



2nd REGIONAL OIL & GAS EXPLORATION & PRODUCTION

IENE WORKSHOP

Electra Palace Hotel 31 October – 1 November 2013

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East Med. Gas, a game-changer for regional gas market

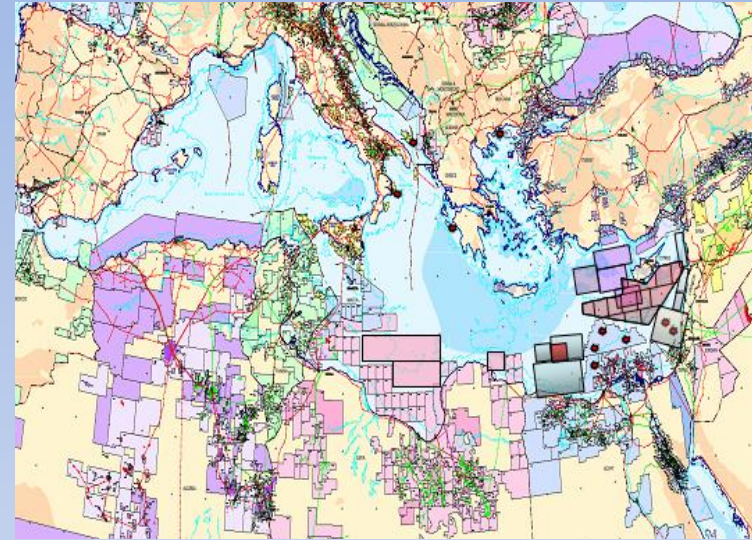
- East Mediterranean a significant gas province on Europe's doorstep
- Offshore activities in Lebanon, Libya, Cyprus, Tunisia, Italy and recently Greece, redefine hydrocarbon potential region in the near future.



Source: Offshore Magazine

Oil & Gas Exploration in Greece

- Greece is the most unexplored area in the Mediterranean
- Estimated as high Hydrocarbons potential
- Deep target - totally unexplored



Exploration Activity 1960 – 1988 in shallow targets:

resulted in the discovery of the only producing offshore field in Northern Greece

Offshore Producing Field in Northern Greece

Prinos Offshore oil field (Oceanic/NAPC/Kavala OIL/ENERGEAN OIL & GAS):

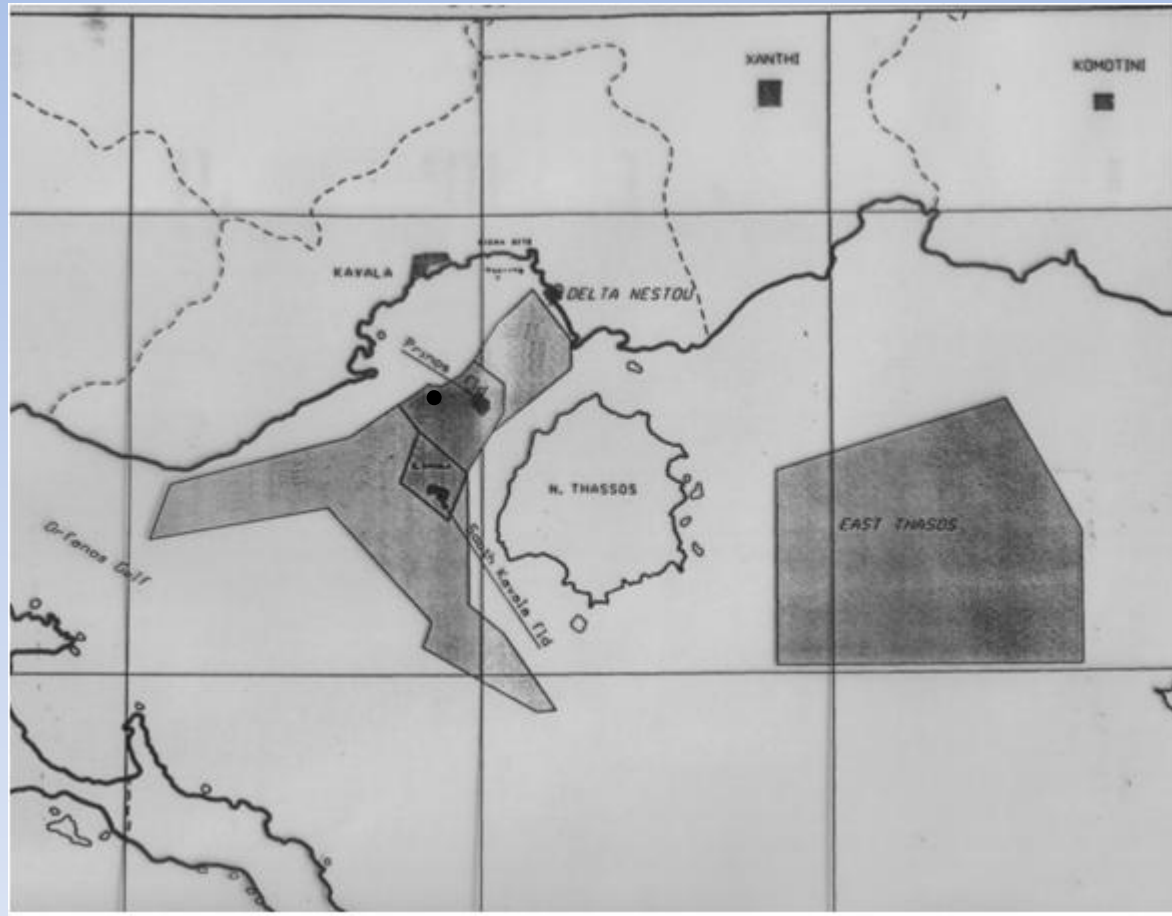
- Discovery: 1973
- First production: 1981
- Max prod. 1986: 30,000 b/d
- Total Reserves Produced: 110 m.b

