

Levant Basin Hydrocarbon Potential and Future Development

A presentation for :

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Ministry of Energy

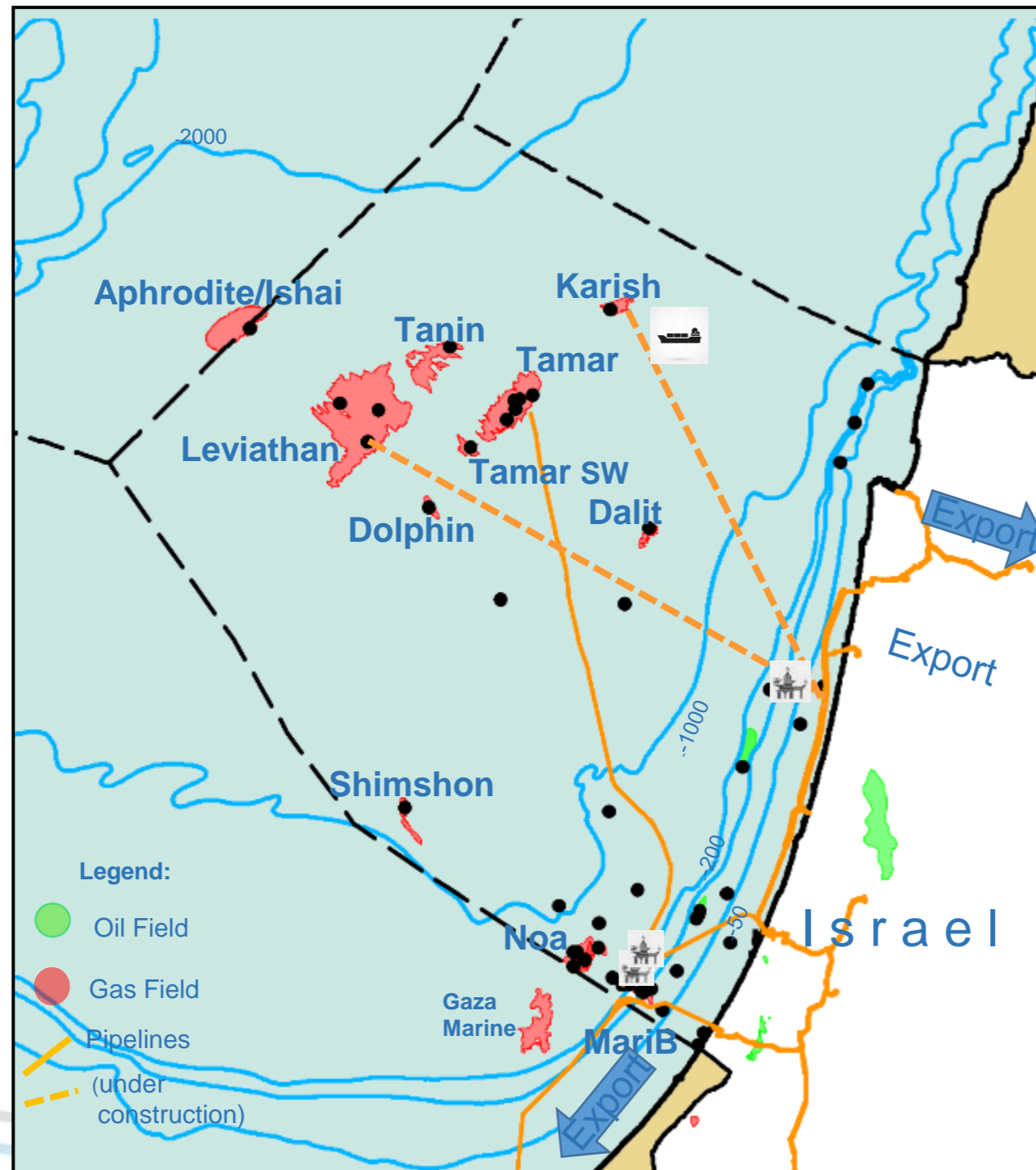
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Outline of Presentation

- Status of Offshore Development
- Main Drivers for Offshore Success
 - Geology
 - Markets
 - Companies
 - Government
- Conclusions



