# The New discoveries of Natural Gas in Mediterranean and its impacts on the international relations (Egypt, Lebanon, Israel, Palestine)

**Mona Farouk** | IMS

**Abstract:**

In the last decade, new discoveries of Natural Gas in Mediterranean came up to open the way for predictions of its impacts on the international relations especially between Mediterranean countries. Many countries are involved in this issue whether by its direct interest having a share of these discoveries or by indirect interest having the need for this Gas. Among these discoveries, the east part of Mediterranean witnesses some of the biggest hydrocarbon discoveries of the last decade. We can see countries; like Egypt, Lebanon, Cyprus, and Israel,are directly involved with these discoveries sharing the sea boundaries for these Gas discoveries. On the other hand, we can see many other counties that are involved with this issue indirectly by their being major consumers of natural gas and their continuous needs of importing it.

The question is whether these discoveries wouldlead to new disputes in the Mediterranean region or there can be peaceful tools to share the benefits of these Natural Gas discoveries. To answer this question this paper will try to shed the

light on the new discoveries of Natural Gas in the Mediterranean and the impacts of these discoveries on the relationships of the countries of this region.

The study will focus on 4 countries involved with those discoveries which are; Egypt, Lebanon, Palestine and Israel, through the following dimensions:

1- Importance of Natural Gas.

2- The current status of need for Natural Gas in the region.

3- New discoveries of Natural Gas in Mediterranean.

4- The Impacts of Natural Gas new discoveries on the international relations of the region.
5- Conclusion and the future vision.

## Keywords:

Mediterranean, Natural Gas, discoveries, energy, relations, impacts, disputes.

## Introduction:

The Mediterranean region is one of the vital regions of the world with its geostrategic location in the middle of world and with its variety of countries that belong to Africa, Asia and Europe. The Mediterranean Sea has connected all these countries through history with many connections which include sharing the treasures of the Mediterranean Sea. But would these treasures of Mediterranean Sea be a reason of future disputes among those countries? This can be a question to rise up concerning the new discoveries of the natural gas in the Mediterranean Sea.

Over the last decades, the Mediterranean regionfaced many changes including the formation of the European Union and several wars that lead to a serious crisis of refugees in the region. This has coped with a continuous growth of population ofthe region along with increasing growth of the economic output of the region as well. These changes all contribute to increasing pressure on the Mediterranean

natural resources which include Natural Gas as a main source of energy.

Natural gas is one of the most important sources of clean energy comparing with other sources of fossil fuels, italso has more advantages to be favorably used more than other fossil fuels like Petroleum oil and coal, as it burns more cleanly than those fuels. This can be clear, knowing thatburning natural gas produces only about half the carbon dioxide per kilowatt-hour (kWh) that coal does. Thus, Natural gas became one of the major sources of electricity generation.[1)]

On the other hand, both North America and Europe are major consumers of Natural gas.This can imply that other non-Mediterranean countries would have interests in these Natural Gas discoveries on the Mediterranean, as it may be their future provider of Natural Gas. Knowing that most countries of this region, especially the east of the Mediterranean had suffered lack of energy sources, can give us an idea about the importance of the recent discoveries of Mediterranean Gas fields, and the impacts of these discoveries on the relationships of the countries of this region that may come with future disputes accordingly.

To approach this issue, it would be better to begin with clearing outthe importance of natural gas itself generally and then to focus on its importance to the Mediterranean countries, which would be obvious if we approach the current status of need for the natural gas in this region.

## 1. Importance of Natural Gas

Natural gas is an extremely important source of energy for reducing pollution and maintaining a clean and healthy environment. In addition to being a domestically abundant and secure source of energy, the use of natural gas also offers a number of environmental benefits over other sources of energy, particularly other fossil fuels.

Nowadays, we can see the up rise of the natural gas as the world is seeking for promoting the use of cleaner renewable energy sources to protect the environment. This trend can be seen in the "International Petroleum week" held in

1) Natural Gas and the Environment , NaturalGas.org,
https://web.archive.org/web/20090503132200/http://www.naturalgas.org/environment/naturalgas.asp

London in February 2018, hosted by the Institute of Energy that organized a special whole day for discussions about natural gas, which confirms the evolving role of gas as a cleaner fuel alternative for oil[2].