Prinos North:

- Discovery: 1994
- Recoverable Reserves 5 m.b

South Kavala offshore Gasfield:

- Discovery: 1973
- First production: 1981
- Max prod: 250,000 cm/d
- Total Reserves Prod.: 615 m.cm
- Depleted: 1994



1st International Licensing Round in Western Greece 1996-1997

➤ Completed successfully in 18 months – Remarkable time

➤ 1997: 4 Lease Agreements in

✓ Ioannina (onshore)

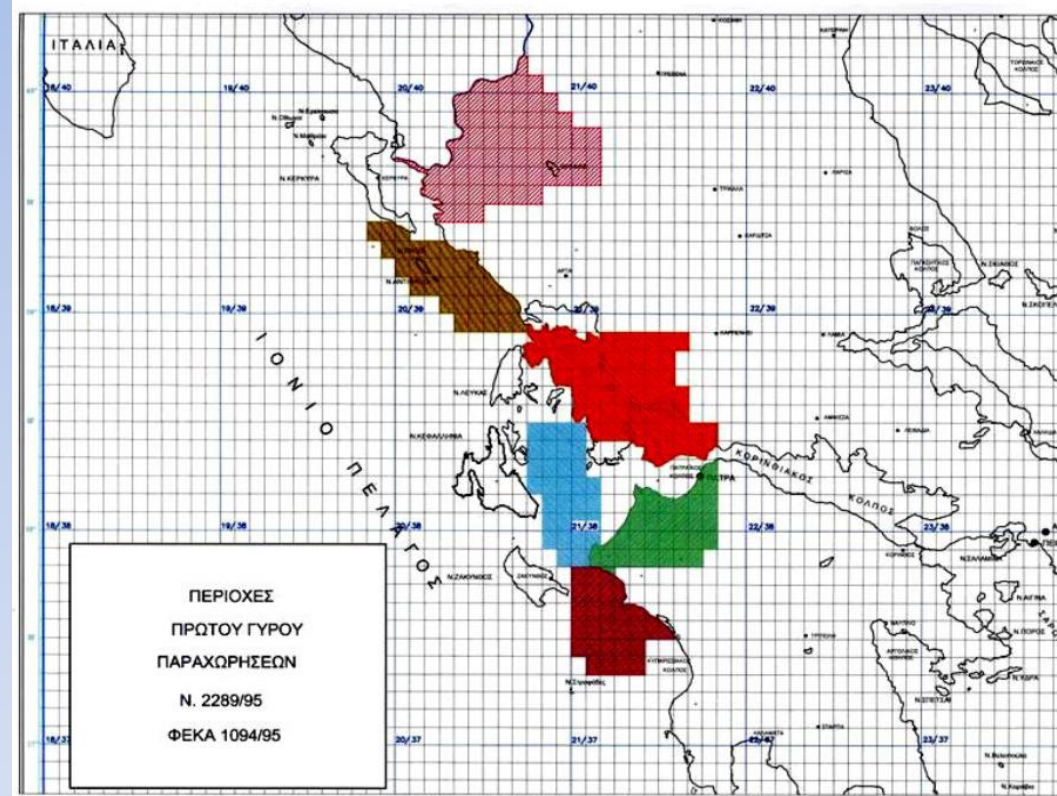
✓ Aitolokarnania (onshore)

✓ N.W. Peloponese (onshore)

✓ Gulf of Patraikos (offshore)

Total Investment: \$100 m.

