



Delek Drilling

# Investor Presentation

October 2017

# **Disclaimer**

**This presentation was prepared by Delek Drilling – Limited Partnership (the “Partnership”), and is given to you only for the provision of concise information for the sake of convenience, and may not be copied or distributed to any other person. This presentation does not purport to be comprehensive or to contain any and all information which might be relevant in connection with the making of a decision on an investment in securities of the Partnerships.**

**No explicit or implicit representation or undertaking is given by any person regarding the accuracy or integrity of any information included in this presentation. In particular, no representation or undertaking is given regarding the realization or reasonableness of any forecasts regarding the future chances of the Partnerships.**

**To obtain a full picture of the activities of the Partnerships and the risks entailed thereby, see the full immediate and periodic reports filed by the Partnerships with the Israel Securities Authority and the Tel Aviv Stock Exchange Ltd., including warnings regarding forward-looking information, as defined in the Securities Law, 5728-1968, included therein. The forward-looking information in the presentation may not materialize, in whole or in part, or may materialize differently than expected, or may be affected by factors that cannot be assessed in advance.**

**For the avoidance of doubt, it is clarified that the Partnerships do not undertake to update and/or modify the information included in the presentation to reflect events and/or circumstances occurring after the date of preparation of the presentation.**

**This presentation is not an offer or invitation to buy or subscribe for any securities. This presentation and anything contained herein are not a basis for any contract or undertaking, and are not to be relied upon in such context. The information provided in the presentation is not a basis for the making of any investment decision, nor a recommendation or an opinion, nor a substitute for the discretion of a potential investor.**





# Leviathan Development Status Update



# Leviathan – A Regional Energy Game Changer

## Ownership

Delek Drilling 45.3%, Ratio 15%, Noble Energy (operator) 39.7%

## 2P+2C Resources\*

21.4 tcf, 38.4 mmbbl condensate

## Estimated First Gas

4Q 2019

## Production Capacity (to be built in 2 stages)

1.2 bcf/d (~12 bcm/y) – for Domestic, Jordan and PA

0.9 bcf/d (~9 bcm/y) – Shell-ELNG\Turkey

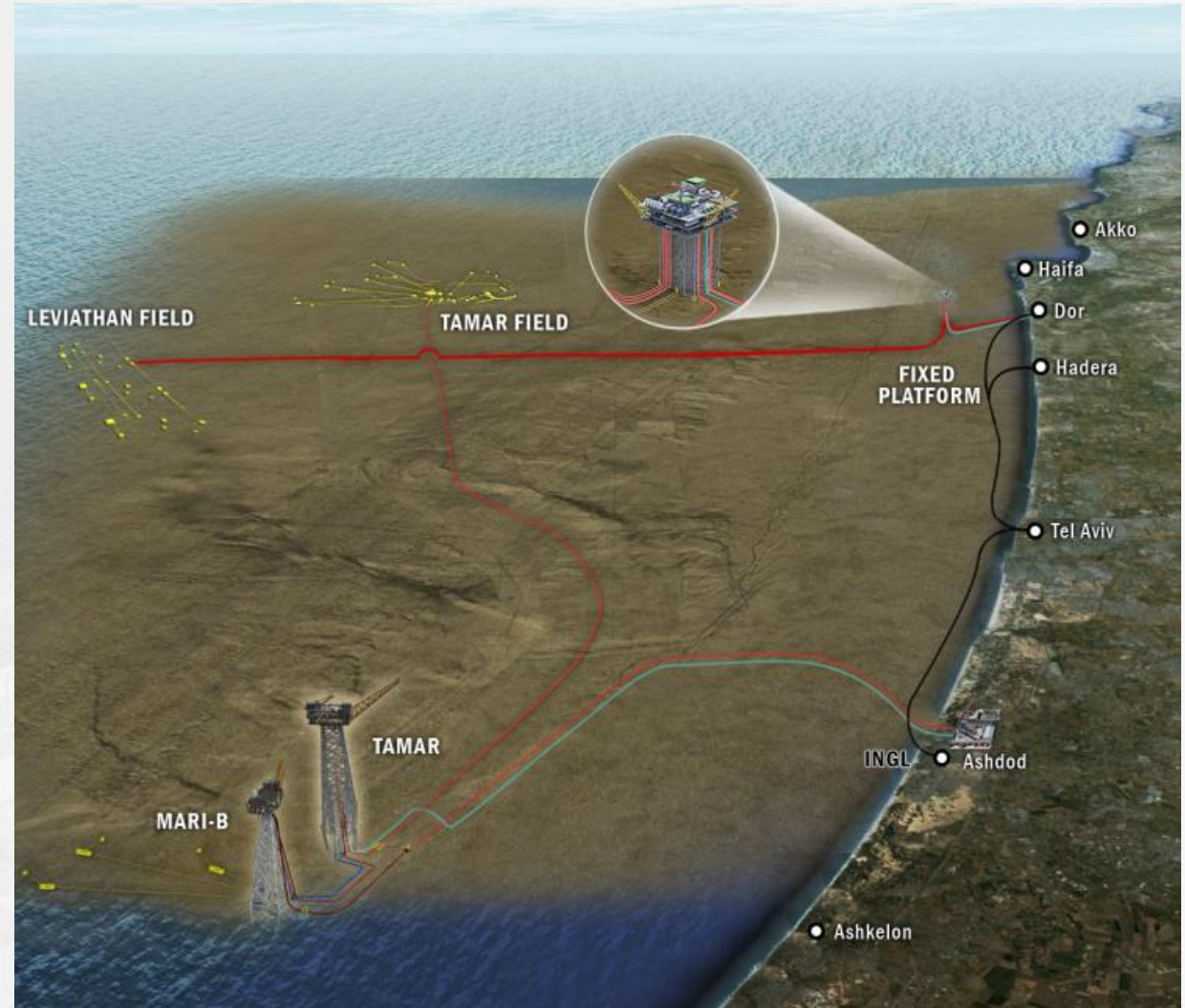
## Estimated Capex Development (100%)

