dependent on the other; 3) interdependence between the supplier and consumer.⁵ The last scenario is very rarely encountered; there are only a handful of cases of interdependence between gas supplier and consumer.⁶ Moreover, the existing data has not established a clear link between interdependence and the establishment of peace.⁷ In fact, major oil and gas producing countries have a propensity toward engaging in conflict as demonstrated in a number of studies. Based on this experience, the energy resources in the Eastern Mediterranean are more likely to be a source of conflict than an incentive for peace.⁸

Close political cooperation generally precedes the establishment of pipeline infrastructure between countries. Most international energy companies shy away from setting up operations in conflict zones. Companies may stay in a region if conflict emerges after they have made invest-

Table 1: Source of Electricity Generation (percent of total), from the World Bank Database (updated for 2011)¹

Name of Country	Coal	Gas	Oil	Hydro	Other Renewables	Nuclear
Egypt	0.0	74.7	15.8	8.3	1.3	0.0
Israel	59	33.1	7.3	0	0.4	0
Lebanon	0	0	95.1	4.9	0	0
Jordan	0	27	72.5	0.4	0.1	0
Cyprus	0	0	96.4	0	3.6	0
Syria	0	52.4	39.6	8	0	0
Palestinian Territories	-	-	-	-	-	-

1 <http://wdi.worldbank.org/table/3.7>

ments, but few companies will initiate exploration in hot conflict zones. Intergovernmental agreements are necessary to support commercial agreements on international gas pipelines, and banks will rarely fund new investments in active conflict zones. In the case of the Eastern Mediterranean region, reliance on energy trade for conflict resolution might create unrealistic expectations and divert attention from tackling serious regional security problems head-on.

How Can the Resources be Useful in the Region?

The End of Water Conflicts

Adequate water supply is a requirement for development in the region and competition over water resources is a potential flash point for conflict between bordering states. Water issues need to be resolved as part of broader peace efforts between both Israel and the Palestinians and Israel and Syria. Israel has significantly expanded its water desalination capacity and is now fully able to meet its domestic needs. Under these circumstances, Israel has accepted that Jordan may draw more from the Jordan River and is itself prepared to export water to Jordan. Israel has also signaled its readiness to provide additional water to the Palestinian territories as part of a peace agreement. The increased volume of natural gas supplies lowers the costs of water desalination and reduces associated pollution. Thus natural gas may indirectly help create a more propitious climate for peace by reducing conflicts over water.

Natural Gas Needed in an Electricity-Hungry Region

Many Eastern Mediterranean and adjacent Middle Eastern states have limited access to electricity supplies. This is one of the few places in the world where electricity is still largely produced from oil. Consequently power generation

3 For more on “peace pipelines,” see Brenda Shaffer, “Natural gas supply stability and foreign policy,” *Energy Policy* 56 (2013), p. 6 <http://explore.georgetown.edu/publications/index.cfm?Action=View&DocumentID=71136>; Brenda Shaffer, *Energy Politics* (Philadelphia, University of Pennsylvania Press, 2009), p. 70-74.

4 Shaffer, “Natural gas supply stability and foreign policy,” *ibid*.

5 For more on natural gas trade and political relations, see Brenda Shaffer, “Natural gas supply stability and foreign policy,” *Energy Policy* 56 (2013): 114-125. <http://explore.georgetown.edu/publications/index.cfm?Action=View&DocumentID=71136>

6 One of the cases of interdependence between gas supplier and gas consumer is Russia and Germany.

7 In international relations theory, some studies see trade interdependence as a source of peace, while others see it as an incentive for conflict, since one of the sides may want to disengage from its own dependence. See Dale C. Copeland, “Economic Interdependence and War: A Theory of Trade Expectations,” *International Security* Vol. 20, no. 4 (Spring 1996); Kenneth N. Waltz, “The Myth of National Interdependence,” in Charles P. Kindleberger (ed.) *The International Corporation* (Cambridge, MA.: MIT Press, 1970), pp. 205-223; Kenneth N. Waltz, *Theory of International Politics* (Reading, MA.: Addison-Wesley Publishing Company, 1979).

