

Current Status of Offshore Oil and Gas Exploration in Israel

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Petroleum Commissioner

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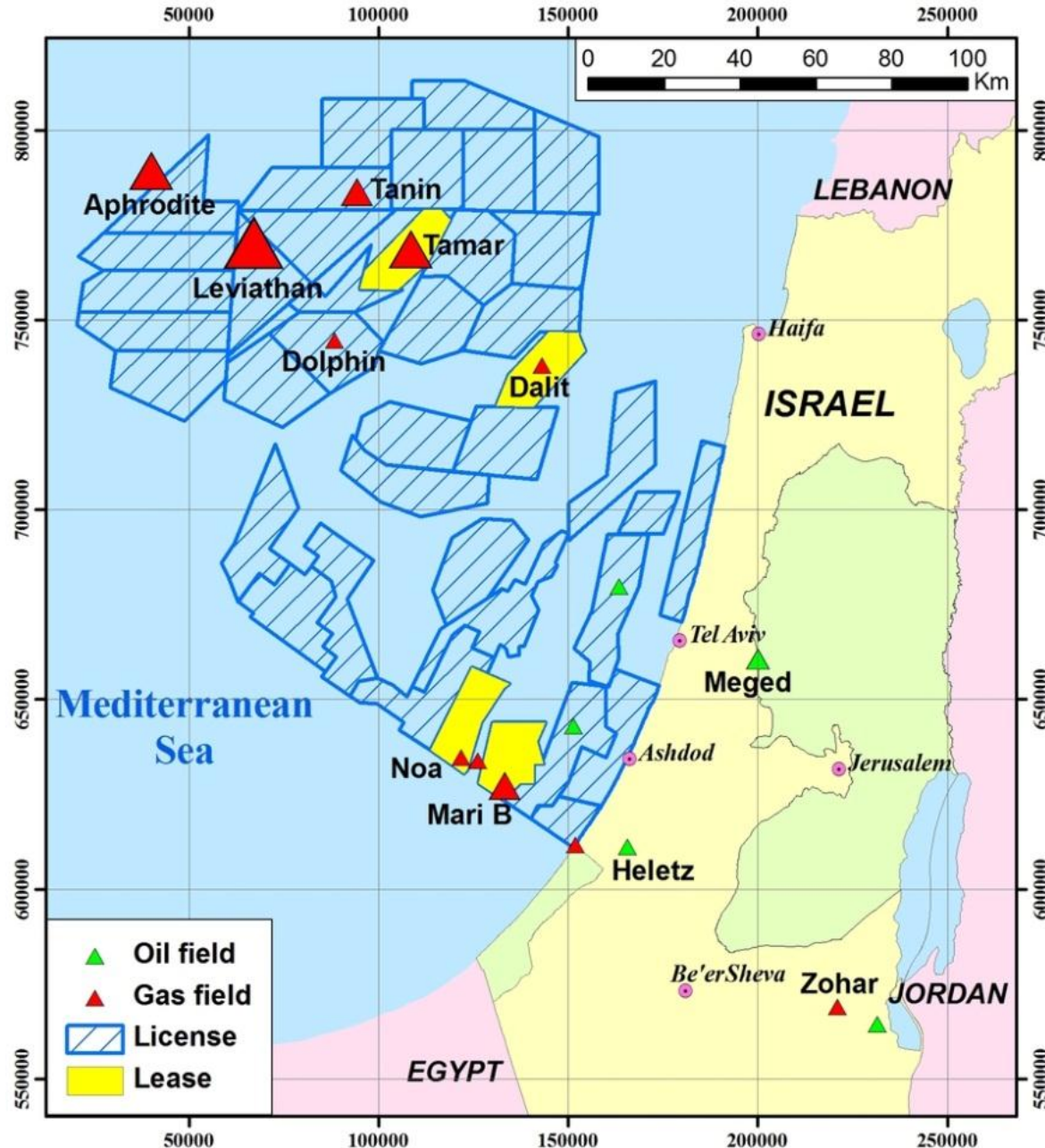