\$3.75 Billion – 1.2 bcf/d

\$1.5-2 Billion – Additional 0.9 bcf/d

## Additional Prospective Resources (P50)

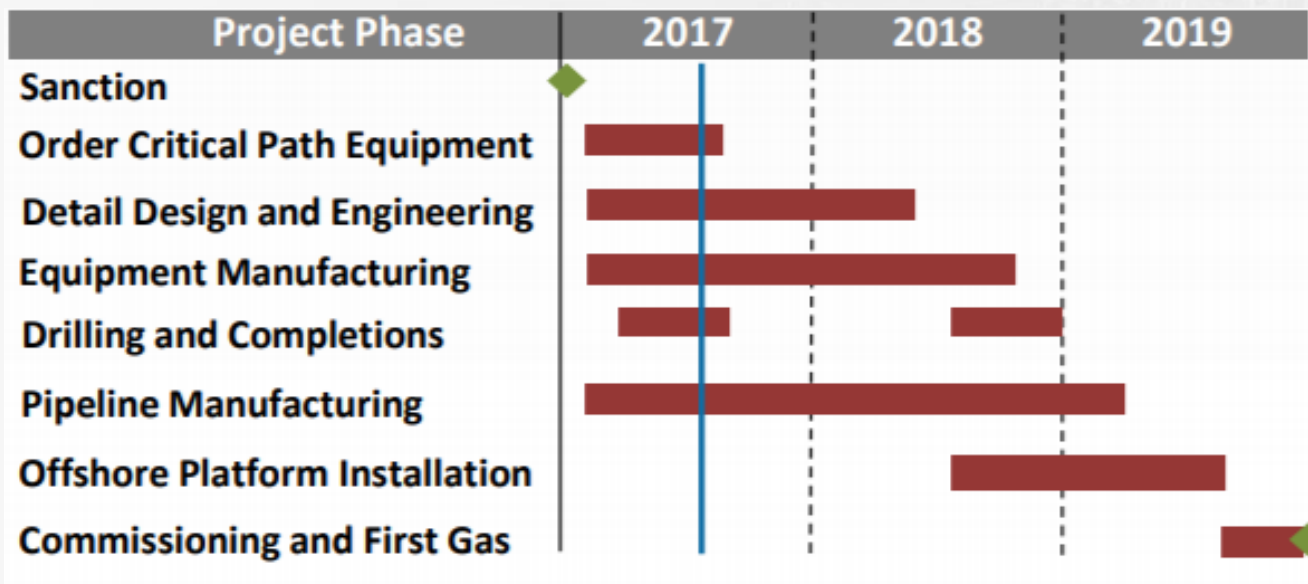
560 mmbbl oil (liquids) 4.5 tcf Gas



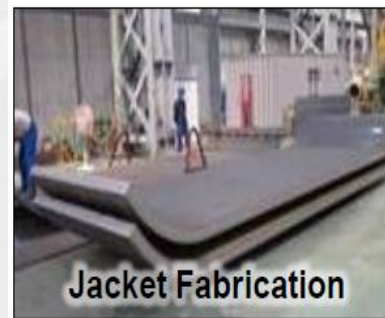
\*Resources estimate as published in September 2017

# Project Development on Time on Budget

- ❑ Phase I development progressing, 23% complete
- ❑ Fabrication has started on the platform topsides, jacket, and the subsea equipment
- ❑ All building permits received or submitted
- ❑ More than 500 people currently working on the Project. 1500 people by the end of 2017
- ❑ Drilled upper section of Lev-7; Lev-5 drilled to depth



Source: Leviathan operator (NBL)





# Leviathan Drilling Campaign

- ❑ Leviathan – 5 and Leviathan – 7 open hole were drilled in 2017 by the Atwood Advantage drill-ship. The Leviathan partners decided to complete the drilling and completion campaign with the Ensco DS- 7

## Scope of work

- ❑ Drill Leviathan – 7 to TD
- ❑ Drill Leviathan – 3 to TD
- ❑ Completion of Leviathan – 3,4,5,7

## Ensco DS-7 Highlights

- ❑ Expected to arrive in 1Q 2018
- ❑ Significant drilling cost reduction
- ❑ High technical capabilities
- ❑ Systems enabling deep targets drillings (MPD ready)