(Exploration period)



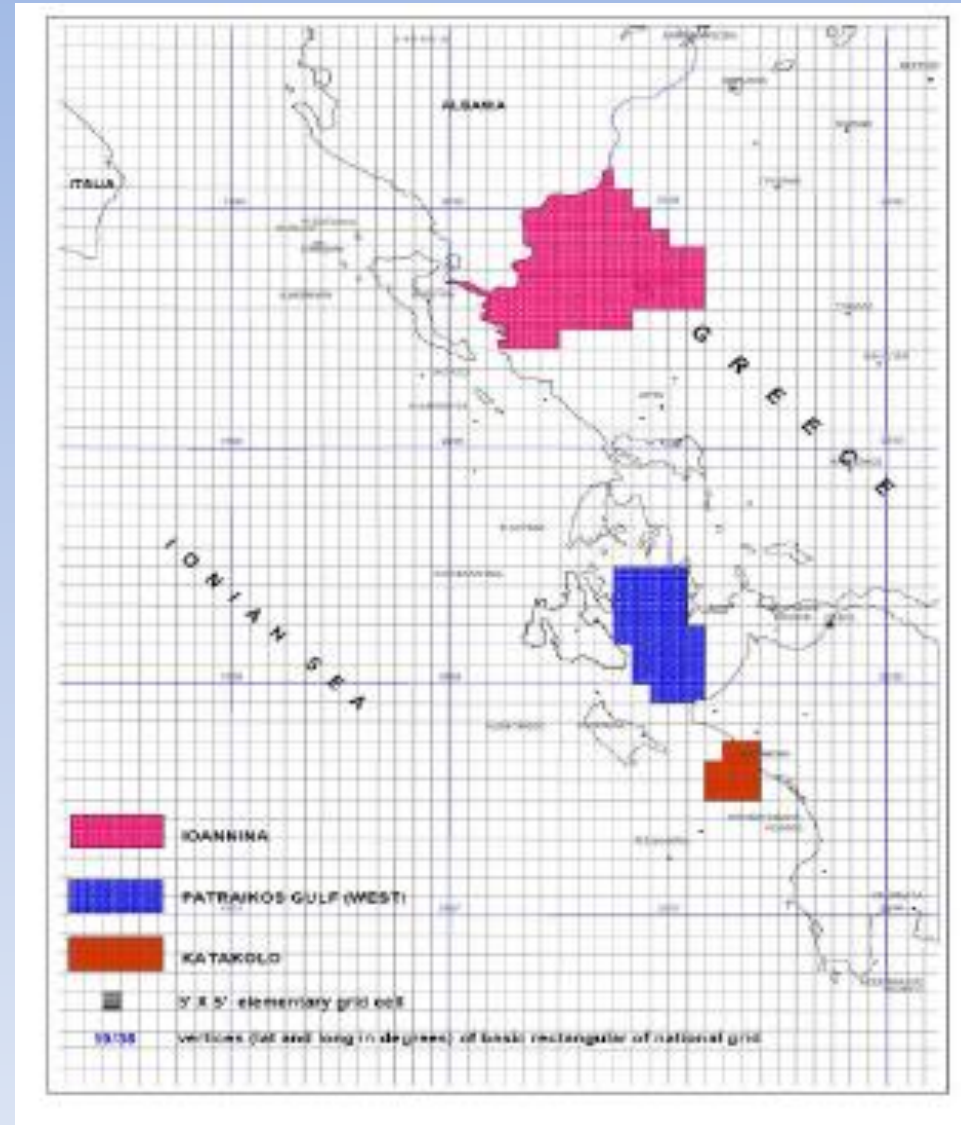
Lease Agreements

| Block | Area (Km ²) | Company/ Joint Venture | Commitment of Exploration Phases | Minimum \$ Commitment | Total Exploration Investment |
|----------------------------|-------------------------|---|--|--------------------------|------------------------------------|
| Ioannina Onshore | 4,200 | Enterprise oil 40% Union Texas 28% Mol 20% DEP-EKY 12% | 6 years | 20 m.\$ | 20 m.\$ |
| Peloponnese Onshore | 2,025 | Enterprise oil 40% Union Texas 28% Mol 20% DEP-EKY 12% | 4 years | 17 m.\$ | 26 m.\$ |
| Aitolokarnania Onshore | 3,650 | Triton Hellas 88% DEP-EKY 12% | 2 years | 13.5 m.\$ | 35 m.\$ |
| Patraikos Gulf Offshore | 2,100 | Triton Hellas 88% DEP-EKY 12% | 4 years | 13.5 m.\$ | 26 m.\$ |