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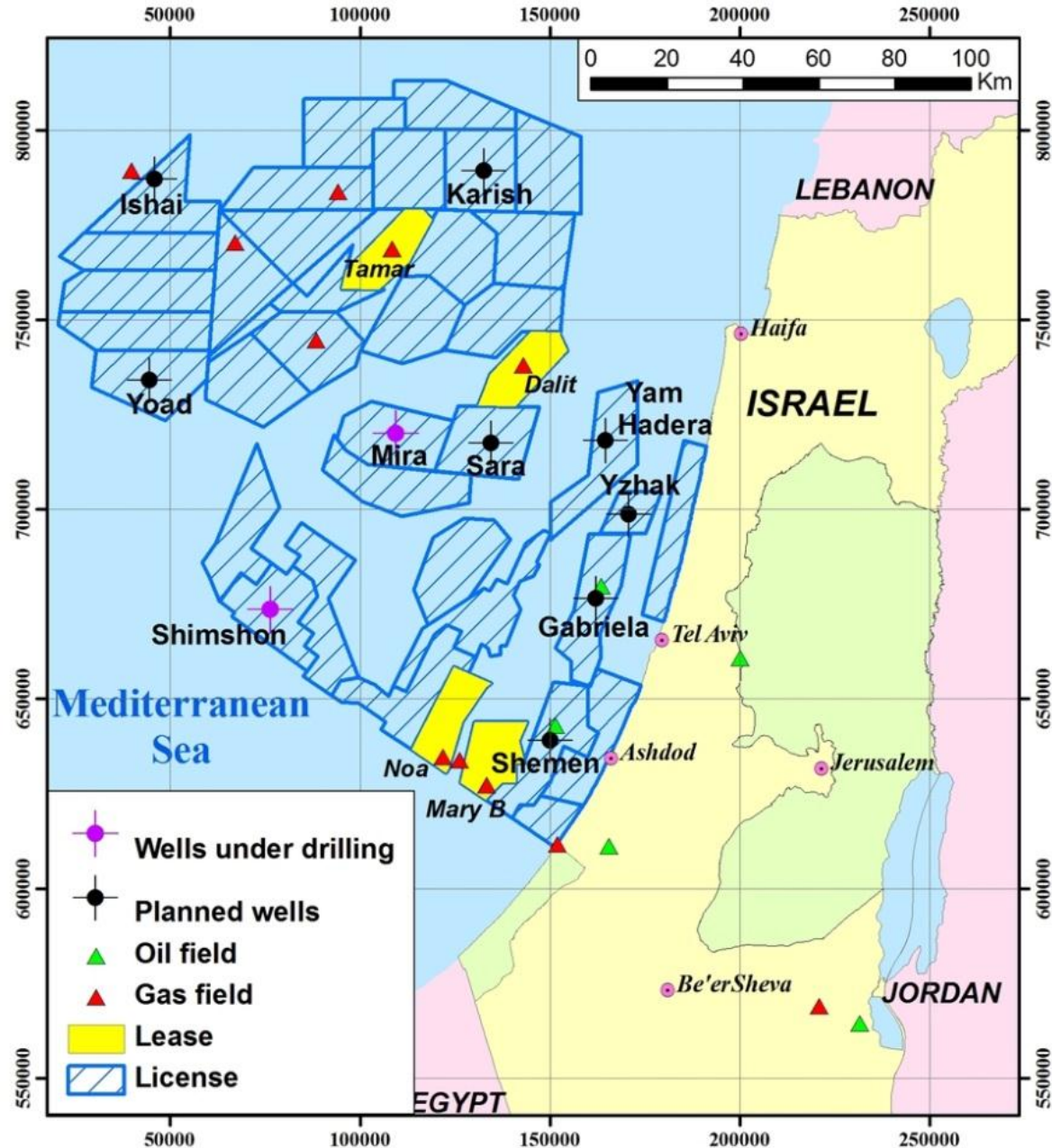
Oil and Gas Exploration in Israel

- First onshore exploration well – 1954
- First offshore exploration well – 1969
- More than 500 exploration and production wells have been drilled, 50 of them offshore.
- First onshore discovery – Heletz oil field in 1955.
- First offshore discovery – Noa gas field in 1999.
- Exploration activity increased drastically after the discovery of the giant Tamar and Leviathan fields in 2009-2010.
- 32 offshore licenses and 4 offshore leases are valid at present.
- Open offshore area which is not covered by current petroleum rights is closed for exploration and production, new licenses will not be granted offshore in the near future.