The International Energy Agency (IEA) estimated that if the governments of world countries continued to adopt policies protecting the environment, the share of natural gas in the total international supply will increase to 54% by the year of 2040 while it reaches nowadays 36%. According to IEA data, gas demand worldwide grows to nearly 4300 bcm in 2030 in the Sustainable Development Scenario – some 20% higher than today's levels –before plateauing around this level. This contrasts sharply with the picture for coal and oil, which drop globally by over 50% and 25% respectively between 2016 and 2040. Gas overtakes coal in the mid-2020s and oil in the mid-2030s to become the largest single fuel in the global energy mix[3].

The importance of Natural gas can be clearly seen as it is a major source of electricity generation through the use of cogeneration, gas turbines and steam turbines. Natural gas is also well suited for a combined use in association with renewable energy sources such as wind or solar and for alimenting peak-load power stations functioning in tandem with hydroelectric plants. Most grid peaking power plants and some off-grid engine-generators use natural gas. Particularly high efficiencies can be achieved through combining gas turbines with a steam turbine in combined cycle mode. Natural gas burns more cleanly than other fuels, such as oil and coal. Because burning natural gas produces both water and carbon dioxide, it produces less carbon dioxide per unit of energy released than coal, which produces mostly carbon dioxide. Burning natural gas produces only about half the carbon dioxide per kilowatt-hour (kWh) that coal does [4].

Briefly, we can say thatNatural gas is assumed to overtake the place of coal and oil in the energy market worldwide in the future, which can generally sum up its importance especially with the global trend of adopting environment friendly policies. The current status proves the high growth of the demand for the Natural Gas worldwide including the Mediterranean region.

2) https://www.ipweek.co.uk/
3) http://www.iea.org/publications/freepublications/publication/WEO2017Excerpt_Outlook_for_Natural_Gas.pdf
4) "Natural Gas and the Environment". NaturalGas.org. Archived from the original on 3 May 2009. Retrieved 11 June 2013. https://web.archive.org/web/20090503132200/http://www.naturalgas.org/environment/naturalgas.asp

## 2. The current status of need for Natural Gas in the region.

In Mediterranean region, Egypt is considered to be the top countryper recoverable reserves, (1,846.3 bcm and also top producing countries include Egypt (45.6 bcm among the Mediterranean region, as Egypt has the sixth largest proved oil reserves in Africa, with over half located in its offshore waters. . Top countries per proved recoverable reserves include Ukraine (604 bcm), United Kingdom (206 bcm), Cyprus (141.6 bcm, and top producing countries Ukraine (17.4 bcm) [5].

In the past few years, there have been offshore discoveries of gas and possibly oil that open up new economic possibilities, and may also redefine strategic relationships in future. A 2010 US Geological Survey report estimated that there were 122 trillion cubic feet (TCF) (equivalent to 3455 billion cubic meters) of gas and 1.7bn barrels of oil off the coasts of Israel, the Gaza Strip, Cyprus, Syria and Lebanon[6].

The following is details for the current status of need for Natural Gas in main countries involved with the new discoveries of Natural Gas in Mediterranean region:

### 1.1 Egypt

Among Mediterranean countries that involved directly with the Natural Gas discoveries on the Mediterranean is Egypt which is considered to be an important country in regards to natural gas. This can be seen through the following facts; i) Egypt is within the top 20 countries globally for proved natural gas reserves, natural gas production, and natural gas consumption. ii) Egypt had 1846.3 bcm of proved natural gas reserves as of 2014. iii) Natural gas plays an important role in Egypt's energy mix, particularly when it comes to the country's electricity production. Natural gas is the fuel responsible for approximately 70% of Egypt's electricity currently[7].