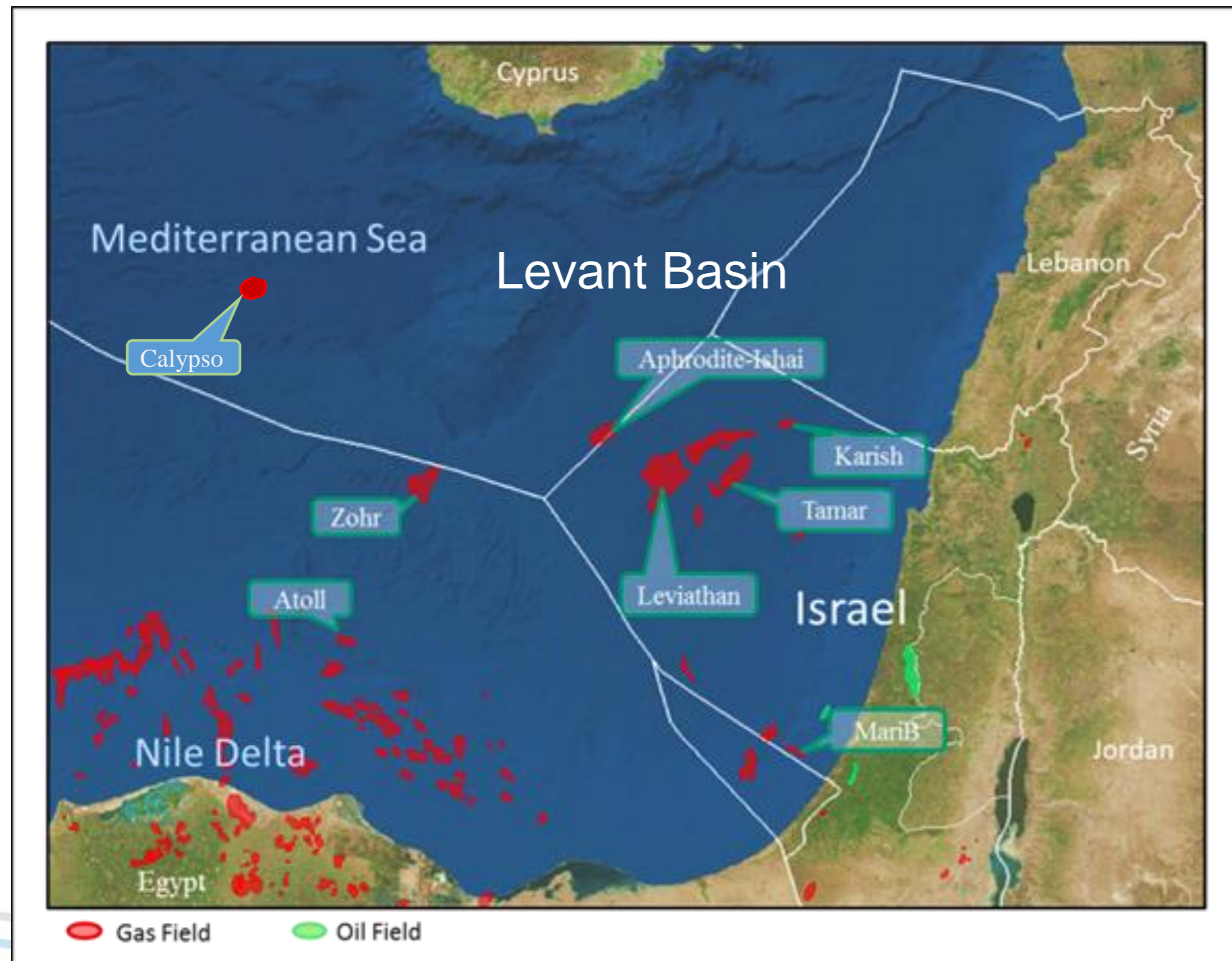
Status of Offshore Development



- 10 gas fields discovered, most of them in deep-water
- 3 gas fields developed (MariB, Noa, Tamar) and 2 more underway (Leviathan, Karish)
- Secured gas reserves in excess of 800BCM (2P/2C)
- 65% of electricity made from gas, will increase to 90%
- Several export contracts are signed