Current and planned activities for 2012-2013

- Gas supply from Egypt was cancelled unilaterally by the Egyptian side, “Mary B” production declined significantly in 2012.
- Development of two gas fields, Noa and Pinacles, is completed, gas supply through the “Mary B” platform began in June 2012.
- Development of the Tamar gas field continues, the Tamar production platform will be installed by the end of 2012, gas production will start in April 2013.
- Two wells are being drilled now (Shimshon and Myra), at least 8 new exploration wells will be drilled by the end of 2013.



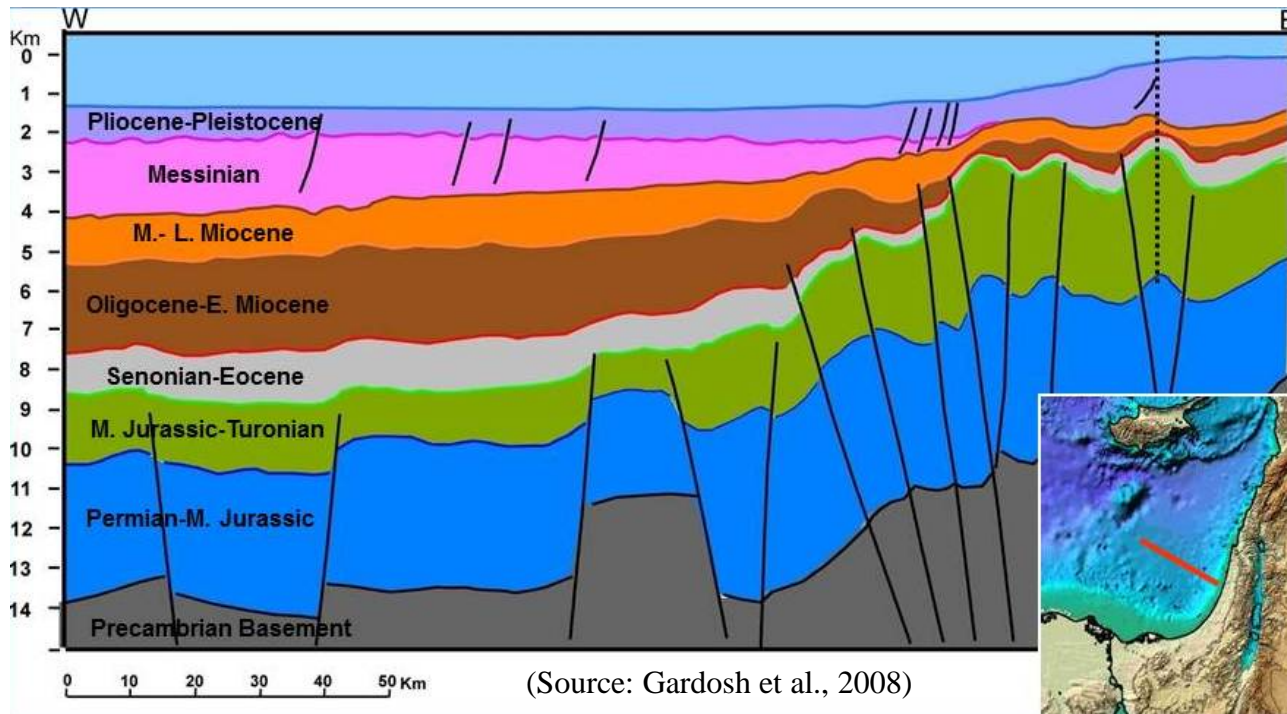
Levant Basin Province

- The US Geological Survey estimated a mean of 3,455 Bcm (122 Tcf) of recoverable gas and 1.7 billion barrels of recoverable oil in the Levant Basin Province.
- Israel onshore and offshore areas cover ~45% of the Levant Basin Province.



