Implications of Egypt's Turmoil on Global Oil and Natural Gas Supply

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Summary

The change in Egypt's government will likely not have a significant direct impact on the global oil and natural gas markets. There may be some short-term movements in price, mostly caused by perceived instability in the market place, but these would most likely be temporary. However, prolonged instability that raises the specter of spreading to other oil and natural gas producers in the region would likely add to upward price pressures. Although Egypt is considered an energy producer or net exporter overall, its oil and natural gas exports are not large enough to affect regional or global prices. The most serious impact would be on regional recipients of its natural gas exports.

Egypt's main influence on energy markets is its control of the Suez Canal and the Suez-Mediterranean oil pipeline (SUMED). The current low utilization of these two pieces of infrastructure would likely limit any affect of their closure in the near term. Both the oil and natural gas industry would, over time, find alternative routes to circumvent the canal and pipeline if necessary.

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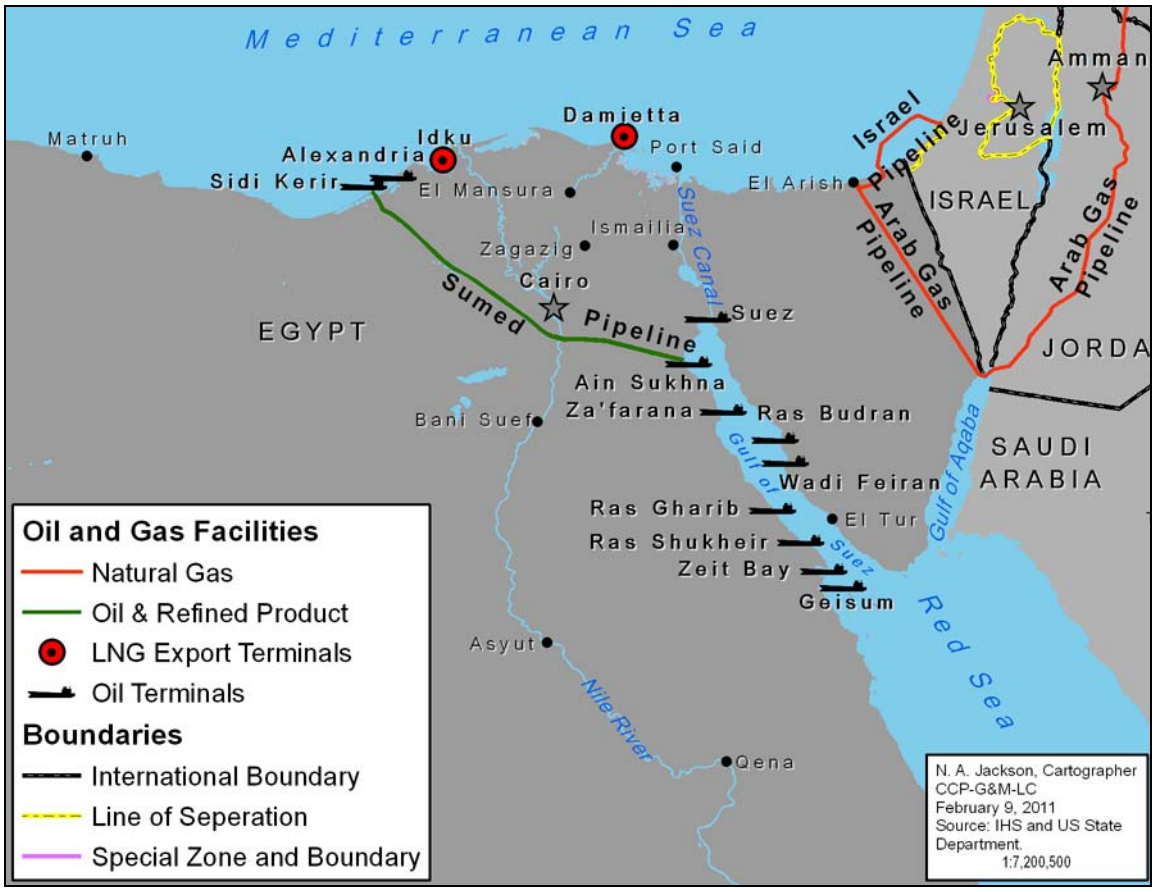
Introduction