Egypt's natural gas reserves have been aided by discoveries in the Mediterranean Sea, the Nile Delta, and the Western Desert. Egypt's natural gas production has

5) https://www.worldenergy.org
6) Yolande Knell, "Gas finds in east Mediterranean may change strategic balance", BBC News, Jerusalem, 13 May 2013. http://www.bbc.com/news/world-middle-east-22509295
7) https://www.worldenergy.org/data/resources/country/egypt/gas/

been steadily declining in recent years. In fact, 2014 marked the third consecutive year of falling natural gas production in Egypt and the drop has been substantial. Egypt produced 48.7 bcm of natural gas in 2014, which represented approximately a 13% drop from 2013 levels. As domestic production has been falling, it has started to converge with Egypt's natural gas consumption. This is evidenced by the country's 2014 natural gas consumption total of 48 bcm[8].

Egypt was once a significant exporter of natural gas via both pipeline natural gas and LNG. However, the country's falling production and the sequential convergence of Egypt's gap between domestic production and consumption has impacted their potential for exporting natural gas. In 2014, Egypt only exported 0.4 bcm of LNG, all of which was sent to countries in Asia Pacific. In fact, Egypt even began importing LNG in 2015 in order to fulfil domestic natural gas deman d[9].

In 2011, during the days of the so-called Arab spring revolution in Egypt, the fact that Egypt is exporting Natural Gas to Israel was a hot issue for Egyptian people, with the repeating of explosions rocking the natural gas terminal near Egypt's boarder with Israel which forced shutdown of export pipeline to Israel, Jordan and Syria. Egypt exports gas to Israel, Jordan and Syria. By that time, Egyptian governments faced criticism because of the low price at which the gas is sold*

* The researcher was involved in this social discussion as a part of Egyptian society.

## 1.2 Lebanon

On contrary toEgypt, Lebanon faces a shortage of Natural Gas. In Lebanon, the potential benefits of a domestic supply of gas are immediately clear. In December 2010, a seismological survey in Lebanese waters indicated vast natural gas deposits beneath the seabed, potentially as much as 25 TCF. On this context, the Lebanese energy minister, Gebran Bassil, declared to BBC that he is pinning his hopes on hydrocarbon revenues to turn around the country's weak economy, which has one of the highest rates of public debt to gross domestic product (GDP) in the world[10].

8) https://www.worldenergy.org/data/resources/country/egypt/gas/
9) https://www.worldenergy.org/data/resources/country/egypt/gas/

The Lebanese offshore area covers a total of 22,730km2 in the Eastern Mediterranean. On 22nd February 2012, the Lebanese Ministry of Energy and water has declared that this offshore areahas been licensed for the first hydrocarbon exploration. This first offshore licensing round came after the French consultant group, Beicip-Franlab was contracted to interpret more than 10,000 km of 2D seismic data and to prepare a regional interpretation report in 2011, which was followed by 3D interpretation analysis, basin modelling and prospectivity studies. This proved that the large deep Levantine Basin is estimated to contain more than 10,000 metres of Mesozoic and Cenozoic sediments and that the basin contains all the key elements for successful hydrocarbon exploration with deepwater hydrocarbon plays within the Tertiary (Miocene / Oligocene sands) anticlinal structures enhanced by large potential stratigraphic traps. Nearer to shore, in relatively shallower water, hydrocarbon leads have also been recognized in the basin margin invoking new petroleum systems [11].

In 2010, the U.S. Geological Survey (USGS) estimated the undiscovered oil and gas resources of the Levant Basin Province to be around 1.7 billion barrels1 of recoverable oil and 122 trillion cubic feet (tcf)2 of recoverable gas. The resources are considered to be the world's largest gas discoveries of the decade.

## 1.3 Palestine

World Energy Council's shows no data for Palestine's Natural Gas. As The Palestinian territories of the West Bank and Gaza Strip produce neither oil nor natural gas. U.S. government figures, as reported in the CIA World Fact book, estimate electricity consumption in 2010 in the West Bank as being 4.573 billion kilowatt-hours. The equivalent figure for the Gaza Strip, but for 2009, is given as 202,000 kilowatt-hours. The 2010 estimated figure for Israel a comparatively huge 48.73 billion kilowatt hours[12]. According to Palestinian officials, current demand for electricity in the West Bank and Gaza Strip is 1,200 MW. Demand is expected to grow to 2,000 MW by 2020[13].

