Update on East Med gas

3rd SE Europe Hydrocarbons Upstream Workshop

IENE, Athens, October 30-31, 2018

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Overview

- Ever since discovery of giant gas-fields Tamar, Leviathan and Zohr, the East Med has been the focus of attention, with Egypt at the centre of it
- Egypt – development of Zohr and gas market liberalisation
- Israel – still looking for gas export routes, but close to gas exports to Egypt
- Lebanon – awarded two licenses, but EEZ disputes
- Cyprus – the focus is on resumption of Cyprob negotiations and development of Aphrodite – has just signed an agreement enabling pipeline to Egypt
- Improved global energy markets and prices in the short-term but challenging in the longer-term

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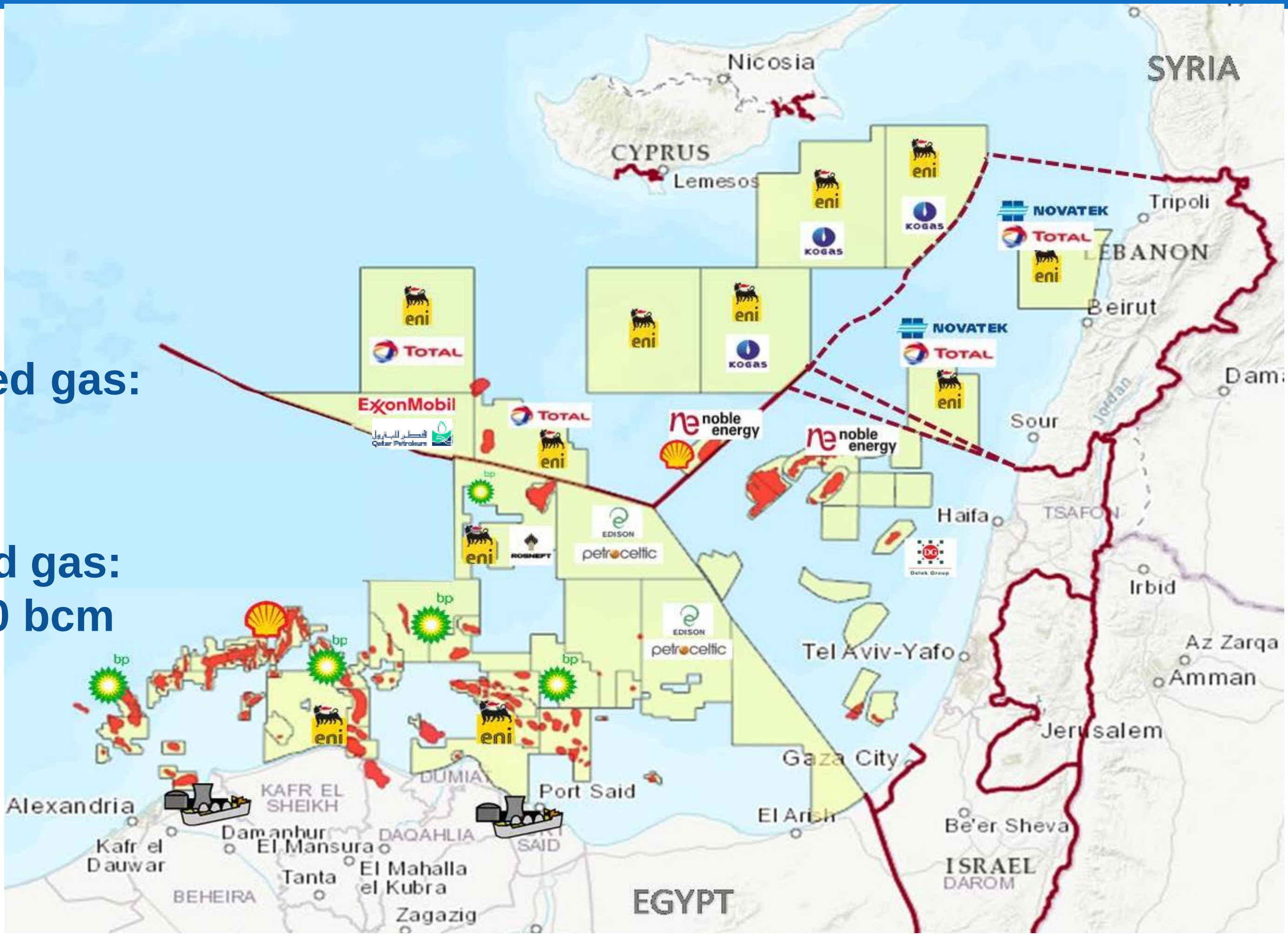
East Med exploration blocks