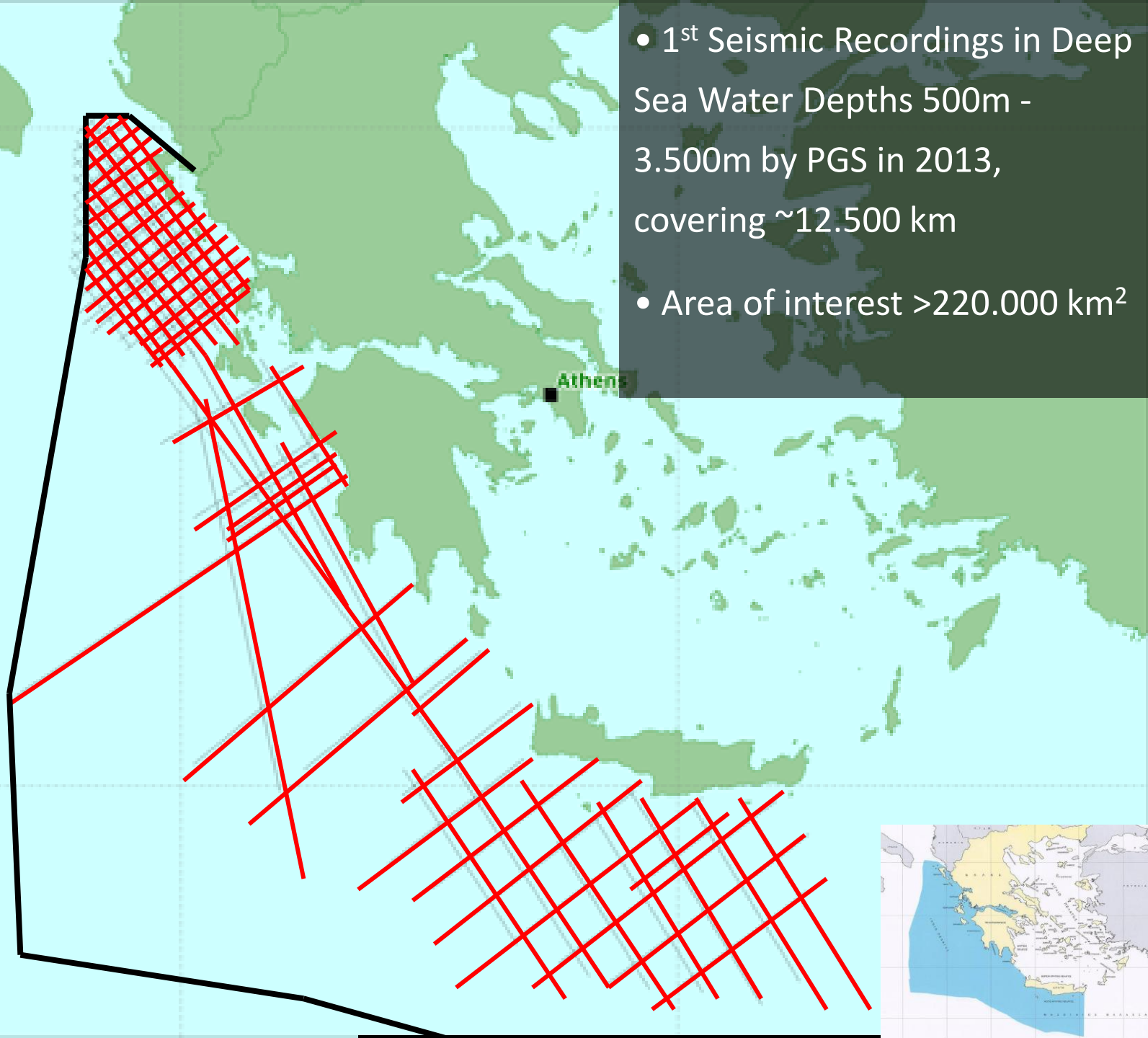
Present Situation in Greece

After 12 years freeze in E&P activity, Greece conducted :