10) Yolande Knell, "Gas finds in east Mediterranean may change strategic balance", BBC News, Jerusalem, 13 May 2013. http://www.bbc.com/news/world-middle-east-22509295

11) "Lebanon Fist Licensing Round", Petroleum Administration, Ministry of Energy and Water, Republic of Lebanon, 22 Feb. 2012.
http://www.eisourcebook.org/cms/June%202013/Lebanon%201st%20Offshore%20Licensing%20Round.pdf

12) https://www.cia.gov/library/publications/the-world-factbook/

Gaza already struggles to meet even basic electricity needs, while seasonal power shortages are emerging in the West Bank. With demand growing demand at 3.5 percent annually until 2030, failure to invest in the West Bank's power sector would lead to deepening power shortages over time, and in Gaza, would make an already dire situation worse. Implementing a sound energy strategy could boost economic growth by 0.3 percentage points in the West Bank and 0.5 percentage pointsin Gaza. The Palestinian territories rely primarily on Israeli imports tomeet its electricity needs, amounting to 99 percent of total supply in the West Bank and 64 percent of total supply in Gaza[14].

For now though it is the Palestinians and the Syrians who are least able to take advantage of the offshore gas that lies under their waters. Further south down the coastline of the Levant Basin, the Gaza Marine field, 30km off the coast of the Palestinian territory, has long been known about. In 1999, the Palestinian Authority awarded the exploration license to British Gas. Gaza Marine, located about 30 km (20 miles) off the Gaza coast, has long been seen as a golden opportunity for the cash-strapped Palestinian Authority to join the Mediterranean gas bonanza, providing a major source of income to reduce its reliance on foreign aid. Plans to develop the field -estimated to hold over 1 trillion cubic feet of natural gas, the equivalentof Spain's consumption in 2016- were put off several times over the past decade. The delays were due to internal Palestinian rivalry and conflict with Israel, as well as economic reasons[15].

Although in strict legal terms its status is ambiguous, a twenty-five-year exploration license for the marine area off the Gaza Strip was awarded by the Palestinian Authority in 1999. The Gaza Marine field was discovered the following the year, though its natural gas has yet to be exploited. Politics as well as failure to agree on commercial terms have been the principal reasons for the delay. Exploitation of the field would provide the Palestinian Authority with an important revenue stream. Using Gaza Marine gas may also reduce Israel's need to consume itsown natural gas to generate electricity for the Palestinians. Ultimately the

13) https://www.iec.co.il/en/ir/pages/default.aspx

14) Securing Energy for Development in West Bank and Gaza- Brief, World Bank Group,November 14, 2017. http://www.worldbank.org/en/country/westbankandgaza/brief/securing-energy-for-development-in-west-bank-and-gaza-brief

15) Nidal al-Mughrabi, Shell gives up on Gaza's offshore gas field - Palestinians, Reuters, MARCH 6, 2018. https://www.reuters.com/article/uk-israel-palestinians-gas/shell-gives-up-on-gazas-offshore-gas-field-palestinians-idUKKBN1GH2F4

decision will be political, but in economic terms, the case for the exploitation of Gaza Marine is strong[16].

The United States Geological Survey (USGS) has estimated the geological area known as the Levant Basin in the Eastern Mediterranean to contain 122 trillion cubic feet (tcf) of natural gas[17]. The USGS also estimated undiscovered oil resources at 1.7 billion barrels and undiscovered natural gas liquids at 3.1 billion barrels. Apart from a very small producing field in Israel, oil has yet to be discovered. Most of the natural gas found thus far, around 40 tcf, has been in Israel's Exclusive Economic Zone (EEZ), though one of the earliest discoveries, in 2000, was offshore the Gaza Strip. The exploitation of this discovery, the Gaza Marine field (1 tcf), could provide more reliable electricity to the Gaza Strip and boost the revenues of the Palestinian Authority (PA) in the West Bank[18].

However, the conflict between Israel and the Palestinians has prevented further development of the field. Political problems due to the Israeli occupation and the internal Palestinian problems make obstacles for Palestinian to use their newly discovered natural resources of natural Gas.