Discovered gas:
4000 bcm

Yet-to-find gas:
2800-8500 bcm

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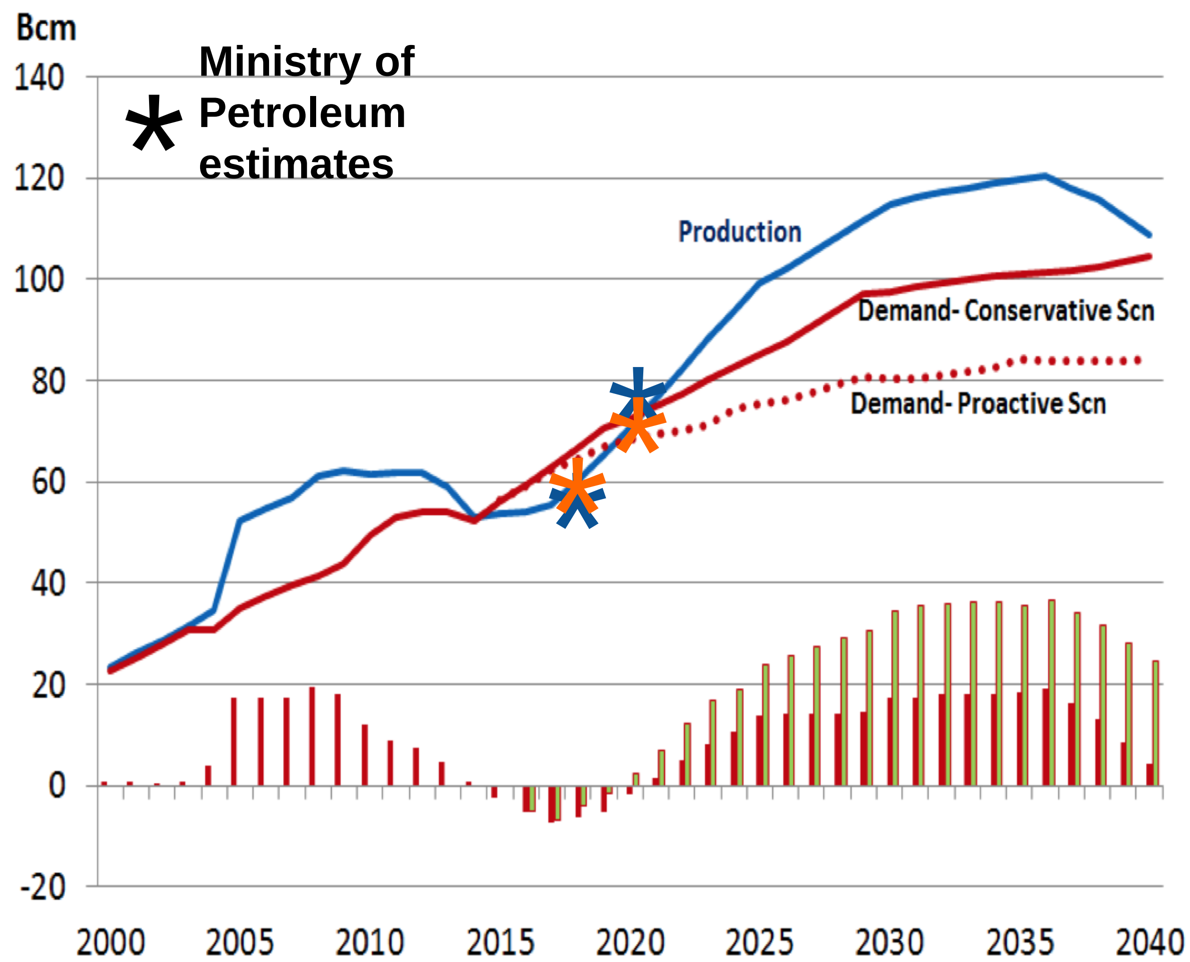
Developments in Egypt