Levant Basin oil and gas geology

Cross-section of the Levant Basin



- There are two main proven targets for gas in the Levant Basin offshore Israel: Pliocene submarine channel-fill sands (Mary B, Noa, Or gas fields) and Miocene/Oligocene sub-salt slope and fan sandstones within large anticline structures of the Syrian Arc (Tamar, Leviathan, Aphrodite).
- High-grade oil accumulations were found in Jurassic carbonate rocks in Yam-2 and Yam Yafo-1 wells.
- There is a potential for additional oil and gas targets, such as gas in Miocene canyon-fill sands (under drilling in Shimshon prospect), oil in carbonate buildup (Myra prospect), oil in Cretaceous rocks (Leviathan deep prospect).
- New large gas discoveries (Tamar, Leviathan, Aphrodite) are found at total depth of more than 5 km, at water depth that exceeds 1.5 km, 90-160 km from the shore. These conditions present significant development challenges.

Israel Offshore Gas and Oil Reserves and Resources

(July 2012)

- **Proved + Probable Gas Reserves (2P) (*Tamar + Mari B + Noa*) – 278 Bcm (9.8 Tcf)**
- **Contingent Gas Resources (2C) (*Leviathan + Dalit + Tanin*) – 522 Bcm (18.4 Tcf)**
- **Prospective Gas Resources – 680 Bcm (24 Tcf)**
- **Contingent Oil Resources (2C) – 230 MMbbl**
- **Prospective Oil Resources – 1,400 MMbbl**