The potential outcome of the resignation of long-time Egyptian President Hosni Mubarak is unknown and any ramifications for the oil and natural gas sectors are uncertain.[1] This paper examines the impact of a disruption of Egypt's oil and natural gas sector or a complete halt to exports of either oil or natural gas and closure of the Suez Canal and the Suez-Mediterranean (SUMED) oil pipeline, and the impact of those actions on world oil and natural gas markets. It is important to keep in mind that even the most nationalistic, isolationist, or anti-western government would most likely not undertake all these measures. Oil, natural gas, and transit generate large amounts of revenue for Egypt and taking these measures could precipitate outside intervention, particularly closing the Suez Canal.[2] Additionally, the timing of these actions would also change the impact on oil and natural gas markets, i.e., whether they occurred during the summer driving season or the winter heating season.

[1] For additional information on the current events in Egypt please refer to CRS Report RL33003, *Egypt: The January 25 Revolution and Implications for U.S. Foreign Policy*, by Jeremy M. Sharp.

[2] This paper does not discuss the internal impact of the scenario for Egypt, nor does it speculate on the global reactions of various governments.

Figure 1. Egyptian Oil and Natural Gas Infrastructure



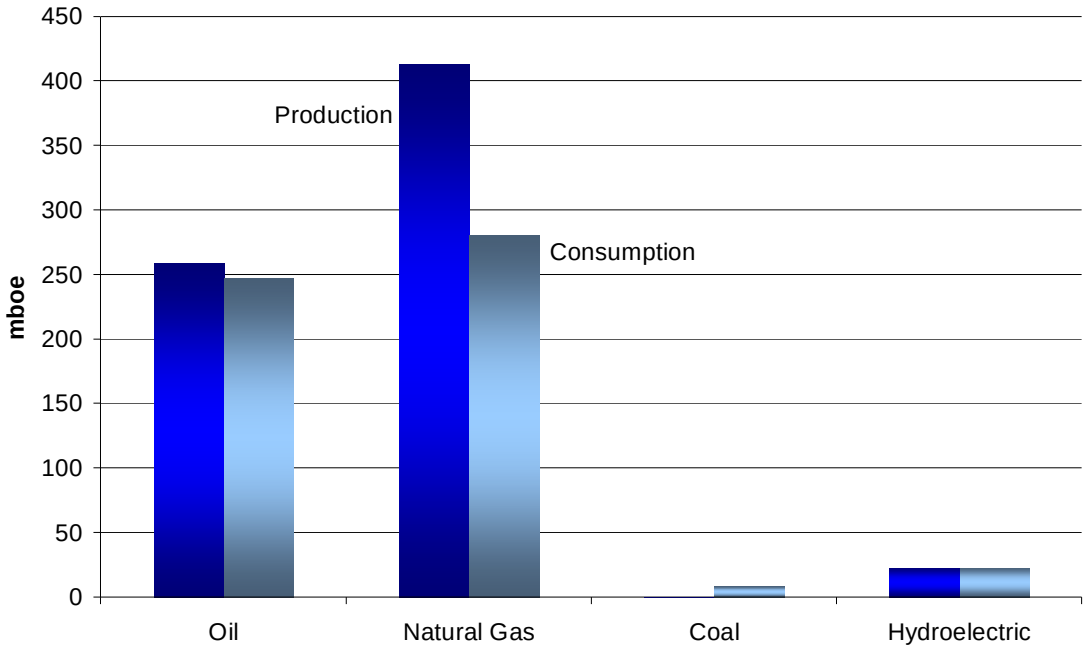
Source: CRS Cartography

An additional factor mitigating the impact on world oil and natural gas markets is that in 2009, Egypt consumed much of the energy it produced and had to import coal, highlighting the limited importance of Egypt as a global energy producer, see **Figure 2**.[3]

[3] 2009 is the latest year for complete production and consumption data.

Figure 2. Egyptian Primary Energy Production and Consumption

2009 total: 559 million barrels of oil equivalent (mboe) produced and 695 mboe consumed



Source: BP Statistical Review of World Energy 2010, http://www.bp.com/sectiongenericarticle.do?categoryId=9033088&contentId=7060602.

