# **Full Gas Ahead**

Delek Drilling Limited Partnership Avner Oil Exploration Limited Partnership



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## Tamar Reservoir: Summer 2015 –

A New Record Of Gas Production To The Israeli Market

- The summer of 2015 saw a new Israeli record of production of natural gas
- Even this increased production level did not supply the full demand of the Israeli market
- LNG imports increased and expensive and polluting liquid fuels were burned to meet domestic demand



## Compressor Project Successfully Completed

- The Project included the installation of three compressors and related systems
- Project budget \$262 million
- The compressors allow the increase of gas supply capacity, alongside additional operating benefits
- Ongoing operations are scheduled from mid-November 2015 and as needed
- Maximum hourly production capacity of 1.2 BCF/D

The compressors on the drawing board:



The compressors on the ground:



# The Gas Framework

#### Steps on the way to final approval

- June 2015 the Cabinet unanimously approved the Framework principles
- August 2015 the Government approves the Framework: 17 in favor and only one against
- September 2015 the Knesset supports the Framework, 59 in favor and 51 against

#### The goal

To have the approval of the Framework finalized over the coming weeks

#### The next steps

- Triggering of Section 52 of the Antitrust Law
- Formal consultation with the Economy Committee
- Final approval by the Government

# The Gas Framework – Long-Term Regulatory Stability

#### **Regulatory certainty**

Creating a regulatory environment that will enable investment decision making

# Ratification of the commercial terms and conditions

The plan recognizes and officially ratifies the business-commercial reality as expressed in the agreements for the sale of gas from the Tamar reservoir

#### **Green light for export**

Clarification of the manner of calculation of export quotas Cancelation of the link between exports from Tamar and exports from Leviathan

#### Six years to sell our share in Tamar

Regulation of the tax system, including in connection with the export projects

# Leviathan and the Expansion of Tamar Taking Off

# **Israeli Gas Market Vision For 2020**

- Redundancy in supplies to the domestic market three producing reservoirs
- Goal production capacity of ca. 40 BCM/Y
- Supplying the domestic market and exports

# Israel

An island of supply in a sea of demand



# **Regional Export Markets**



## The Key Question Where Is The Egyptian Market Headed

Main trends:

Significant and increasing consumption of natural gas

Ongoing decline in the volume of natural gas produced from onstream fields

Significant shortage of natural gas for domestic use, which has led to LNG imports

Increase of (controlled) natural gas prices for the domestic market



# Natural Gas Consumption In Egypt Is Constantly On The Rise

Domestic demand forecast in Egypt (without export facilities)



## The Rate Of Production From Egypt's Onstream Fields Is Constantly Declining

- The graph presents the production forecasts from producing fields versus the demand forecast in Egypt
- The gap between the demand forecast and the production from producing fields, in figures:





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## Increase In The (controlled) Natural Gas Prices For The Domestic Market

- The prices of natural gas for most sectors in Egypt have been raised
- Sample changes in natural gas prices for private customers in the domestic Egyptian market:



# **ENI's Zohr Discovery**

- In August 2015, ENI announced a discovery of approx.
   30 TCF gas in place ca. 180 km north of the Egyptian shores, in a Miocene reef reservoir
  - For the sake of comparison Leviathan has ca.
     34 TCF gas in place
  - Zohr's Recovery Factor is yet unknown
- In geological terms, the discovery signifies the exposure of a new play in the basin
  - The large-scale discoveries offshore Israel are part of a different play, known as 'Tamar sands'

- The impact of this discovery on the prospectivity in the areas of our licenses is now being examined
- The discovery is a reminder that the discoveries potential in the basin has not yet been exhausted



## Zohr Is Expected To Supply Some, But Not All, Of The Domestic Egyptian Demand

Aggregate demand versus local production in Egypt, including production from Zohr:



Source: Wood Mackenzie. Yet to find not included. Gas demand excludes exports.

# Egypt – LNG Facilities

- Facilities with an excellent operating record
- No construction or operating risks
- Existing customers

#### ELNG:

Consumption of above 11 BCM/Y of natural gas Currently inactive due to gas shortage

#### Damietta:

Consumption of about 7.5 BCM/Y of natural gas Currently inactive due to gas shortage

Ownership	ELNG 1	ELNG 2	Damietta	
BG	35.5%	38%		
PETRONAS	35.5%	38%		
GDF Suez	5%	-		
Eni			40%	
Gas Natural			40%	
Fenosa	2.40/	2.40/	2004	
EGAS + EGPC	24%	24%	20%	

# 2016 The Scheduled Time For Gas Export From Tamar To Jordan And Egypt



### Gas Export To Jordan Is Scheduled To Commence In 2016

- In February 2014, an agreement was signed for the sale of natural gas from Tamar to two Jordanian plants – Arab Potash Company and Jordan Bromine Company
- Term of the agreement 15 years
- Total Contract Quantity (TCQ) 1.8 BCM; Annual Contract Quantity (ACQ) – 0.125 BCM
- Price Linked to Brent with a fixed price floor
- The gas supply is interruptible during peak demand months in Israel or pending Tamar expansion or commencement of supply from Leviathan