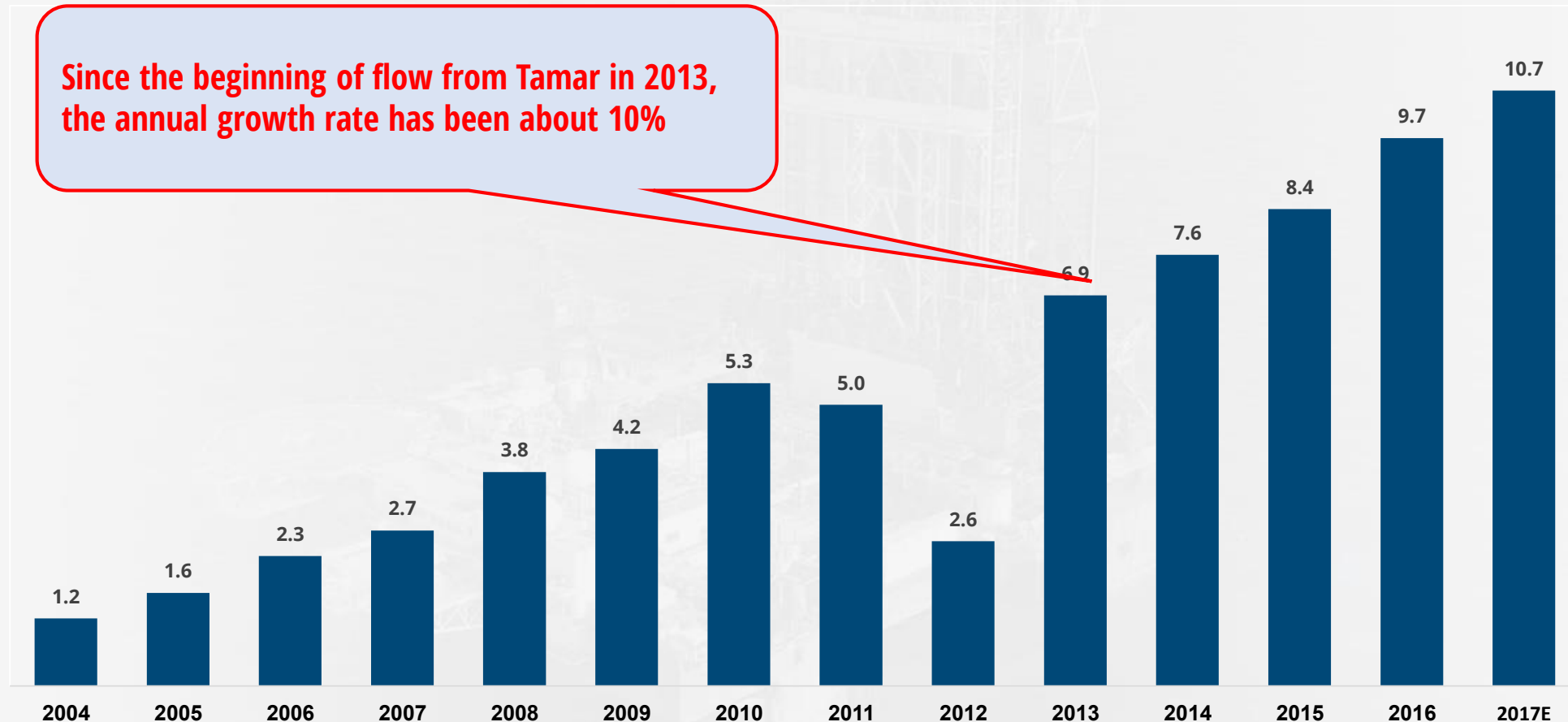


# Domestic Gas Market Outlook



# Domestic Market Gas Consumption

## Israel Actual Gas Consumption (2004-2017) bcm/y





# Domestic Market Limited Supply

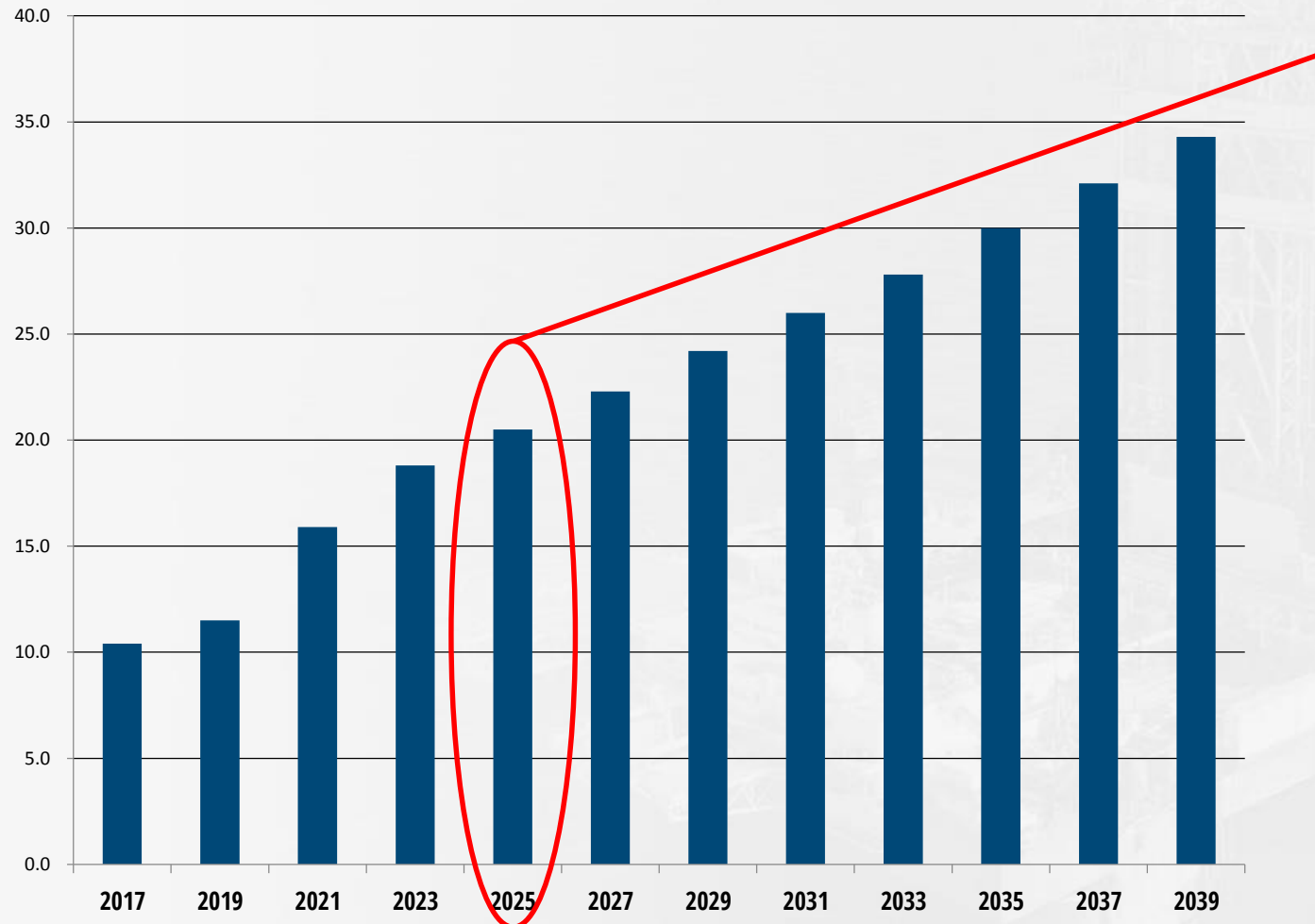
- ❑ Gas demand is constrained by Tamar capacity
- ❑ With Leviathan on stream a leap in demand for natural gas is expected from 2020, with the removal of this limitation and the entry of additional sources of gas

<b>Gas Demand in <u>2016</u></b>	<b>9.7</b>	
<b>Increase demand for electricity and cogeneration</b>	<b>2.4</b>	<b>Increase electricity demand and planed gas fired power generation</b>
<b>Further coal reduction</b>	<b>1.6</b>	<b>Rabin A shut-down based on MNI decision</b>
<b>Chemicals and CNG</b>	<b>0.3</b>	<b>Tax incentives and grants for CNG and transport</b>
<b>Medium and small industrial fuel replacement</b>	<b>0.3</b>	<b>Development and grants for distribution network</b>
<b>Expected demand in <u>2020</u></b>	<b><u>14.3</u></b>	

Source : BDO

# Domestic Demand Forecast Growth

Gas Demand Forecast (BCM)



Source : BDO

Demand in 2025 – BDO VS NGA

Sector	BDO	NGA
Electricity & Industry	14.9	13
Chemicals & CNG	2	1.7
<b>TOTAL- Israel</b> Before coal reduction	<b>15.2</b>	<b>14.7</b>
Orot Rabin 1-4 shut down	1.6	-
Further Coal reduction	2.0	-
<b>TOTAL</b>	<b>20.5</b>	<b>14.7</b>
Israel	18.8	14.7
Palestinians	1.7	Not Included


0.5  
BCM



# Gas Market Revolution

- ❑ Electricity generated by gas is expected to triple by 2040 and will represent 85% of total electricity generated according to Ministry of energy and water publications
- ❑ The consumption of coal (as of 2016) is equivalent to about 5 bcm per year
- ❑ Assuming complete production of natural gas without coal, gas consumption would now stand at about 15 bcm per year
- ❑ Continuous decline in the volume of electricity production by coal, which may continue to decrease from 2020 onwards, in accordance with government policy