Closing of the Suez Canal and Suez-Mediterranean Oil Pipeline

Closing the Suez Canal would be one of the most visible actions a new government could take, particularly for the oil and natural gas industry.[4] Although it would probably take only several weeks to re-route and re-size[5] oil and natural gas tankers along with a possible drawdown of inventories, a closure of the canal would cause an immediate and most likely short-lived rise in global oil prices. Despite there being adequate spare production capacity in the world, oil prices tend to react quickly to market disruptions before settling back to their pre-existing price range. However, if the canal remained closed indefinitely, shipping costs would likely increase, adding upward pressure on oil prices. The same would likely be true for liquefied natural gas (LNG), but

[4] In addition to oil and natural gas, many other commodities traverse the Suez Canal as well as U.S. and other nations' naval ships.

[5] Currently, Very Large Crude Carriers (VLCC) and Ultra Large Crude Carriers (ULCC) class tankers are unable to traverse the Suez Canal because of their size, and oil must be put on smaller ships or shipped through the SUMED pipeline between the Red Sea and Mediterranean. If the canal were closed, more oil would be transported by VLCCs and ULCCs to make the journey around Africa's Cape of Good Hope, adding an additional 15 days of transit to Europe and 8-10 days to the United States Gulf Coast, according to the U.S. Energy Information Administration's country report on Egypt (see footnote 6 below).

the effect would be less. Most LNG is sold under long-term contract and there is currently a glut of LNG around the world to make up for any disruption.

In 2009, an estimated 1.8 million barrels per day of oil (Mb/d) (of the world's roughly 80 Mb/d of production) moved through the canal—almost 1 Mb/d northbound and 0.85 Mb/d southbound.[6] This is down from 2.4 Mb/d in 2008. The decline is mostly attributed to lower global demand for oil, production cuts by the Organization of the Petroleum Exporting Countries (OPEC), particularly from the Persian Gulf producing countries, and piracy.[7] More oil is also flowing to Asia from the Middle East, while more West African oil is going to Europe and North America, and does not have to traverse the canal. 2010 data shows an increase in cargos, but is incomplete for the year. The last time the canal was closed, in 1967 until 1975,[8] approximately 60% of Europe's oil supplies had been passing through the canal. Currently, only about 15% is shipped through the canal.[9]

Similar to the decrease in cargos through the canal, the SUMED oil pipeline—which is owned through state companies by Egypt (50%), Saudi Arabia (15%), the United Arab Emirates (15%), Kuwait (15%), and Qatar (5%)—is operating below its capacity of 2.5 Mb/d. In 2009, approximately 1.1 Mb/d moved through the pipeline, a decrease of about 50% compared to 2008. The reduction resulted from many of the same causes as the canal's drop-off in oil transportation.

In 2009, 331 billion cubic feet (bcf) of LNG traversed the canal, which represents 4% of global LNG trade and less than 1% of natural gas consumed globally. Unlike oil, LNG cargos through the Suez Canal have been steadily rising. Between 2008 and 2009, the volume of LNG passing through the Suez Canal increased over 40%, more than doubling northbound cargos. Data for the first ten months of 2010 show a 66% increase in LNG shipments through the canal compared to the 2009 total. The rise in LNG cargos is mostly attributable to the large increase in Qatar LNG exports. Nevertheless, there is ample supply of LNG in the global market, and rerouting LNG cargos to demand centers could be accomplished in a relatively short time frame.

Natural Gas Supplies: A Regional Issue

While Egypt is a relatively small player in the global natural gas industry, it can have a larger impact on regional natural gas supply. Egypt produces all the natural gas consumed in Lebanon, almost all the natural gas consumed in Jordan, and more than half the natural gas consumed in Israel. On a world scale, Egypt accounted for only 2.1% of global natural gas production and 2.1% of global natural gas trade in 2009. Egypt holds 77 trillion cubic feet or 1.2% of the world's proved gas reserves.

[6] U.S. Energy Information Administration, *Country Analysis Briefs: Egypt*, February 2011. http://www.eia.doe.gov/emeu/cabs/Egypt/pdf.pdf

[7] Marsoft, *Marsoft Flash Report: New Suez Canal Crisis?*, February 2011.

[8] The Suez Canal has only been closed twice in its 141-year history: for 17 months during the 1956 Suez Crisis, and for almost eight year after the 1967 Six Day War with Israel.