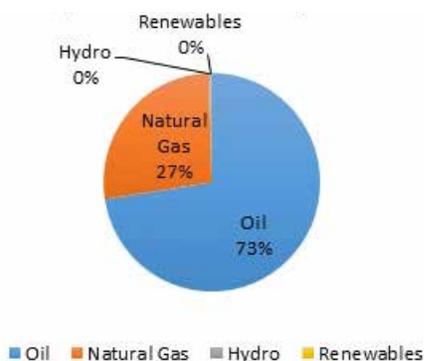
8 For a review on the literature linking oil and gas production to a higher propensity to involvement in conflict, see Shaffer, *Energy Politics*, pp. 74-77.

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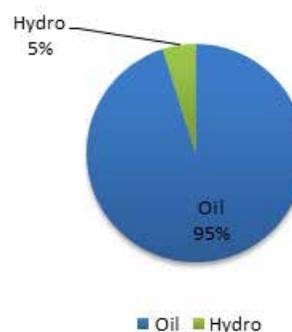
is expensive and highly polluting and electricity supply is unreliable. Stable supplies of natural gas could strengthen the economies in the region by providing cheaper cleaner power and augmenting water production for agriculture. Public health would benefit from less pollution. Reliable supplies of electricity at affordable prices can be critical to the economic and political stability of states in the region.

Frequent electricity blackouts contributed to public anger with both President Hosni Mubarak and President Mohammed Morsi and played a role in their respective downfalls. A government's inability to provide steady supplies of electricity demonstrates to the population the weakness of state institutions. Jordan needs to improve its electricity supply as it struggles to provide basic services to its own population and an additional 2 million Syrian refu-

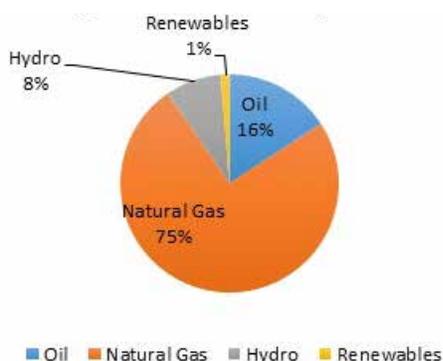
Jordan Electricity Generation by Fuel, 2011



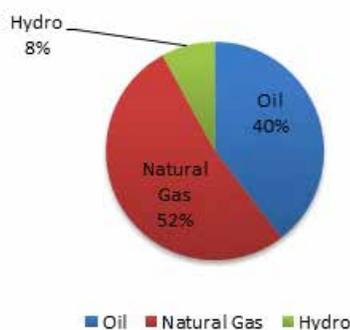
Lebanon Electricity Generation by Fuel, 2011



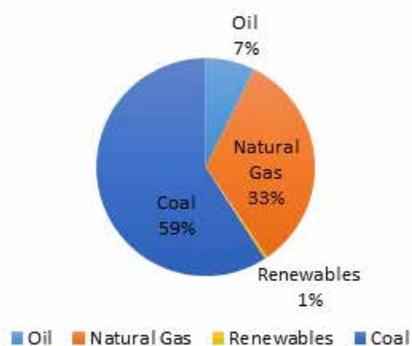
Egypt Electricity Generation by Fuel, 2011



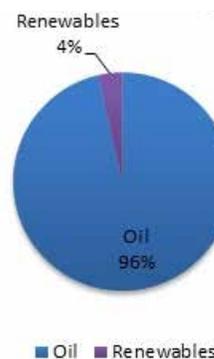
Syria Electricity Generation by Fuel, 2011



Israel Electricity Generation by Fuel, 2011



Cyprus Electricity Generation by Fuel, 2011



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gees. Electricity blackouts average 8 hours a day in Syria and between 8-12 hours a day in the Gaza Strip.

Gas Trade between Israel and its Neighbors

The government of Israel has viewed exports to its immediate neighbors (especially Jordan and the Palestinian territories) as top priorities since the inception of policymaking on the use of its new energy resources. Expected demand from Jordanians and Palestinians for energy and water have accordingly been included in overall estimates of demand. For Israel, the political stability of Jordan and the Palestinian Authority is an integral part of its own national security. Companies involved in the natural gas sector seem to have recently concluded that export to immediate neighbors makes good commercial sense and entails lower risks and costs than exports to more distant markets. It also offers a higher netback than more capital intensive ventures, like liquid natural gas (LNG) export through a new facility.