## 1.4 Israel

According to the latest statistics of the World Energy Council (2016), Israeli Gas production is 6.75Mtoe per year, Gas amount in place is 1.8 thousand Mtoe, and the amount of Gas recoverable reserves is 163Mtoe[19].

Following significant discoveries made at the northern and southern ends of the Palestinian Coast during the decade from 1999 to 2010, Israel went from being an energy-poor country to a potential exporter of gas to world markets. On this context, Israel has already announced findings at Dalit, Tamar and Leviathan fields totaling 30 tcf of natural gas and still unproven quantities of oil. The initial discoveries were made in March 1999 and included the Noa and Mari B gas fields. In January 2009, explorations west of Haifa revealed the Tamar gas field,

16) Simon Henderson, "Natural Gas in the Palestinian Authority: The Potential of the Gaza Marine Offshore Field", Washington institute, March 2014.
http://www.washingtoninstitute.org/uploads/Documents/opeds/Henderson20140301-GermanMarshallFund.pdf
17) http://pubs.usgs.gov/fs/2010/3014/pdf/FS10-3014. pdf
18) http://www.nobleenergyinc.com/Operations/International/Eastern-Mediterranean-128.html, page 137 of 2013 Analyst Conference Presentation.
19) https://www.worldenergy.org/data/resources/country/israel/gas/

followed by nearby Leviathan in June 2010. Leviathan alone provides Israel with 17 tcf of gas reserves. Table 2 outlines some of the major Israeli discoveries of natural gas as well as the proven reserves in each of the gas fields[20].

Israel used to import Natural Gas from Egypt till the occurrence of repetitive explosions rocking the natural gas terminal near Egypt's boarder with Israel which forced shutdown of export pipeline to Israel, Jordan and Syria. But thanks to the new discoveries of natural gas fields in Mediterranean sea, Israel is most likely to export natural gas to Egypt soon.

The following part of the study will show more details about the new discoveries of natural gas including statistics for the gas fields belong to Israel.

## 3. The New discoveries of Natural Gas in Mediterranean.

Since the beginning of year 2009, massive gas discoveries in the Mediterranean Sea's Levant Basin have attracted a flood of investment along with geopolitical tension as well. This part of the study will shed the light on some of the most important developments of offshore gas projects in the eastern Mediterranean, focusing on the new discoveries of natural gas in Mediterranean that is relative to the four countries of the study (Egypt, Palestine, Israel, Lebanon).