- ❖ An Open Door procedure in Western Greece 2011 → STILL ONGOING!
- ❖ A Non-Exclusive 2D Seismic acquisition offshore in Western Greece and South of Crete (acquired by PGS), covering ~12.500 km → now in processing phase
- ❖ 2011 establishment of H.H.R.M. S.A.* According to the Law 4001 but still not operating



* Hellenic Hydrocarbon Resources Management



- 1st Seismic Recordings in Deep Sea Water Depths 500m - 3.500m by PGS in 2013, covering ~12.500 km
- Area of interest >220.000 km²

Legislation Framework in Greece

Type of Contracts :

- Royalty / Tax (Concessions Agreement)
- Production Sharing

Duration:

Exploitation : 7 Years Onshore / 8 Years Offshore

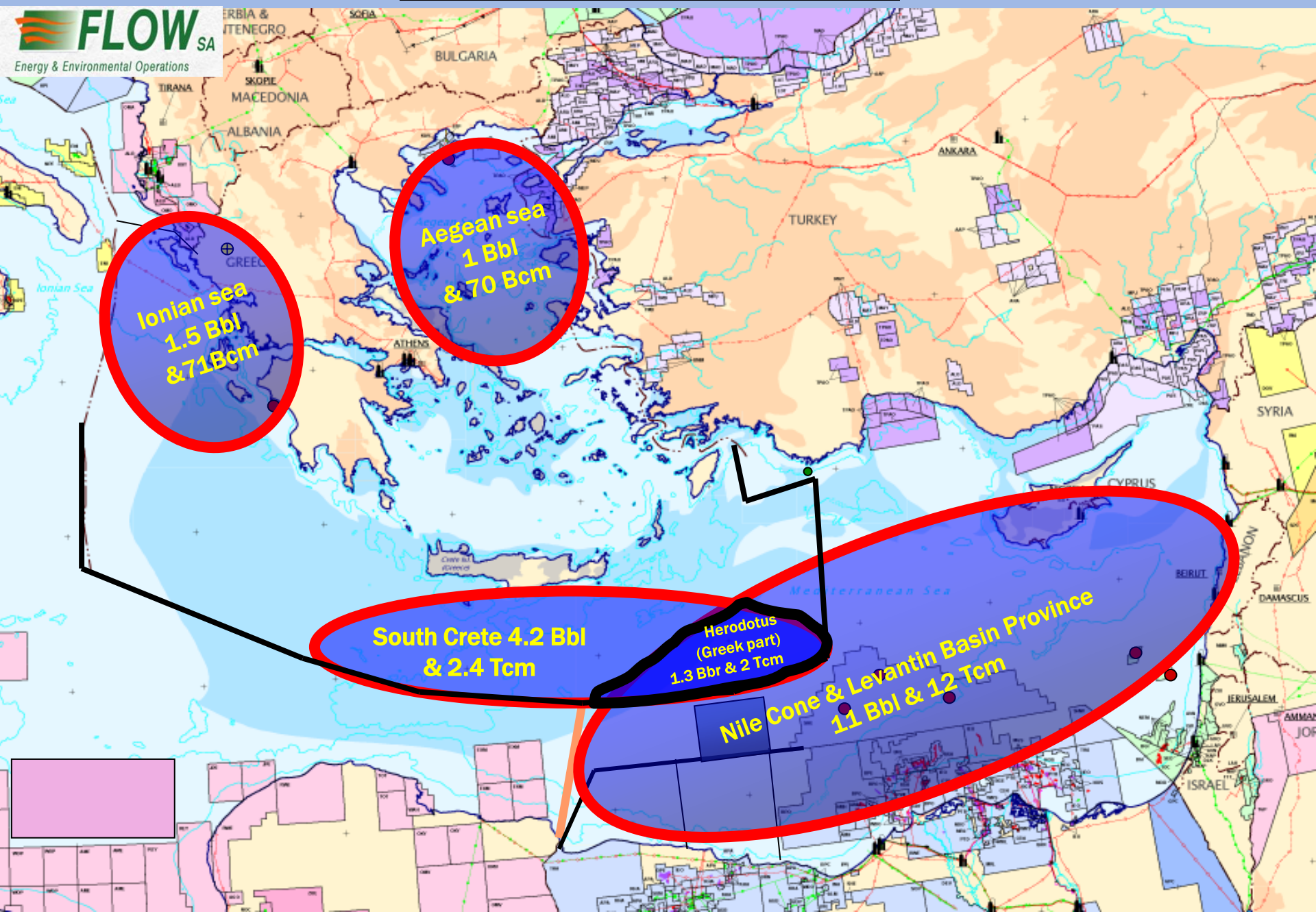
Production : 25 Years with extension for Gas and Deep water