Recently, the leading companies in the natural gas fields offshore of Israel, Noble and Delek, have been pursuing contracts with power producers and industrial companies in both Jordan and the Palestinian territories. In light of the growing recognition of the relatively modest size of the gas volumes in Israel and Cyprus, companies are now focused on smaller scale export ventures.

The Palestinian and Jordanian markets are today quite small, based on current trends of gas and electricity consumption. However, as in the case of Israel, once the resource is available and supply is stable at a competitive price, demand will grow, leading to a convergence of both commercial and political benefits. In addition, with increased availability, Jordan could buy gas and re-export it to Syria and Lebanon, when political conditions permit. This will be vital for rebuilding these economies in a post-conflict situation.

An additional export option that makes excellent commercial sense is exporting gas through the existing LNG facilities in Egypt. Due to insufficient gas production in Egypt, coupled with high domestic consumption (due to subsidized gas and electricity prices), Egypt has not been able to provide the contracted gas to these facilities and they are running well below capacity. Consequently, international oil and gas companies are suing the government of Egypt for the financial losses they have suffered due to the lack of provision of gas. Exporting gas from Israel through

these existing LNG production facilities could provide considerable economic benefits to Egypt by averting costly law suits and by bringing in revenue from taxes, tariffs, and transit fees. This would entail a “win-win” situation as Israel and established companies in the natural gas sector could export this limited quantity of natural gas without the expense and time of establishing new LNG facilities. At the same, unless there are new discoveries, the volumes available for export are still quite limited and could not completely satisfy Egypt’s gas shortages.

Gaza Marine Project

A small gas field, discovered in 2000 offshore of the Gaza strip, could provide a source of electricity for the Gaza Strip and for the West Bank.⁹ The reserve is quite small and would not be of commercial interest for export, with the possible exception of supply of gas (or electricity produced from it) to bordering areas in Egypt and Israel. In the past, Israel has expressed concerns that revenues generated from the gas field could be used to fund Hamas’s terrorist activities. This risk is attenuated, however, by the fact that the field is too small to generate significant export revenue. Given that the Gaza Strip receives almost all of its electricity from Israel and does not pay for the bulk of these supplies, production from the Gaza Marine field would relieve Israel of the financial burden of supplying electricity to the Gaza Strip.

The development of this field could potentially provide a “win-win” scenario for both the Israelis and the Palestinians. For the Palestinians, it could provide a source of locally controlled, affordable, clean electricity for the economic development of the Gaza Strip. For the Israelis, it would provide relief from supplying Gaza with free electricity. Consumption of the electricity produced from Gaza Marine would oblige the Palestinian government to set up a payment mechanism and charge consumers for the electricity, which would in turn involve a considerable improvement in the governance of energy resources.¹⁰

Natural Gas and Water Supplies to Reinforce Peace Process

If the peace process between Israel and the Palestinians succeeds, increased trade in gas, electricity, and water could provide a “peace dividend” and, if managed correctly, rein-

⁹ Supply to the West Bank could take place without building supply infrastructure from Gaza there, through electricity swaps with Israel.

¹⁰ For a wider discussion on the development of the Gaza Marine natural gas field, see Simon Henderson, “Natural Gas in the Palestinian Authority: The Potential of the Gaza Marine Offshore Field,” GMF Policy Brief (forthcoming, 2014).

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force peace agreements. Such a favorable outcome depends on confidence that supplies will be maintained whatever the security situation or possible payment problems. Such confidence pre-supposes considerable progress in the peace process.

The current peace process between Israel and the Palestinians, led by U.S. Secretary of State John Kerry, provides an opportunity for Israeli, Palestinian and Jordanian working groups to make progress on energy and water cooperation. The United States and EU can should use every opportunity to encourage such cooperation in their contacts with the parties directly involved. Thus, the newly found energy resources in the Eastern Mediterranean can be mobilized to support a peace process whose success will bring benefits to peoples throughout the region.

About the Author

Professor Brenda Shaffer is a specialist on energy and foreign policy, energy security polices, Azerbaijan, the Caucasus, Caspian energy, and Eastern Mediterranean energy issues. She is currently a visiting researcher at Georgetown University's Center for Eurasian, Russian and East European Studies (CERES), on sabbatical from the University of Haifa, where she is a professor in the School of Political Science. This paper is adapted from a briefing presented by Prof. Brenda Shaffer to the European Parliament (Middle East Working Group), January 15, 2014.

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