The Levant Basin- An Emerging, World Class Gas Province

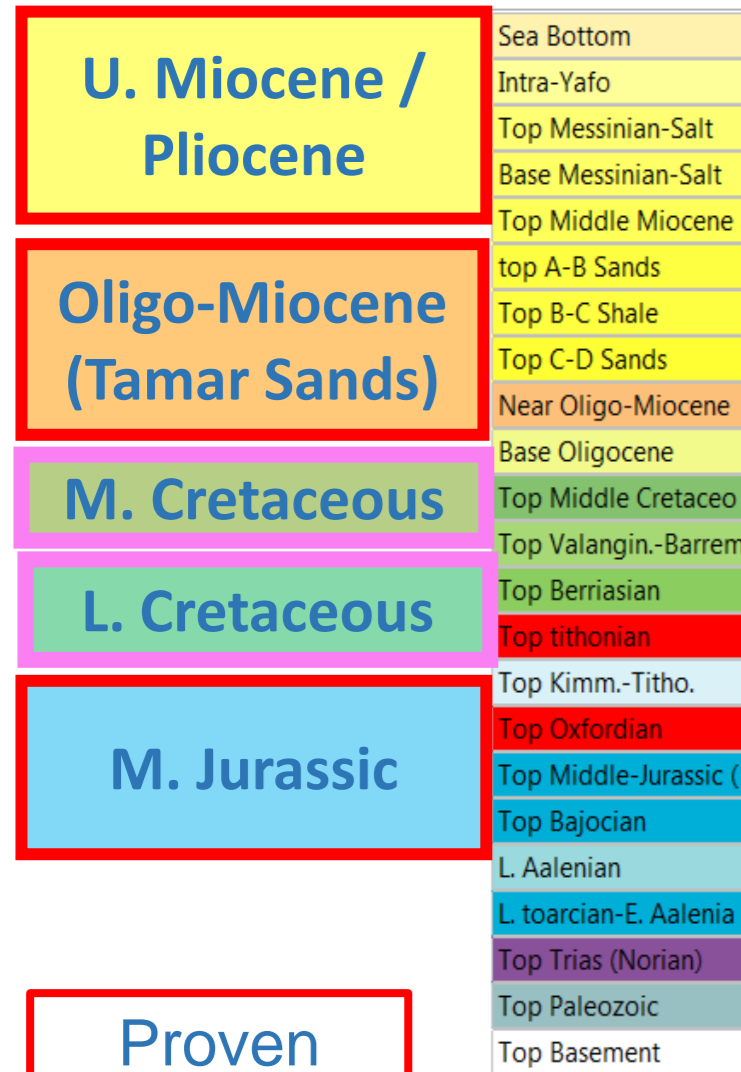


- The activity in Israel is part of a larger effort to develop the entire Levant Basin in the eastern Mediterranean Sea
- Approx. 2000 BCM (75 TCF) of gas discovered in the Levant Basin in recent years
- Ongoing exploration activity is taking place in Israel, Egypt, Cyprus and Lebanon