- Has just become self-sufficient – will start gas exports 2019
- Zohr: first gas in December 2017 - just achieved 20 bcm/yr – expected to reach plateau of 30 bcm/y early 2019
- Eni, Shell, BP and Edison announced plans to expand their existing investments and activities – BP invested $35bn in 5yrs
- New licensing rounds in Mediterranean and Red Sea
- Egypt has liberalised its gas market – more needs to be done
- Aspires to become East Med's energy hub – World Bank support
- Following IMF support, economy is growing fast – more needed

Key conclusion: Egypt has enough gas of its own for domestic consumption and exports.

Egypt's gas balance



Source: OME

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Egypt's Ministry of Petroleum gas production/consumption estimates

Fiscal Year	Production (bcm/yr)	Consumption (bcm/yr)	Surplus (bcm/yr)
2016/2017	46.5	55.8	-9.3
2017/2018	54.8	61.0	-6.2
2018/2019	71.3	66.2	+5.1
2019/2020	80.6	70.3	+10.3

Egypt's potential

- Gas production has just reached 68 bcm/yr
- With more gas from Zohr in 2019, production will increase to 80 bcm/yr, exceeding consumption by over 10 bcm/yr
- More gas to come from recent/new discoveries : Balteem, 9B, Raven, East Obayed, South Disouq – small but add up ~ 15bcm/y
- Egypt is restoring gas exports to Jordan – 2.5 bcm/yr
- Yet-to-find gas 1400 bcm-4250 bcm – OME forecasts production to increase substantially
- New exploration/drilling very promising – especially ENI's Noor
- Egypt also expanding renewable generation, coal and nuclear