Source : BDO, IEC, DD estimates



**משרד האנרגיה**

כ"ו באלול התשע"ז  
17 בספטמבר 2017


לש\_281\_2017

לכבוד  
ד"ר אסף אילת  
יו"ר רשות החשמל

**הנדון: בקשה לקיום התייעצות בגיבוש עקרונות מדיניות - מדיניות הפעלה מינימאלית של יחידות ייצור פחמיות**

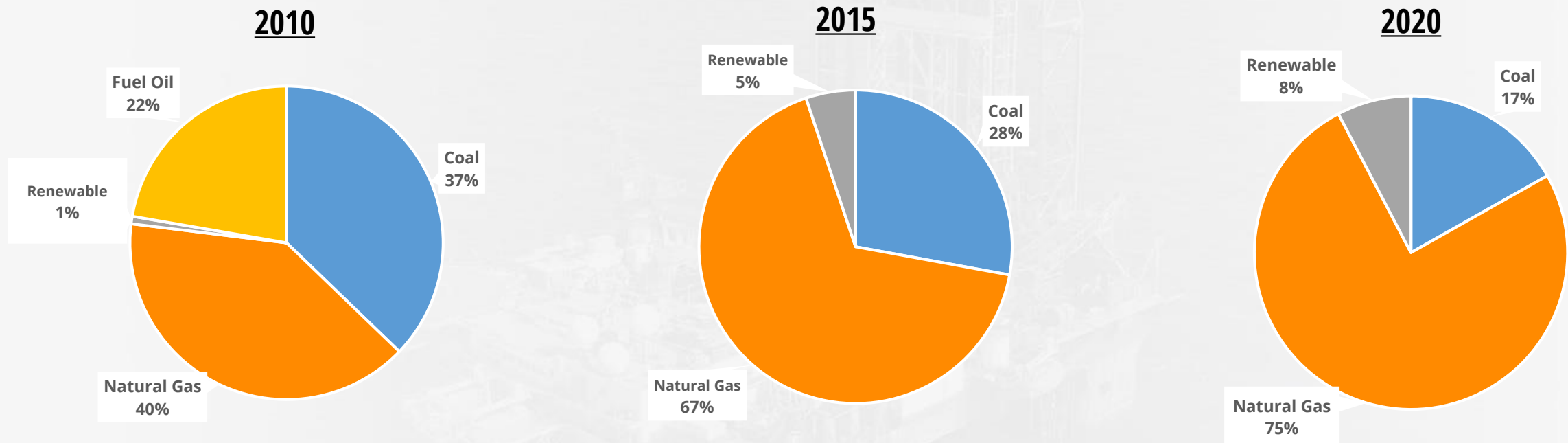
1. בהתאם לסעיפים 21א ו-57א לחוק משק החשמל, התשנ"ו-1996, ובמסגרת קיום חובת התייעצות בגיבוש עקרונות מדיניות, אודה בעד קבלת עמדת רשות החשמל לעניין הפעלה מינימאלית של יחידות ייצור פחמיות, לאחר הפסקת הפעלתן השוטפת של יחידות 1-4 בתחנת הכוח "אורות רבין", תוך מתן עדיפות בכל זמן (סדר העמסה) לייצור חשמל ע"י שריפה של גז טבעי, בכפוף לשיקולי תפעול המערכת, צרכי משק החשמל ויתר העלויות והעניינים הנובעים מיישום המדיניות.

2. אודה בעד קבלת עמדת רשות החשמל בעניין עקרונות מדיניות כאמור, עד ליום 30.10.2017.

בכבוד רב,  
  
ד"ר יובל שטייניץ

# Growing domestic gas market

❑ Electricity production capacity, historical development and expected capacity by type of fuel:



Source : IEC, BDO estimates



# Coal Reduction Economic

Over supply of natural gas is not consistent with continued coal electricity production

	GAS	COAL
Fuel Price (\$/mmbtu)	4.7 \$/mmbtu	3.2 \$/mmbtu (77 \$/ton)
Energy Efficiency	58%	39%
Cost of energy in the production of electricity	3.2 Cent/kWh	3.3 Cent/kWh
Government Take	60%	10% (Blo)
cost of energy in the production of electricity - to the national economy (without environmental influences)	1.3 \$/mmbtu	2.9 \$/mmbtu

Source : BDO

# Growing domestic gas market

## Domestic gas market growth engines

<b>Increased electricity demand</b>	<p>Driven mainly by population growth, increase in disposable income and real wage and growth in the use of electrical appliances</p> <p>Increased connectivity of industrial clients to the natural gas network</p>
<b>Change in electricity energy mix</b>	<p>More local clean gas, less imported polluting coal</p>
<b>Electrification of Israel's railway system</b>	<p>Complete shifting of the entire Israel Railways network from diesel to electricity fueled by gas</p>
<b>Chemical and petrochemical industries</b>	<p>Ammonia plant to potentially be established on the basis of domestic gas</p>
<b>Gas usage for transportation (CNG)</b>	<p>Expected CNG powered vehicles to penetrate into niche markets; electric vehicles and plug-in hybrids are also expected to enter the market, following global trends</p>
<b>Increased water desalination</b>	<p>Over time, the sole source of supplying increased demand for water in Israel is through desalination of seawater, a process that is energy intensive</p>





**Additional Demand Factors in Process**

# | Additional Possible Demand Factors- Aluminum

## □ Aluminum advantage

- Light
- Hard
- Don't rust

## □ Aluminum usage

- Transportation - Engines, car parts, aircraft parts
- Construction - profiles, lintels, windows, fences
- Consumer Products - Disposable Products, Packaging
- Heat exchangers - computers and electrical products
- Missiles, vessels, bicycles





# | Additional Possible Demand Factors- Aluminum

**Bauxite**



**Alumina  
Aluminum  
oxide**



**Aluminum  
Smelter**



**Potline  
(smelting cells)**



**Aluminum**



The production of aluminum is characterized by high energy consumption, alongside a relatively large number of workers



# **| Additional Possible Demand Factors- Aluminum**

**Delek Drilling is exploring to promote an aluminum plant in Israel**

- ☐ **World annual consumption of Aluminum is 59mm tons in 2016, Market average growth rate of 6.5% per annum**
- ☐ **Israel currently consumes about 50,000 tons of aluminum**
- ☐ **Most of the primary aluminum in Israel is used to manufacture profiles and components for the construction industry**
- ☐ **Israel is surrounded by regional demand of more than 2 million tons - Turkey about 1.1 million tons per year, Italy about 900 thousand tons per year, Greece about 200 thousand tons per year**
- ☐ **Aluminum plant will increase in the use of natural gas in the amount of 0.7-2.0 bcm/y**

# | Additional Possible Demand Factors- Transportation

- ❑ Delek Drilling and Gazprom signed a non-binding MOU for jointly examination of possibilities of using natural gas as a fuel for transportation