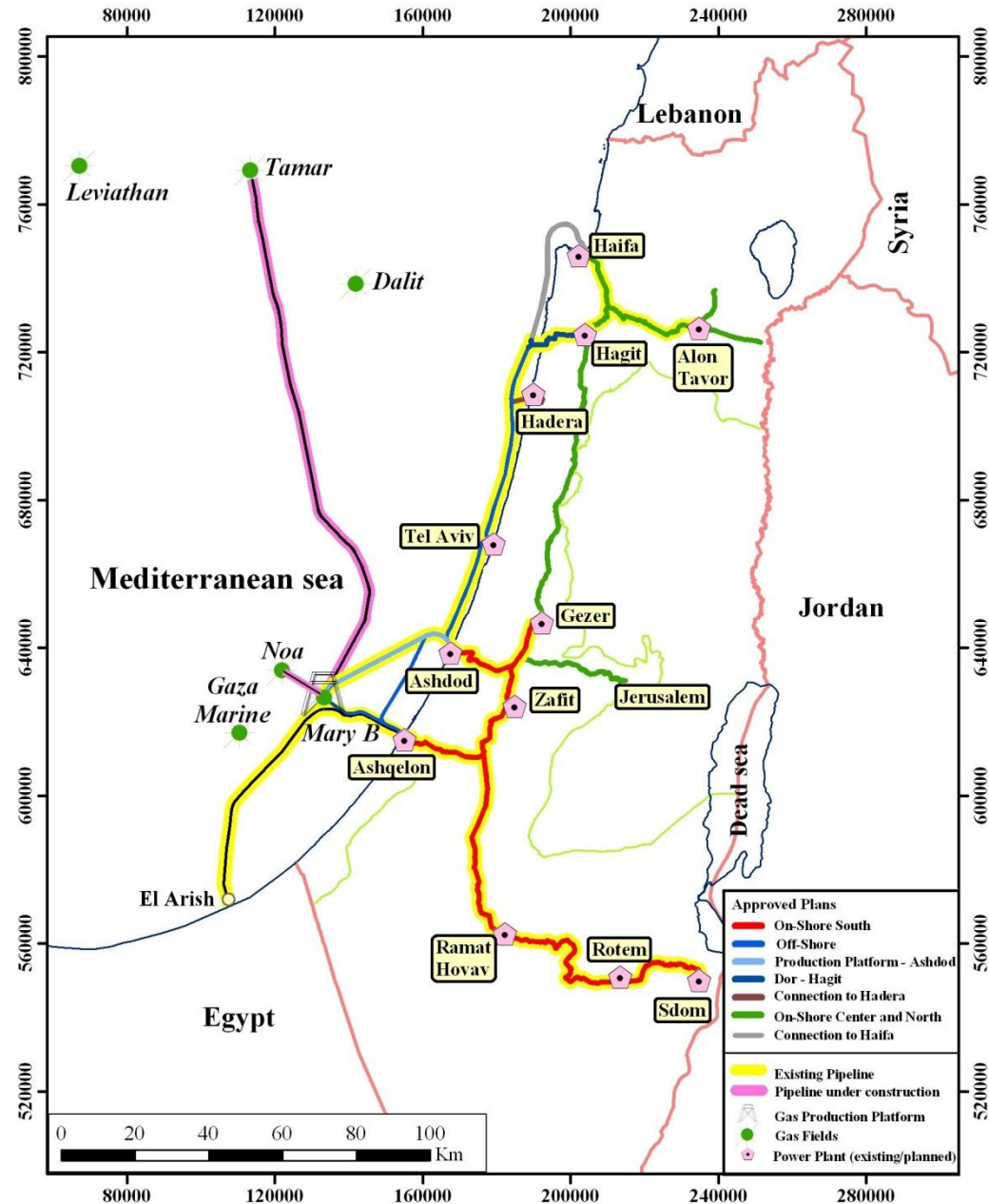


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Natural Gas Transmission System

- Gas from Mary B, Noa and Pinacles gas fields is supplied through the Mary B production platform to the Ashdod onshore receiving terminal (AOT). Gas from Tamar gas field will be supplied through Tamar platform to AOT.
- Gathering pipelines and pipeline from the Mary B platform to AOT are operated by the lease owner, national gas transmission network is operated by Israel Natural Gas Lines Ltd. which is a government owned company.



Regulatory framework for petroleum exploration and production

- **The Petroleum Law, 1952, the Petroleum Regulations and guidelines gave a general regulatory framework for licensing, exploration and production.**
- **Preliminary permit with a priority right which is intended for preliminary investigations, not including well drilling, is granted for a period of not more than 18 months.**
- **License is granted for a period of not more than 7 years and gives the licensee the right to explore for petroleum and drill exploration and development wells.**
- **Lease is granted to the licensee who has made a discovery in the license area and gives him the exclusive right to explore for and produce petroleum in the area of the lease. The lease is granted for 30 years and can be renewed for an additional 20 years.**
- **Petroleum Law and Regulations have all the necessary tools to deal with new challenges resulting from the drastic increase in exploration activities after Tamar and Leviathan discoveries. According to the article 82 of the law, the Minister charged with the implementation of the Petroleum Law may make regulations as to any matter relating to its implementation, including safety and environmental aspects.**



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Environmental Guidelines

Environmental guidelines for oil and gas exploration and production are being drafted in collaboration with Ministry of Environmental Protection and National Park Authority:

- **Exploration stage (License):**
 - **Environmental Statement**
 - **Baseline survey**
 - **Oil Spill Contingency Plan**
- **Development and Production stage (Lease):**
 - **Environmental Impact Assessment**
 - **Baseline survey and monitoring program**
 - **Oil Spill Contingency Plan**

National Baseline survey and monitoring will be carried out by Israel Oceanographic and Limnological Research.



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Environmental Guidelines Implementation

- **Exploration (license):**
 - Environmental statement, baseline survey, oil spill contingency plan implemented for 7 licenses during last 6 months.**
- **Development and production (lease)**
 - **Baseline survey was approved on February 2012 for Tamar platform (Ashqelon lease). First survey was carried out on April, 2012, two additional surveys will be carried out before the beginning of gas production in 2013**
 - **Monitoring program includes:**
 - **Platform discharges (Mari B)**
 - **Seawater sampling (chemistry and biota)**
 - **Produced water discharge modeling**
 - **Sea bottom sediments sampling (chemistry and biota)**



Government policy

- **A government policy is needed as the basis for the governance in the oil and gas sector.**
- **Israel got an opportunity to become independent from external energy suppliers and become a natural gas-based economy, meaning a reduction of energy prices, reduction of air pollution and greenhouse gas emission, and an important source of income for the state both now and in the future.**
- **The Government has initiated a long term program in order to turn natural gas to a major source of energy in Israel. Natural gas is supposed to be a major fuel for industry and for power generation.**
- **The Prime Minister and the Minister of Energy and Water Resources appointed an inter-ministerial committee to examine the government's policy regarding natural gas in Israel. The draft report of the committee was published in April 2012.**



Thank you



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