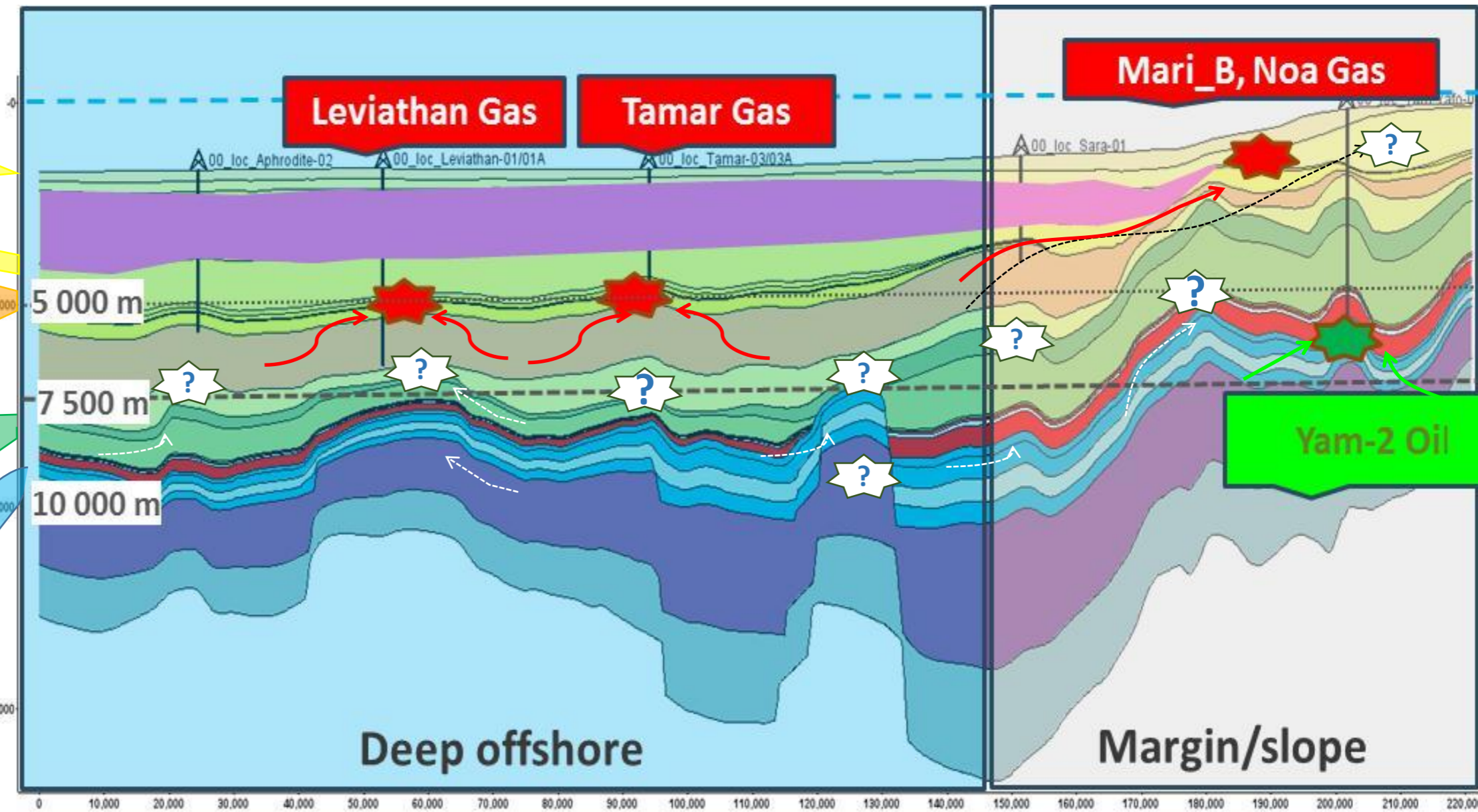
Geology: Basin-Fill, Proven and New Plays