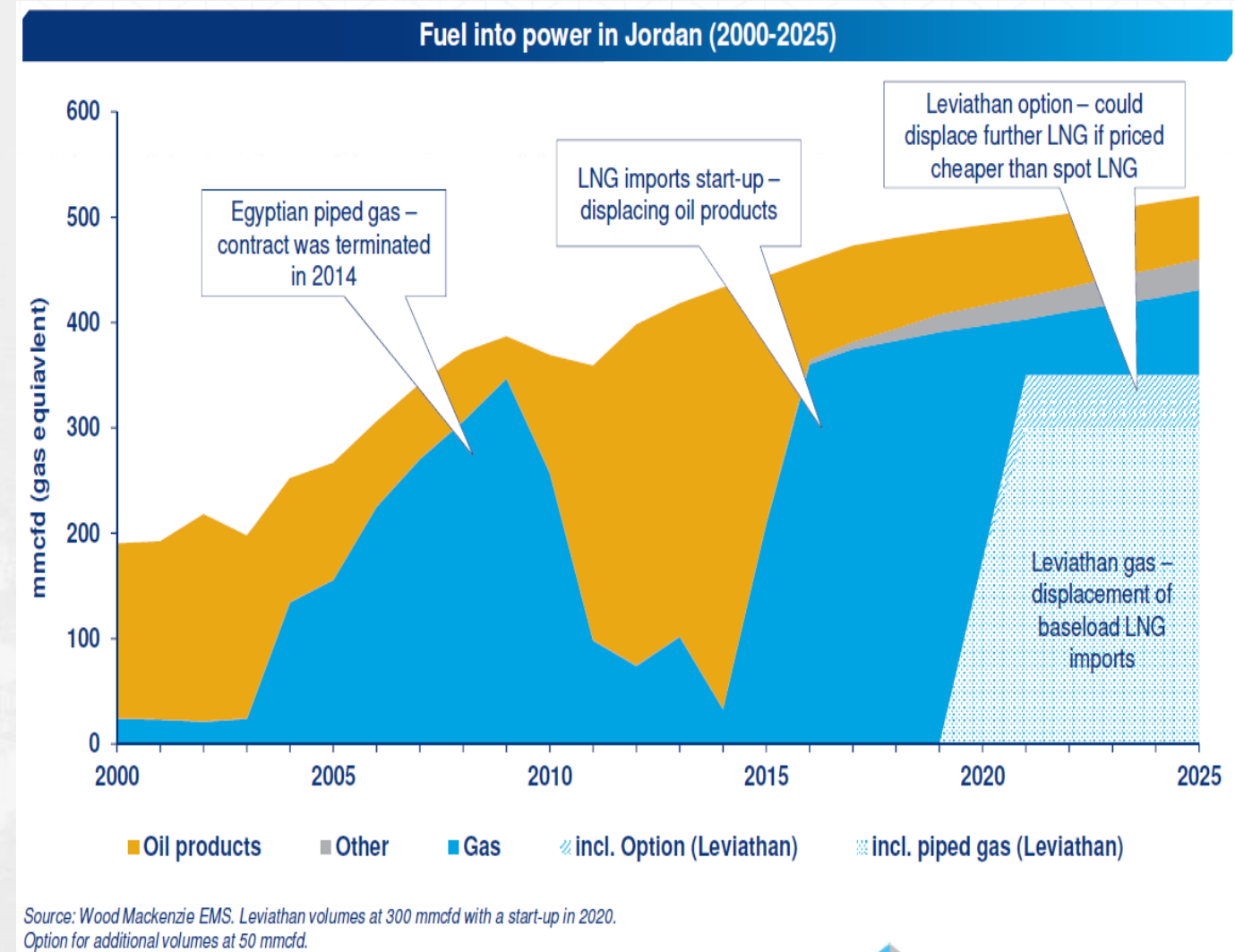


# **Unlocking Regional Markets**



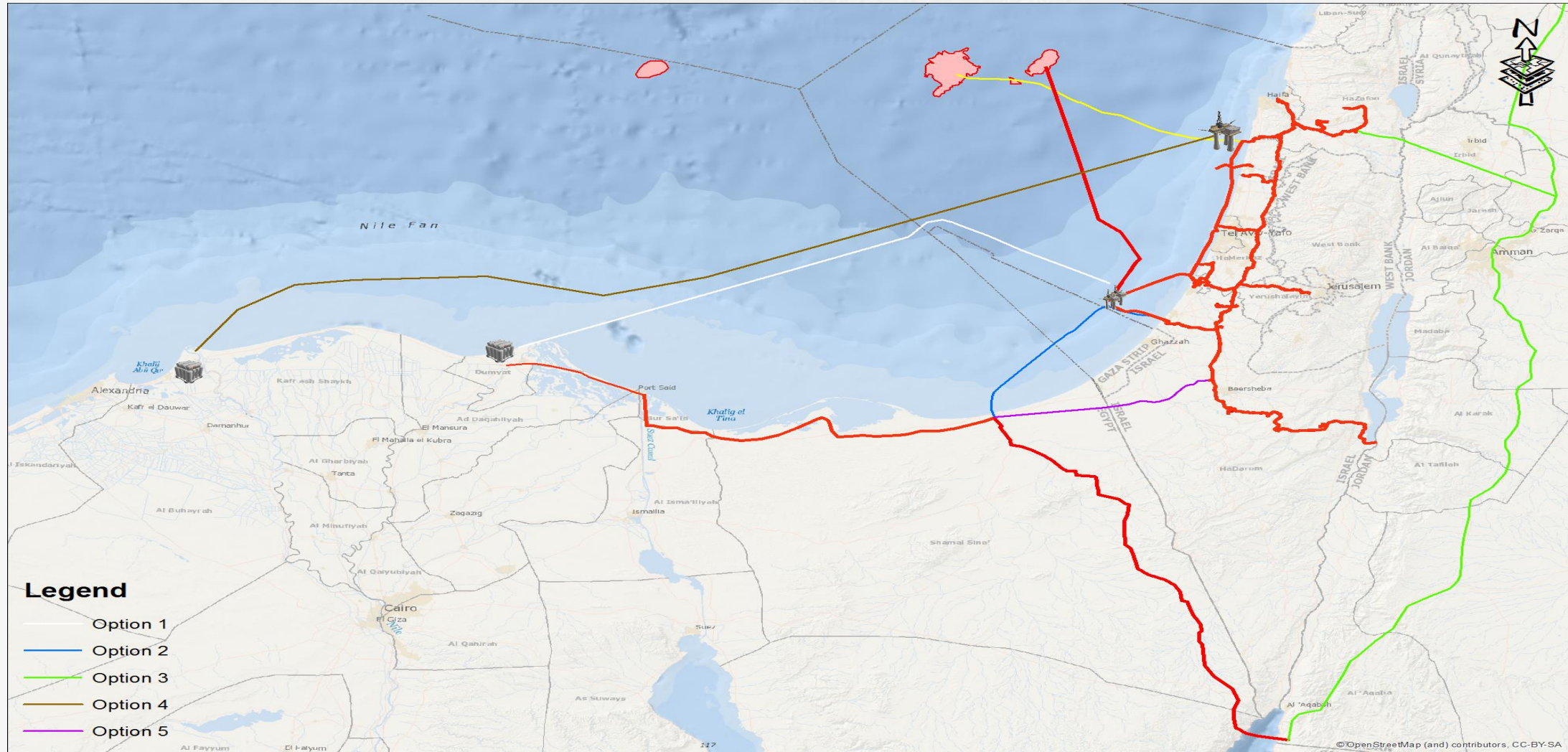
# Jordan Gas Demand

- ❑ 97% of Jordan energy is imported
- ❑ Natural gas is responsible for 80% of power generation
- ❑ Gas demand in 2017 is expected to reach 3.5-4.0 bcm, all of which imported LNG
- ❑ Fuel to power consumption represent demand of ~5 bcm
- ❑ INGL enlarged the originally designed pipeline