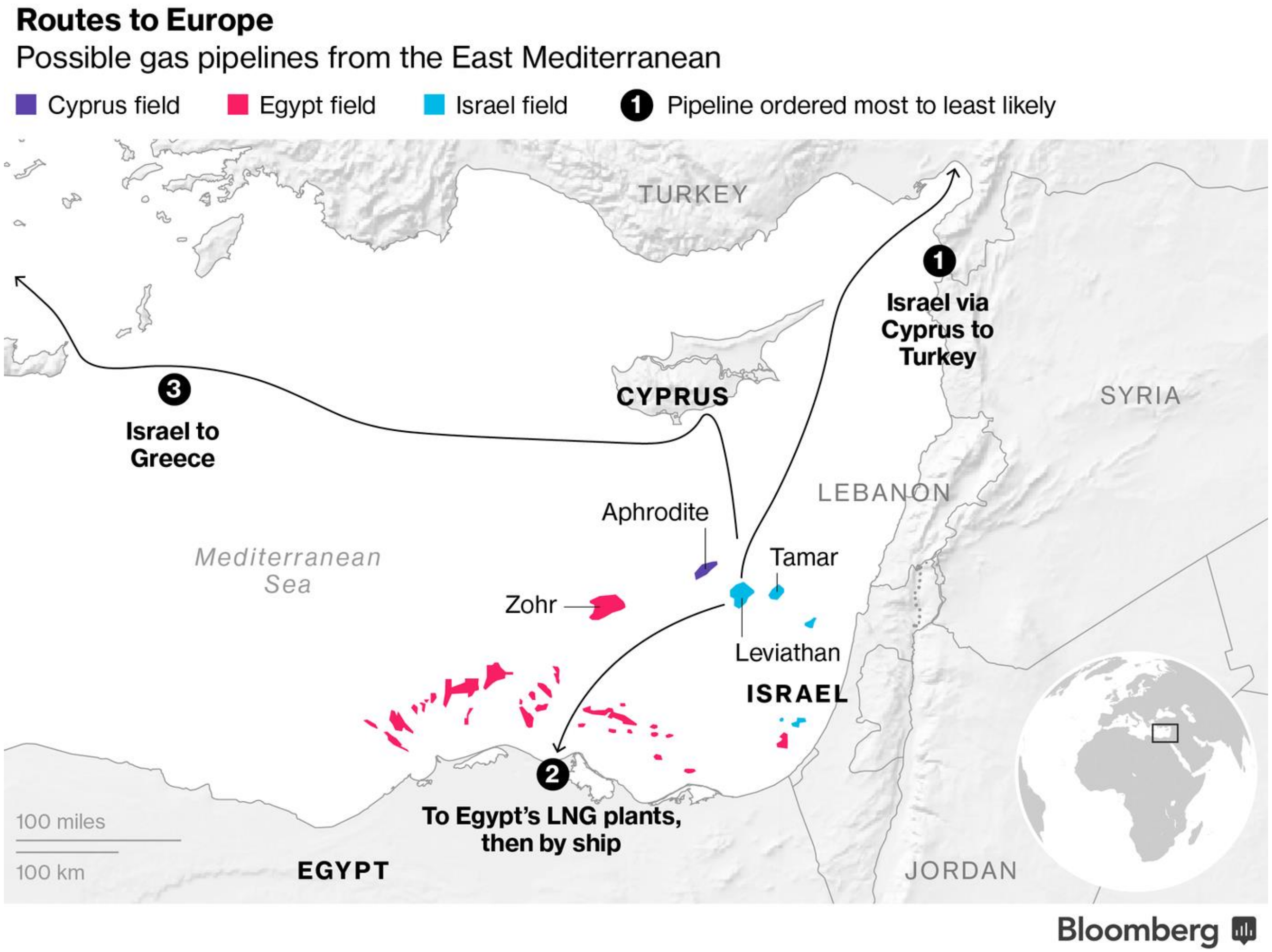
Challenge: to convert these into tangible benefits that improve the lives of most Egyptians now

Prospects in Israel

- Israel in need to secure gas export markets
- Development of Leviathan Phase 1A is progressing well – destined for Israel’s domestic market, Jordan and Egypt
- Noble and Delek signed agreement to sell 64 bcm over 10 years to private Egyptian company Dolphinus – there are still challenges to overcome but looks possible
- Energean achieved FID for Tanin and Karish – now proceeding with construction – offered gas to Cyprus

Challenges: Israel still needs an export route for the remaining phases of Leviathan – struggles with new licensing