Play Types



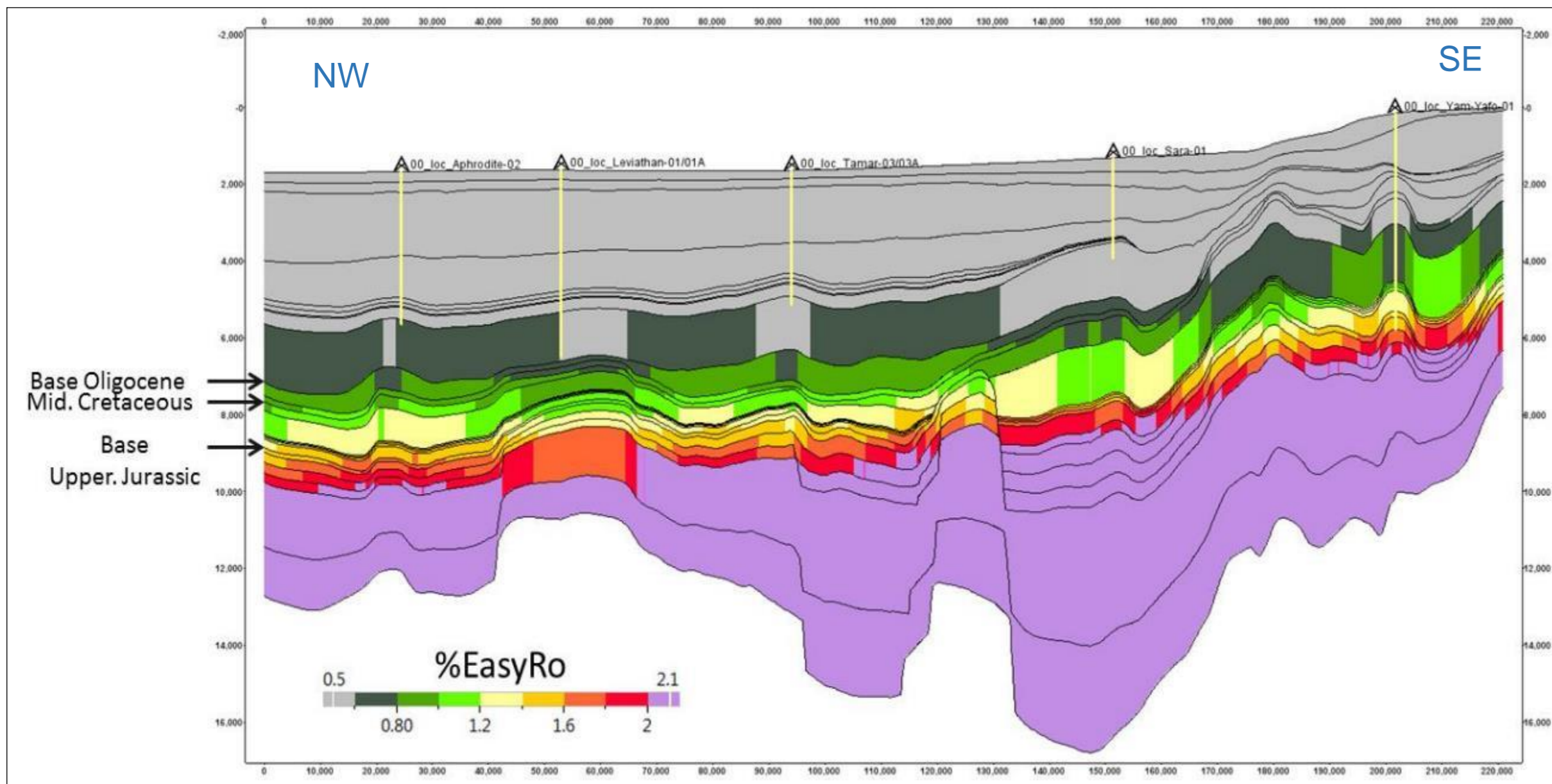
Proven

New



- Thick basin-fill, with various potential source and reservoir rocks and salt cover
- Various types of stratigraphic and structural traps
- 3 proven plays and 2 “new” plays, one of them – Zohr-type- is proven in Egypt/Cyprus

Geology: Basin Modelling



- Modeling shows extensive, shallow biogenic Gas System and deep thermogenic Oil System
- High potential for Gas and Oil Generation