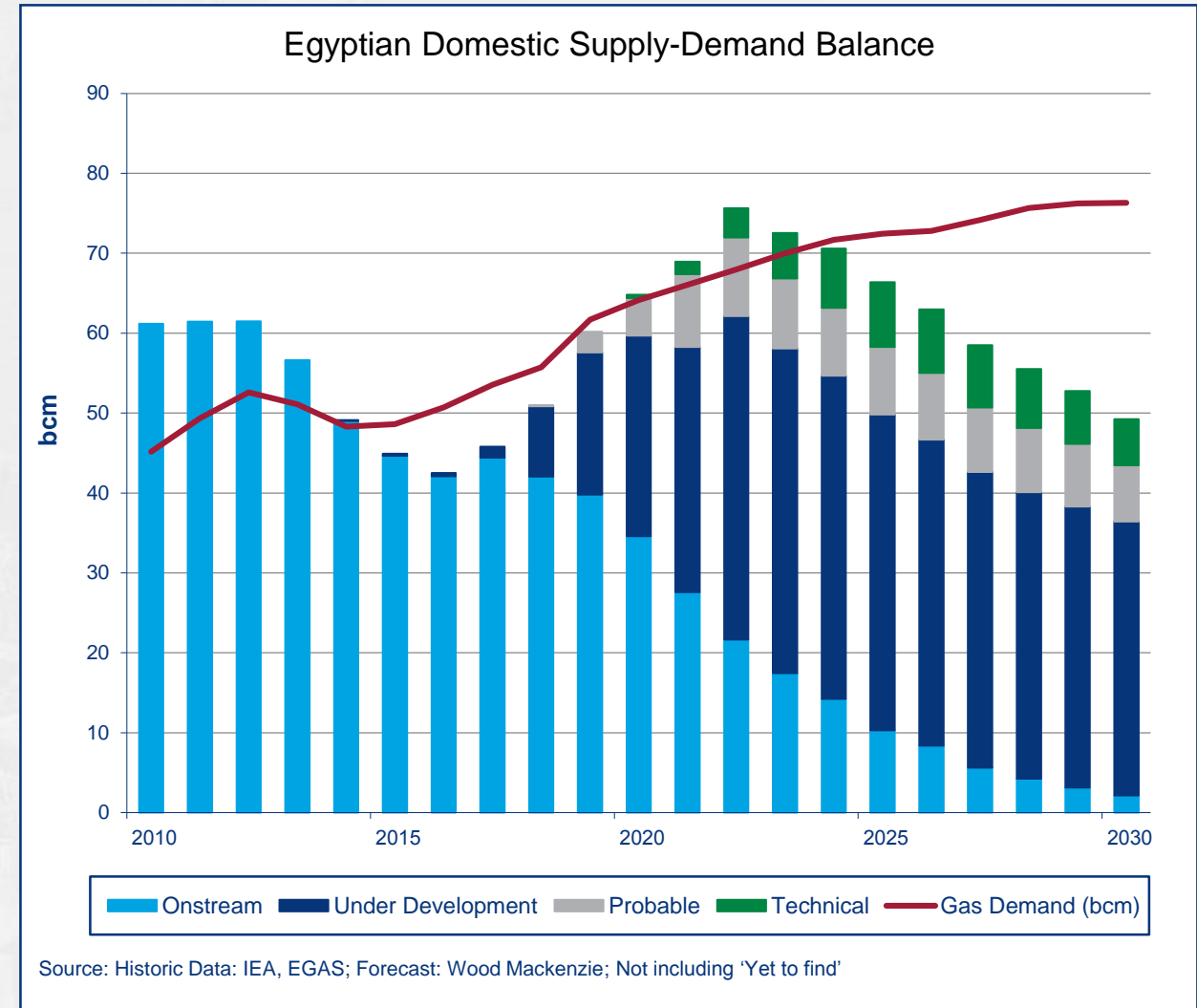
# Regional Infrastructure Solution

Regional market access via multiple infrastructure entry options solutions



# Egypt – Supply Demand Imbalance

- Significant consumption of over 50 bcm/y, and increasing by Approx. 8% year on year
- Additional gas is required for two existing LNG facilities, consuming approx. 17 to 20 bcm/y
- Egypt is fast tracking new developments such as West Nile Delta and Zohr to restore supply, but is short of gas even if the latter is over 22.5 tcf recoverable
- Government of Egypt recognize the gas shortage and recently amended the law to allow the private sector in Egypt to directly trade gas using the pipeline and network infrastructure. This opens the door for the import of gas to Egypt



Source: Wood Mackenzie