### 3.1 Tamar Gas Field:

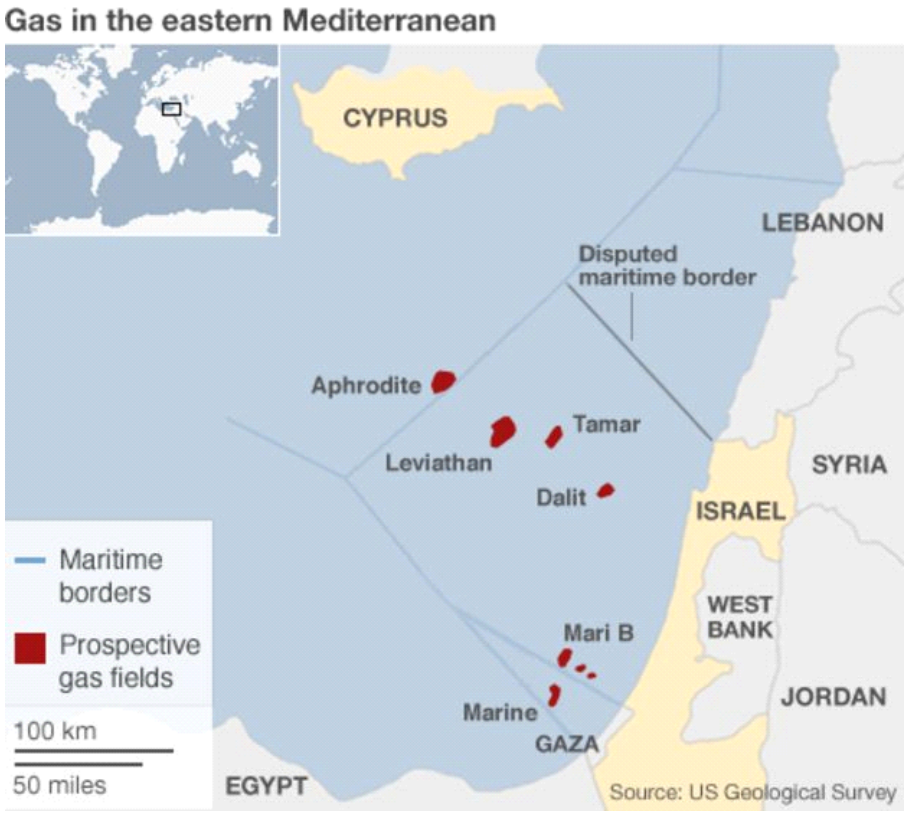
In January 2009, the discovery of gas at the Tamar field, located in Israeli waters 90km west of the port city of Haifa, brought a new scale to the oil and gas industry in the eastern Mediterranean. The field's reserve estimates were raised from 3.1tcf before drilling to 5tcf after flow testing of the first appraisal well in February 2009, and then revised up again to 6.3tcf after the second appraisal well was drilled. By the time the field entered full production in 2013, reserves were estimated at 10tcf. The largest-ever gas find in the eastern Med to that point was also the largest discovery made by operator Noble Energy, which led the project alongside a consortium of Israeli partners, and a new energy dawn for Israel, whose only previous source of offshore gas production was the shallow-water

20) http://www.bankmed.com.lb/BOMedia/subservices/categories/News/20150515170326030.pdf

Mari-B field (also operated by Noble Energy). According to Noble, by the end of 2017, Tamar supplied 60% of Israeli power generation, underlining the stakes involved in developing hydrocarbons in the region[21].

The following map of figure (1) shows the location of Tamar gas field among other natural gas field discovered in the Mediterranean Sea.

Figure (1)




Source: https://www.bbc.com/news/world-middle-east-22509295

### 3.2 Leviathan Gas Field:

In December 2010, Leviathan Natural Gas Field, which is located in the eastern Mediterranean Sea area off the coast of Israel, was discovered. The discovery is situated in 1,645m of water in the Levantine Basin, located 29km south-west of Tamar, approximately 130km west of Haifa, Israel (See the map in Figure (1)). At the time of discovery, the Leviathan gas field was the most prominent field ever

21)Chris Lo,Timeline: game-changing gas discoveries in the eastern Mediterranean, offshore-technology, 13 Dec. 2017.
https://www.offshore-technology.com/features/timeline-game-changing-gas-discoveries-eastern-mediterranean/

found in the sub-explored area of the Levantine Basin, which covers about 83,000km² of the eastern Mediterranean region. According to Noble Energy, which once again spearheaded the exploration and now leads the team developing the project, the field contains 22tcf of recoverable natural gas[22].

### 3.3 Zohr Gas Field

In August 2015,Italian supermajor Eni made huge waves in 2015 with a record-breaking discovery at Zohr field in block 9 of 15 exploration zones that Egypt put up for tender in 2012 (See the location of Zohr fiel in the map of Figure (2)). With more than 30tcf of potential gas resources, Zohr is considered to be the largest-ever gas discovery in the Mediterranean, and is thought to be significantly larger than Leviathan gas field. with production beginning just two and a half years after gas was discovered north of the Egyptian town of Port Said, the project is now ramping up with the aim of production hitting a plateau in 2019. In May 2018, Eni announced the start-up of the third production unit (T-2) in the Zohr field, which will bring the total installed capacity to 1.2 billion cubic feet of gas per day. Zohr is now producing approximately 200,000 boe/day, of which Eni's share is currently 75,000. These latest figures boost the exceptional progress of the Zohr field which, as one of Eni's seven record projects, plays a key role in helping Egypt avoid the need to import liquefied natural gas (LNG)[23].