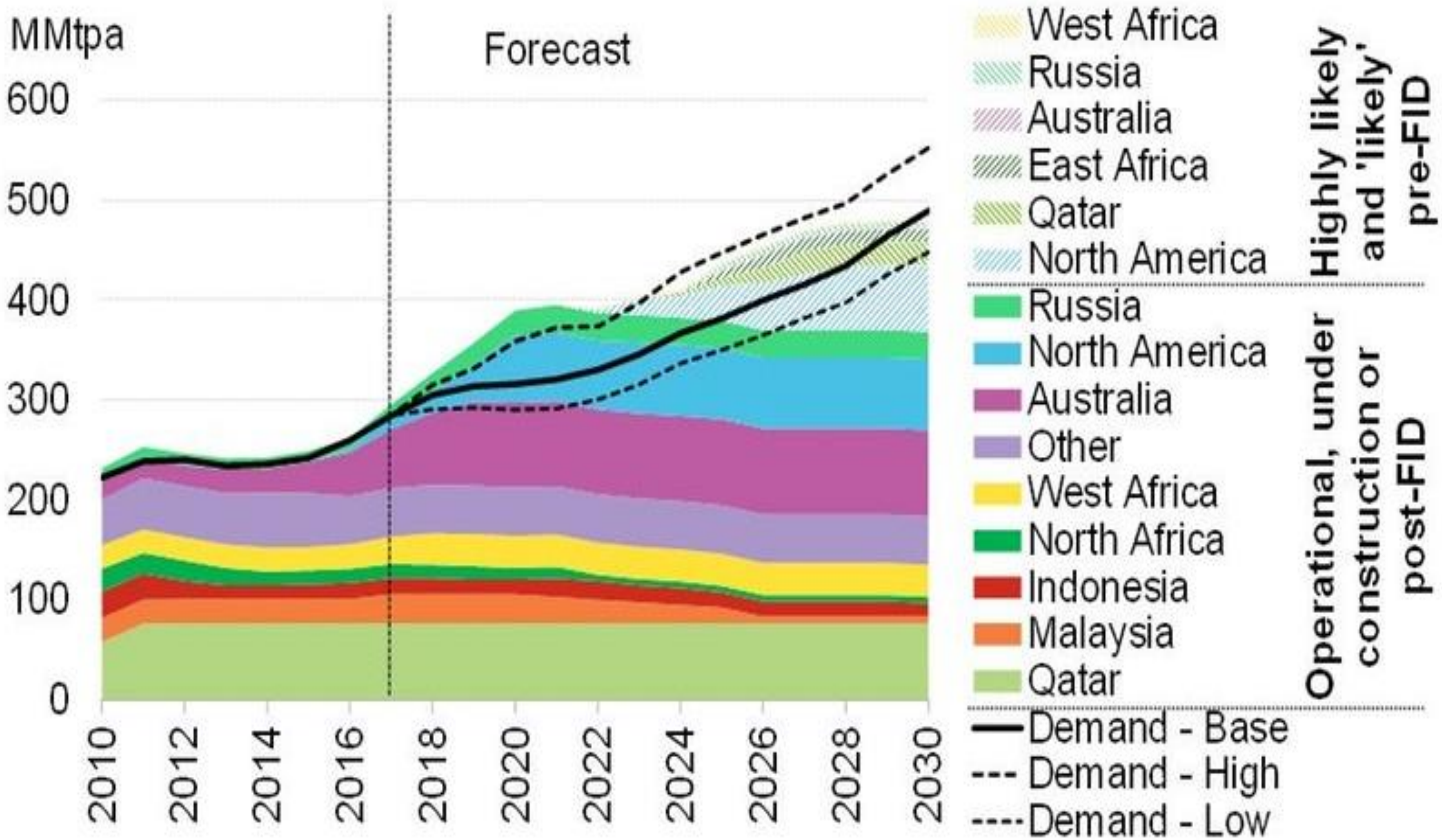
East Med gas export options



Prospects in Cyprus

- **Aphrodite gas sales to Shell's Idku under discussion – Noble has requested renegotiation of PSC citing low oil prices**
- **Inter-governmental agreement signed with Egypt for pipeline**
- **Turkey disputes hydrocarbon activity in Cyprus EEZ**
- **ENI successful in block 6 with Calypso – evaluating data so far and will be considering resumption of drilling in 2019**
- **Cyprus requested expressions-of-interest to lease block 7**
- **Success when ExxonMobil drills in the promising block 10 in October can transform Cyprus' fortunes – lead to LNG exports**
- ***Key conclusion: Cyprus still has reasonable prospects for more gas discoveries***

Global LNG demand and supply outlook



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Concluding remarks

- Egypt is successful in exploiting its hydrocarbon resources and liberalising its energy markets – restarting LNG exports
- Solution of Cyprus problem could go a long way in improving regional geopolitics in the East Med. But is this going to happen? A glimmer of hope that negotiations may resume
- East Med oil and gas plans need to be tempered with a dose of reality. Fierce competition to secure markets
- Gas exports from Israel and Cyprus face political and commercial challenges. But with Israeli and Cypriot gas exports to Egypt becoming more likely, there is hope.
- Key conclusion: East Med still has strong prospects for more gas discoveries, especially ExxonMobil in Cyprus, but securing export markets remains a challenge.