Thermal maturation profile across the Levant Basin

Beicip-FranLab 2015-Basin Analysis



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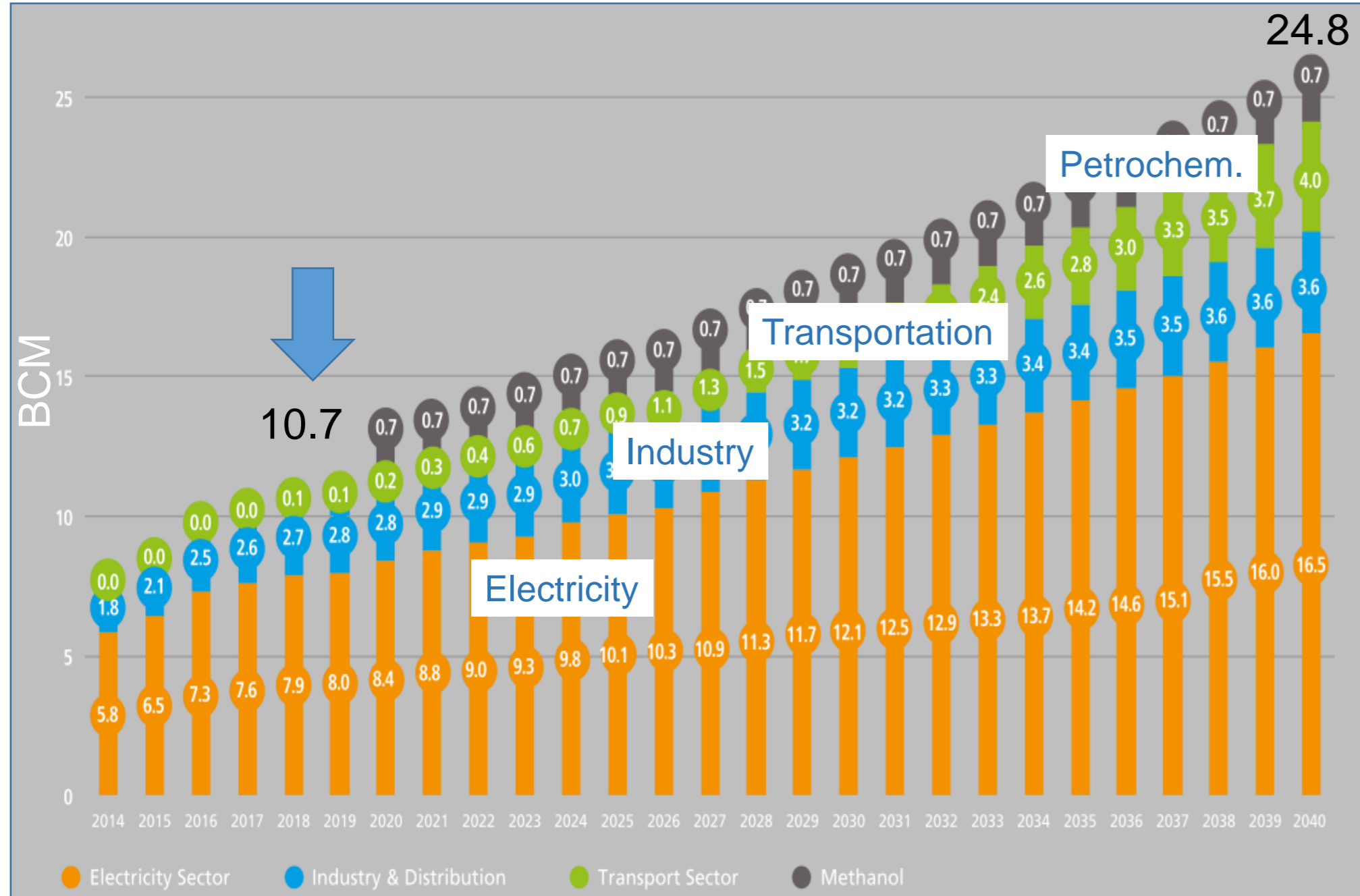
Geology: Yet-To-Find Prospective Resources

Category of Prospective Oil and Gas Resources	OIL		GAS					TOTAL OIL	TOTAL GAS
	Jurassic Middle +Upper	Lower Cretaceous	Jurassic Middle +Upper	Lower Cretaceous	Oligo-Miocene (ABCD sands and equivalent)	Middle Upper Miocene	Pliocene		
	<i>Billions bbl</i>	<i>Billions bbl</i>	<i>BCM</i>	<i>BCM</i>	<i>BCM</i>	<i>BCM</i>	<i>BCM</i>	<i>Billions bbl</i>	<i>BCM</i>
(2) YET-TO-FIND in Place Best Estimate	1.2	5.4	149	340	1089	238	321	6.6	2137 (75 TCF)

- Assessment of YTF in place volumes is based on 3D numerical geologic model of oil and gas generation, migration and entrapment taking into account exploration success