#### Status:

- Export permit received in April 2015
- Buyers have expressed an interest in
- increasing the contractual quantity
- Commencement of supply forecast H2/2016



#### Planned pipeline route:



### Supply Of Natural Gas To The Egyptian Domestic Market Based On The EMG Infrastructure

- In March 2015 an agreement was signed for the sale of natural gas from Tamar to Dolphinus Holding
- The natural gas supply is based on existing infrastructure – the EMG pipeline
- A 7-year agreement, including a commitment to minimal supply of 5 BCM during the first 3 years
- Daily quantity of up to 250,000 MMBTU
- The gas supply in this agreement is based on the surplus gas quantities that will be available to Tamar (an interruptible-type agreement)
- Price linked to Brent with a fixed price floor

#### **Status**

According to the buyers' estimates, the gas supply under this agreement is due to commence over the coming months



## Advanced Negotiations For A Tamar-UFG Agreement

- In May 2015 a letter of intent was signed between the Tamar partners and UFG for the sale of natural gas to Damietta
- This agreement (when signed) will serve as an anchor for expanding the supply capabilities from the Tamar project to the Israeli market
- A 15-year agreement with a TCQ of about 70 BCM
- ACQ of about 4.5 BCM, with an option to increase to ca. 7.5 BCM
- Point of delivery the EEZ border between Israel and Egypt
- Price linked to Brent with a fixed price floor.
- Estimated time for signing of the agreement over the coming months

Ownership	Damietta
Eni 🌓	40%
Gas Natural Fenosa	40%
EGAS + EGPC	20%



### The Next Stage – Expansion Of The Production Capacity Of The Tamar Project Further To The UFG Agreement

- The cost of the project expansion to the Tamar partners is estimated at about \$1.5-2 billion (100%)
- Goal an investment decision in mid-2016 and commencement of gas flow in 2018
- The Tamar partners are re-assessing the cost of the project in view of the global decline in equipment and services costs



### Phase 1 Of Leviathan Development Increase of Gas Supply Capacity Is Examined

- Leviathan contains about 621 BCM of natural gas and about 39.4 million barrels of condensate
- Construction of a FPSO, to be located above the reservoir for gas processing
- Cost of Phase 1 estimated at \$6-7 billion
- Natural gas supply capacity of ca.1.6 BCF/D (ca. 16 BCM/Y)
- The possibility of increasing the supply capacity to ca. 1.8 BCF/D (ca. 18 BCM/Y) is under examination



## Phase 1 Of Leviathan Development – Examination Of Development Alternatives And Possibility Of Reducing The Construction Costs

Optimization is being carried out for the engineering plan, including examining a nearshore FPSO:



The Leviathan Partners are reassessing the cost of the project in view of the global decline in the costs of equipment and services



Source : WoodMacenzie, April 2015

# Leviathan Field The Export Agreements Intended For Phase 1

Egypt – BG for the liquefaction facility

- Jordan the Jordanian electricity company
- Cyprus

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Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

## **Egypt – Leviathan-BG Agreement**

- Export of gas from Leviathan to ELNG
- The anchor agreement for the first stage of development of the Leviathan reservoir
- ELNG requires more than 11 BCM/Y
- An LOI was signed with BG for the purchase of natural gas for 15 years
- Gas flow in a designated underwater pipeline
- TCQ: 105 BCM; ACQ: 7 BCM/Y or more
- Status: The possibility of increasing the TCQ and the ACQ is being considered



Ownership	ELNG 1	ELNG 2
BG	35.5%	38%
PETRONAS	35.5%	38%
GDF Suez	5%	and a second second
EGAS + EGPC	24%	24%

## Jordan – The Natural Gas Market



- In 2009, the natural gas consumption in Jordan was 3 BCM/Y
- Negligible self production ca. 0.2 BCM/Y
- Natural gas is used for the generation of ca. 80% of electricity in the Jordanian market (under 'business as usual' conditions)
- The natural gas from Egypt was the sole source of supply of natural gas to Jordan
- In 2010 disruptions began in the supply of natural gas from Egypt; in 2013 the supply
  of gas from Egypt ceased almost entirely



## Jordan Agreement With NEPCO

- LOI signed with NEPCO the Jordanian electricity company
- The agreement is an anchor agreement for the Jordanian energy sector
- Equivalent in importance to the IEC agreement in Israel
- Double strategic and geopolitical importance to both Israel and Jordan
- Term of the agreement 15 years
- TCQ 45 BCM
- ACQ 3 BCM/Y or more
- Point of delivery at the Israeli-Jordanian border
- Negotiations ongoing, with the support of the US Special Envoy and Coordinator for International Energy Affairs and the U.S. Ambassador in Jordan