Figure (2)
Location of Zohr Gas Field


22) https://www.offshore-technology.com/features/timeline-game-changing-gas-discoveries-eastern-mediterranean/
23) https://www.eni.com/en_IT/operations/upstream/exploration-model/zohr-egypt.page

The followingtable of major Israeli gas fields shows that the gas field of Tamar has started supplying gas to Israel in April 2013 –only four years after its discovery. It is worth noting that the Tamar field is estimated at 10 tcf and oil company Noble Energy has started production with all five wells producing at a rate of about 300 million cubic feet per day (MMcf/d). The total current sales, when added to the existing Mari-B volumes, is estimated to have averaged 700 MMcf/d by the end of 2013[24]. According to the Israeli Ministry of Energy and Water Resources, 14 exploratory gas wells were drilled over 2011-2012. Another 13 exploratory gas and oil wells were planned to be drilled by the end of 2013 [25].

Table (1): Major Israeli Gas Fields Discovered and Explored

| Major Israeli Gas Fields Discovered and Explored | | | | | |
|---|---|---|---|---|---|
| Gas Field | Noa & Mari B | Tamar | Diathan | Leviathan | Tanin |
| Estimated Size of Field | 1.2 trillion cubic feet | 9 trillion cubic feet | 518 billion cubic feet | 17 trillion cubic feet | 1.2 trillion cubic feet |
| Year of Exploration | 1999 | January-09 | April-09 | June-10 | February-12 |
| Year of Production | 2004 | April-13 | N/A | July-05 | N/A |
| Operating Companies | Delek Drilling; Noble Energy | Delek Drilling; Noble Energy; Isramco | Delek Drilling; Isramco; Dor Gas | Delek Drilling; Noble Energy | Noble Energy; Delek Drilling; Avner Oil Exploration |

Source: Global Deepwater Competition Service (GDC), Arab Center for Research and Policy Studies

## 4. The Impacts of Natural Gas new discoveries on the relationship of Mediterranean countries

A debate had aroused about the impacts of Natural gas new discoveries regarding the relationship of Mediterranean countries, as it can lead to more building more cooperative relationships between those Mediterranean countries involved with the new discoveries of Natural gas, and meanwhile, on contrary,

24) https://www.bankmed.com.lb/BOMedia/.../20150515170326030.pdf
25) www.energy-sea.gov.il/.../Oil%20And%20Gas%20in%20Israel/Histor...

future may come with disputes in the region regarding this issue.

Focusing on the four countries of this study, we can follow the consequences of the new discoveries of natural gas on the relationships among those countries. The following proceedings may give a clearer vision for estimating the impacts of those discoveries to see whether it can bring a peaceful relations or unlikely conflicts to the region.

As for the impacts of the new discoveries of natural gas in Mediterranean Sea regarding Lebanon-Israeli relationships, seeing that tterritorial disagreements have existed in the eastern Mediterranean for decades, the gas discoveries at the Tamar and, subsequently, Leviathan fields, has brought them into focus. Israel and Lebanon, in particular, have exchanged sharp words over maritime sovereignty issues. In August 2010, Lebanon submitted a proposal for the maritime border with Israel, endorsed by the US, which excluded the Tamar and promising Leviathan developments, despite having previously argued that around 30% of the field lay in its territory. That defused the potential for an immediate flare-up between the two countries, but tension remains till now, with Israel contending earlier of 2017 that an offshore area targeted for exploration by Lebanon falls inside its borders, a move that Lebanese Parliament Speaker Nabih Berri described as "a new attack on Lebanon's sovereignty" [26].

On this context, a MA thesis was published in American University of Beirut regarding this topic with the title of "Can oil and gas development be a driver for peace-building? the potential for reconciliation and reconstruction in Lebanon from the exploitation of its hydrocarbon resources". According to the conclusion of this thesis, it has shown that the history of tension between Lebanon and Israel, the lack of diplomatic relations, and lack of any will for peace, make the prospects of even basic cooperation unlikely. Also, this thesis recognizes that there are many inherent risks to using oil and gas as a starting point for peace-building efforts[27].