# Sea of Demand

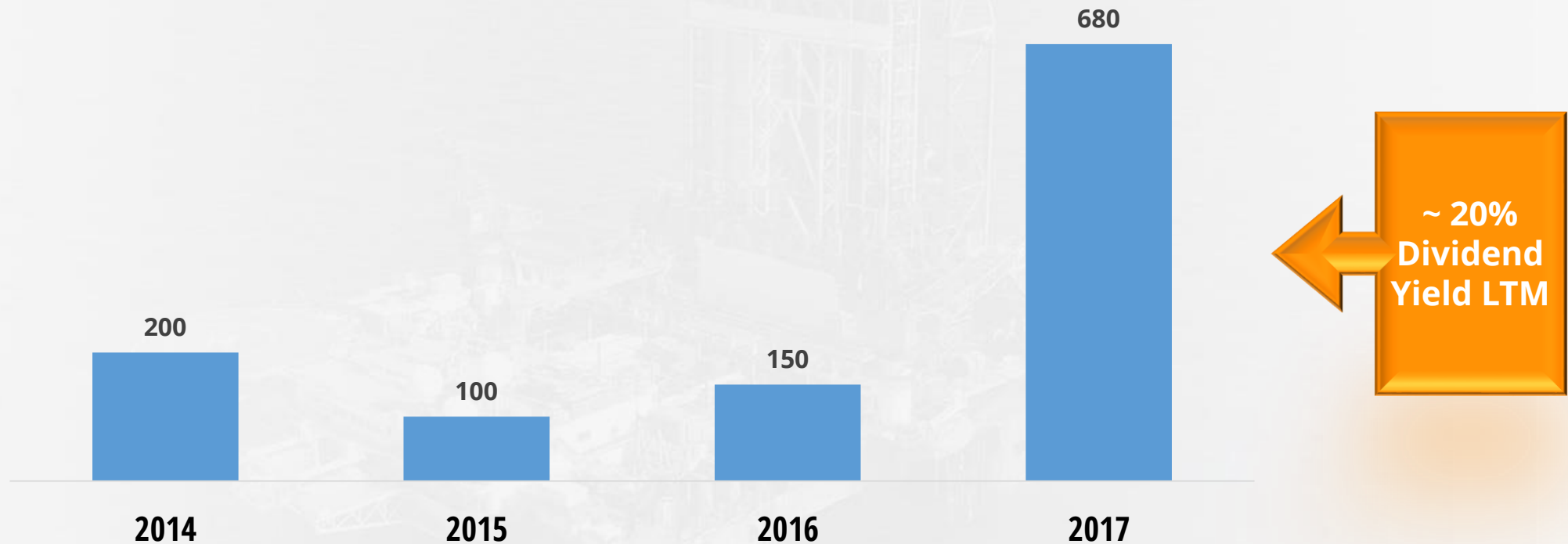






# Robust Dividend Distribution

Cash dividend of c. \$1.5B in last years



- Dividend payment of Delek Drilling and Avner combined
- Not include tax advances in the amount \$300 mm between the years 2015-2017



An aerial photograph of an offshore oil rig in the middle of the ocean. The rig's main deck is painted with the flag of Israel, featuring two horizontal blue stripes and a white Star of David in the center. Several large cranes are visible on the rig, including a prominent red one and a yellow one. To the left, a large black crane structure is partially visible, with the word 'EEREMA' written on it. The ocean is a deep blue, and the sky is overcast with soft, grey clouds. The rig is supported by a complex network of steel beams and legs extending into the water.

Thank You