Markets: Domestic



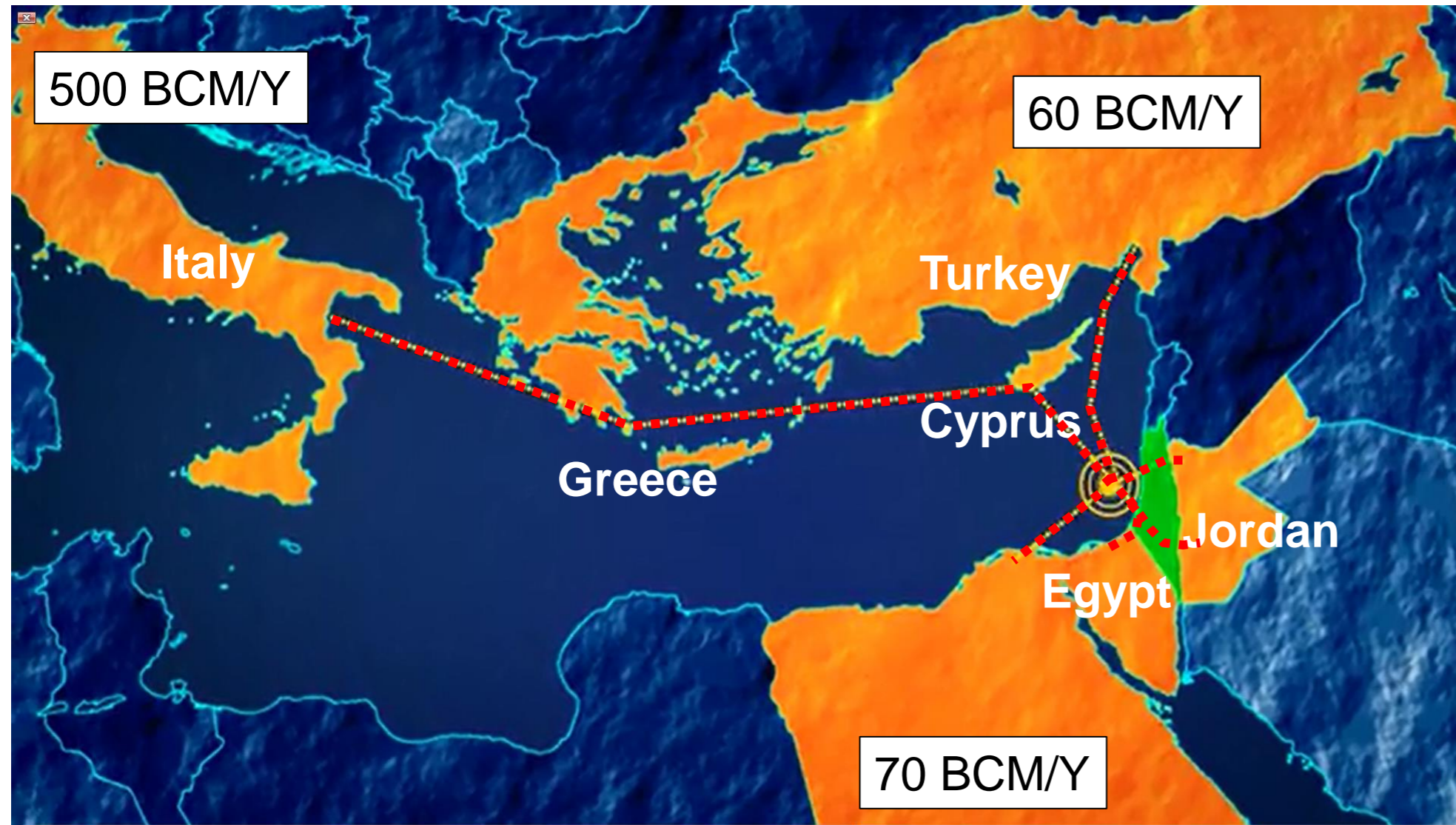
Main Factors for Increase in Demand:

- Natural growth of population
- Closing coal-based electric plants
- Wider use in heavy industry and households
- 90% of Electricity will be generated from gas and renewables
- Conversion to electric and CNG cars (No imports of fuel based cars by 2030)
- Petrochemical Industry will be developed

Gas Demand Forecast
(IHS, 2016)



Markets: Export



Status of Export :

- **Jordan:** two contract are signed (47 BCM)
- **Egypt:** - one contract is signed (64 BCM)
- two more contract are negotiated for LNG export and domestic
- **Europe:** feasibility studies for the EastMed Pipeline are ongoing (10-20 BCM/Y)
- **Turkey:** one contract is negotiated (10 BCM/y)



Companies: E&P Activity

- Excellent rate of success in discovering gas in the Tamar Sands (100%).
- Fast development of the Tamar gas fields (less than 3 years)
- Longest tie-back pipe from the Tamar field to the Tamar platform
- FPSO is built for the Karish field- the first in the region
- Stable and reliable supply of gas from the offshore fields



Tamar Platform



Government: Policy and Regulation

- Resolving Anti-Trust and competition Issues
- Providing conditions for timely development of new gas fields
- Promoting the expansion of the domestic gas markets (Closing coal station, supporting CNG+ electric in transportation, supporting industrial and residential use)
- Promoting export options (EasMed Pipe etc..)
- Adopting high regulatory standards (1st + 2nd Bid-Rounds etc..)
- Improving management of data (NDR system)



Planned Leviathan Platform



Conclusions:

- In the past 10 years the Israeli offshore experienced fast and successful development of its hydrocarbon resources
- The success is the result of several main drivers: favorable geologic conditions, existence of domestic and export markets, effective E&P programs and government support
- Geologic modeling shows significant potential for additional gas and oil discoveries
- These will be successfully developed through the combined effects of all main drivers



Thank You !!