As for Palestinian Israeli relations, conflict has already prevented further development of the Gas field belongs to Gasa strip. The continuous long conflict

26)Chris Lo, op.cit.
https://www.offshore-technology.com/features/timeline-game-changing-gas-discoveries-eastern-mediterranean/

27) Alexander Basil Brown, "Can oil and gas development be a driver for peacebuilding? :the potential for reconciliation and reconstruction in Lebanon from the exploitation of its hydrocarbon resources", Thesis. M.A. American University of Beirut. Department of Political Studies and Public Administration, 2016

between them put limits to the hope for cooperative relation concerning the issue of natural gas. But if likely the conflict came to an endand a final peace deal is signed between Israel and a state of Palestine, it will be for the two states to agree their maritime border, and accordingly shares the benefit of the natural gas peacefully.

For Egyptian-Israeli relations, according to the data previously mentioned in this study, the new discoveries of natural gas in Mediterranean Sea gave the chance to Israel most likely to become an exporter for natural gas after being importer for long time. Concerning this issue, there have been already a cooperative relations between Egypt and Israel that can be seen in former importing of Egyptian Natural Gas to Israel, and these cooperative relations can be also expected to continue in the future in a form of exporting Israeli Natural gas to Egypt, which is highly expected due to formal declarations of both sides. On this context, Reuter has reported that An Egyptian company will buy $15 billion of Israeli natural gas in two 10-year agreements announced on Monday, a major deal that Israel hopes will strengthen diplomatic ties[28].

Briefly, above mentioned content give more expectations for continuous tension between Israel and Lebanon concerning the natural gas fields in Mediterranean Sea. Also, the long Israeli-Palestinian conflict indicates continuous conflict over natural gas sources as well. On the other hand, more cooperative relations are expected to take part between Israel and Egypt regard this issue.

## CONCLUSION:

The Mediterranean region has undergone many changes over the last 50 years: expansion of the European Economic Community and the formation of the European Union; multiple wars and independence movements; the break-up of the former Socialist Federal Republic of Yugoslavia; the discovery of oil deposits and world fluctuations in oil price. As a backdrop to these political events, the region's population has grown steadily – from 250 million in 1960 to nearly 500 million in 2010. Simultaneously, the economic output of the region has grown eightfold – from $500 billion to over $4 trillion. These changes all contribute to increasing

28) Tova Cohen, Ari Rabinovitch, "Egyptian firm to buy $15 billion of Israeli natural gas", Reuters, 19 Feb. 2018. https://www.reuters.com/article/us-israel-egypt-natgas/egyptian-firm-to-buy-15-billion-of-israeli-natural-gas-idUSKCN1G31BK

pressure on the Mediterranean natural resources[29].

Natural gas is one of the most important sources of clean energy. Knowing that most countries of Mediterranean region, especially the eastern region had suffered lack of energy sources, can give us an idea about the importance of the recent discoveries of Mediterranean Gas fields, and the importance of searching on the issue of the impacts of these discoveries on the relationships of the countries of this region that may come with future disputes accordingly.

The study tried to search for a certain vision for the future prospects of the new discoveries of natural gas in Mediterranean Sea, but we can say that the debate is still continued about this issue as there are ongoing developments of the situation thatstill taking part at the moment. While commercial prospects are starting to look good for all parties, a real military conflict is also brewing. So, although the above mention analysis for the impacts of the new discoveries of natural gas in the Mediterranean gave some expectation for some sort of relationship between the four countries of this study, but uncertainty is still surrounding this issue, which can leadto cooperative relations between countries in the Mediterranean regions like between Egypt and Israeli, and can also bring disputes and conflicts like between Lebanon and Israel or Palestine and Israel, as expected according to this study, but with other development of the situations things can unexpectedly changed to the contrary.This is the nature of researching in humanitarian studies.

29)Henri-Luc Thibault, MEDITERRANEAN SUSTAINABLE DEVELOPMENT INDICATORS, The future of the Mediterranean: TRACKING ECOLOGICAL FOOTPRINT TRENDS, Plan Bleu, www.planbleu.org. http://www.footprintnetwork.org/content/images/uploads/MAVA_report_5.pdf