Forecast for execution of binding agreement – over the coming months







# Turkey Natural Gas Market

- Ranked 16<sup>th</sup> globally in natural gas consumption (2014)
- Natural gas consumption in 2014 ca. 49.3
   BCM
- Annual growth rate in the consumption of natural gas, 2000-2014 – ca. 9.9% (YoY)
- Turkey is entirely dependent on the import of natural gas – ca. 99% of the gas is imported, and self production is negligible:
  - Ca. 84.5% is imported via pipeline;
  - Ca. 14.5% is imported as LNG
- Turkey suffers from a scarcity of sources of supply – Russia and Iran are the source of ca. 73% of total gas imports



# Export of Israeli natural gas to Turkey

- Turkey aspires to diversify its sources of supply of natural gas
- It wishes to become a Natural Gas Hub and the energy corridor to Europe
- Exhaustion of sources of supply limits the increase in demand
- Ongoing negotiations between Turkey and Russia (TurkStream pipeline, gas price)
- Turkish President Erdogan, 7.10.2015: "Turkey, if necessary, can purchase gas not only from Russia but also from other sources"

- Gas pipe from Leviathan to Turkey:
  - Ca. 500-550 km, through the Cypriot EEZ
  - Water depth up to 2,250 meters
  - Phase 1 8-10 BCM/Y to the Turkish market
  - Phase 2 another 8-10 BCM/Y to the European market
  - Discussions have been held with leading Turkish energy companies





# FLNG

10,000 5,000 1,000 km km km

Gas from Israel and Cyprus has unique advantages

- Excellent strategic location between Asia and Europe
- Gas composition requires minimal processing
- Ideal weather and sea conditions for FLNG
- Pre-FEED carried out with Technip



LNG

Pipelin

athan FING

# Leviathan Deep Oil Potential Awaiting Realization

- The Partnerships and Noble Energy reported at the time on deep oil targets located, inter alia, beneath the Leviathan gas field, but also elsewhere
- The oil potential in Leviathan: 560 million oil barrels\*, above 15% chances of success
- The geological work on these 'high risk, high reward' targets continues, but ultimately discovery mandates drilling...
- Higher cost for exploration drilling to deep targets relative to 'ordinary' drilling to the Tamar Sands target
- Current market conditions open a window of opportunity in terms of drilling and development costs

\*Based on best estimate of Prospective Resources – NSAI

# **Cyprus** Block 12 – I.D.

- Significant gas discovery of ca. 4.45 TCF\*
- First and only discovery in Cyprus
- Located ca. 168 km south of Limassol
- Water depth about 1,700 meters



\*Based on best estimate of Contingent and Prospective Resources – NSAI Certified (Nov 2014)

# Cyprus – Block 12

- Development plan
  - Includes a floating production facility with a supply capacity of 800 MMCFD
  - Outline of development plan submitted to the Government of Cyprus in June 2015, along with a request for a Declaration of Commerciality
  - Sale of gas from the production facility exit point; pipelines to be owned by third parties
  - Target markets
    - Cyprus: Domestic market 60-100 MMCFD
      - Egypt: Domestic market + supplementation of supply to the liquefaction plants: ELNG, Damietta



#### Marketing

RFP process commenced, including requests of companies in Egypt – domestic market and LNG players Process vis-à-vis DEFA commenced for the sale of gas to the domestic market

	ELNG	Damietta
Feed Gas	11 BCM+	7.5 BCM
Leviathan-BG Deal	7 BCM	
Tamar-UFG Deal		4.5-7.5 BCM
Potential Supply Need	3-4 BCM	Up to 3 BCM

# **Financially** Ready For The Next Challenge Strong balance sheet

- Long-term, limited recourse-type debt based on significant current income from the Tamar reservoir only
- No debt tied to the Leviathan reservoir or to Aphrodite
- High cash reserves above \$400,000,000 (for both Partnerships, according to June 2015 statements, before distributions)
- Well-established and stable cash flow
- Low interest environment

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## **Financially** Ready For The Next Challenge (cont')

## Leviathan financing

- As of the date of the Commissioner's notice (December 2014), the Partnerships were in final stages of negotiations for the framework agreements for the financing of their share in the Leviathan development project, in the amount of \$2 billion
- An update to the documents will be required once the Gas Framework is finalized
- Foreign and local banks are demonstrating brisk demand to participate in the financing

### Additional financing based on UFG cash flow

- Tamar bonds are secured by a cash flow from all Tamar agreements (both current and future)
- The model used for the bond issue is based on a conservative scenario of up to 9.5 BCM per year
- Upon the signing of the UFG agreement, the adoption of an investment decision and commencement
  of the Tamar expansion, it will be possible to perform an additional financing round (in the context of
  the Tamar bonds or as financing based on surplus cash after Tamar bond service), in a considerable
  scope, to finance the investments in the expansion of Tamar and development of Leviathan

# **Profit Distributions**

- According to the Partnerships Agreements, the Partnerships are committed to distributing all of their profits that are available for distribution each year
- The investors place great importance on profit distribution
- Further to the distributions made prior to the discovery and development of the Tamar project, the Partnerships distributed/declared the distribution of significant amounts, as follows:

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	Avner	Delek	Total
	USD millions	USD millions	USD millions
2014	100	100	200
2015	* 50	* 50	* 100
Total	150	150	300

\* Actual distribution scheduled for October 22, 2015

# **Thank You**