[9] Marsoft, February 2011.

Table 1. 2009 Egyptian Natural Gas Data

Units = billion cubic feet (bcf)

Region/Country	Imports from Egypt (bcf)	% of Total Imports	% of Total Consumption
Asia	36.73	<1%	<1%
Europe	235.20	1.5%	1.3%
- Spain	144.79	11.4%	12.0%
Middle East	194.23	17.6%	1.6%
- Israel[a]	60.03	100.0%	52.3%
- Jordan	100.65	100.0%	91.9%
- Lebanon	1.41	100.0%	100.0%
- Syria	32.14	100.0%	12.8%
North America	175.16	3.5%	<1%
- United States	160.33	4.3%	<1%
South and Central America	5.65	1.0%	<1%
- Argentina	5.65	6.0%	<1%
	Exports (bcf)	**Production (bcf)**	**Consumption (bcf)**
Egypt	646.97	2,213.88	1,566.91
% of World	2.1%	2.1%	1.5%

Source: BP Statistical Review of World Energy 2010, http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2008/STAGING/local_assets/2010_downloads/natural_gas_section_2010.pdf, and other industry sources.

a. For additional information on Israel's natural gas use, see CRS Report R41618, *Israel's Offshore Natural Gas Discoveries Enhance Its Economic and Energy Outlook*, by Michael Ratner.

Egypt exports natural gas through two pipelines and two LNG facilities. Currently, the Arab Gas Pipeline connects Egypt to Jordan, Lebanon, and Syria. There are plans to expand the pipeline further, enabling Egypt to export natural gas through Turkey to Europe.[10] In 2008, Egypt opened an export pipeline to Israel. There was an explosion in early February that shut down both pipelines for a short time although the damage was primarily to the Arab Gas Pipeline.[11] Egypt has almost 600 bcf of LNG export capacity, with one facility in Damietta and one in Idku. Egypt accounted for approximately 5% of global LNG trade last year, with most cargos going to Europe.

[10] Egyptian natural gas would feed into the planned Nabucco pipeline or other natural gas pipelines. See CRS Report RL34642, *Turkey: Selected Foreign Policy Issues and U.S. Views*, by Carol Migdalovitz, for more on the Nabucco pipeline project proposal.

[11] Batsheva Sobelman, "Israel: Egypt Gas Pipeline Explosion Raises Energy Concerns," *Los Angeles Times*, February 5, 2011.

Oil Exports Already Minimal

Aside from its role as a transit center, withdrawal of Egypt's own oil production from the global market would likely have limited impact on world oil prices. In 2010, Egypt was a small net importer of oil, producing approximately 0.66 Mb/d while consuming close to 0.71 Mb/d.[12] Egypt's oil production has been in decline since the early 1990s, a trend not likely to be reversed.[13] The country—which has the largest refining capacity in Africa, with 975,000 barrels of processing capacity—did export some refined products, such as naptha, but imported others. Cutting off exports of naptha, an oil product that can be used in making petrochemicals and gasoline, could put minor upward pressure on European prices, which is a main market for Egyptian exports.

Global Oil and Natural Gas Markets: A Short-Term Concern

Global oil prices have already reacted to the unrest in Egypt despite no disruption to Egyptian production. The reaction comes from two concerns: (1) the near-term risk that any disruption to oil transit through Egypt could delay oil shipments for several weeks (as they are rerouted around the Cape of Good Hope, adding extra shipping time) and (2) the more significant concern that political unrest could spread to other, more important energy exporters in the region, such as Saudi Arabia, Iraq, or Kuwait. There has been some upward pressure on natural gas prices as companies scramble to hedge against a disruption of Egyptian exports, but the benchmark natural gas price in the United Kingdom is actually down.

Should the scenario described above come to pass, there would likely be little impact on the global oil and natural gas market in the long-term. Both industries will take some time to recalibrate flows, but should be able to accomplish that with minor or no disruptions. Additionally, the strategic petroleum reserves of member countries of the International Energy Agency, which are mostly from the Organization for Economic Cooperation and Development (OECD), could also be utilized to bridge any gap in oil flows should a disruption prove to be significant.

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[12] U.S. Energy Information Administration, *Country Analysis Briefs: Egypt*, February 2011.

[13] Ibid.