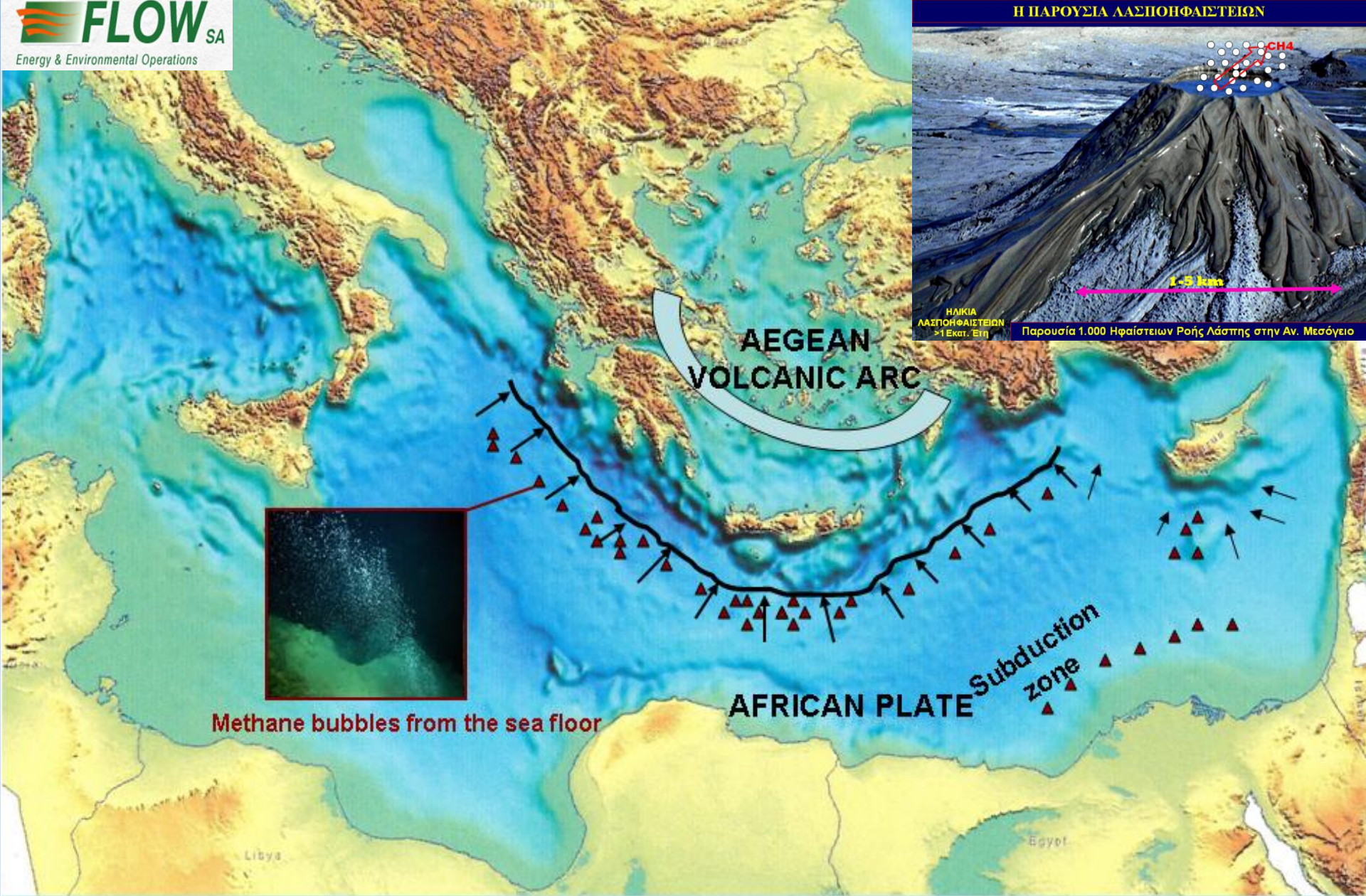
Taxes: Income Tax fixed at 20% + 5% Local Tax.

Granting of Licenses by the State:

- Through international Tender by the Authorities (Licensing Round)
- Through International Tender following a submission of an application by an entity
- Through Open Door Procedure

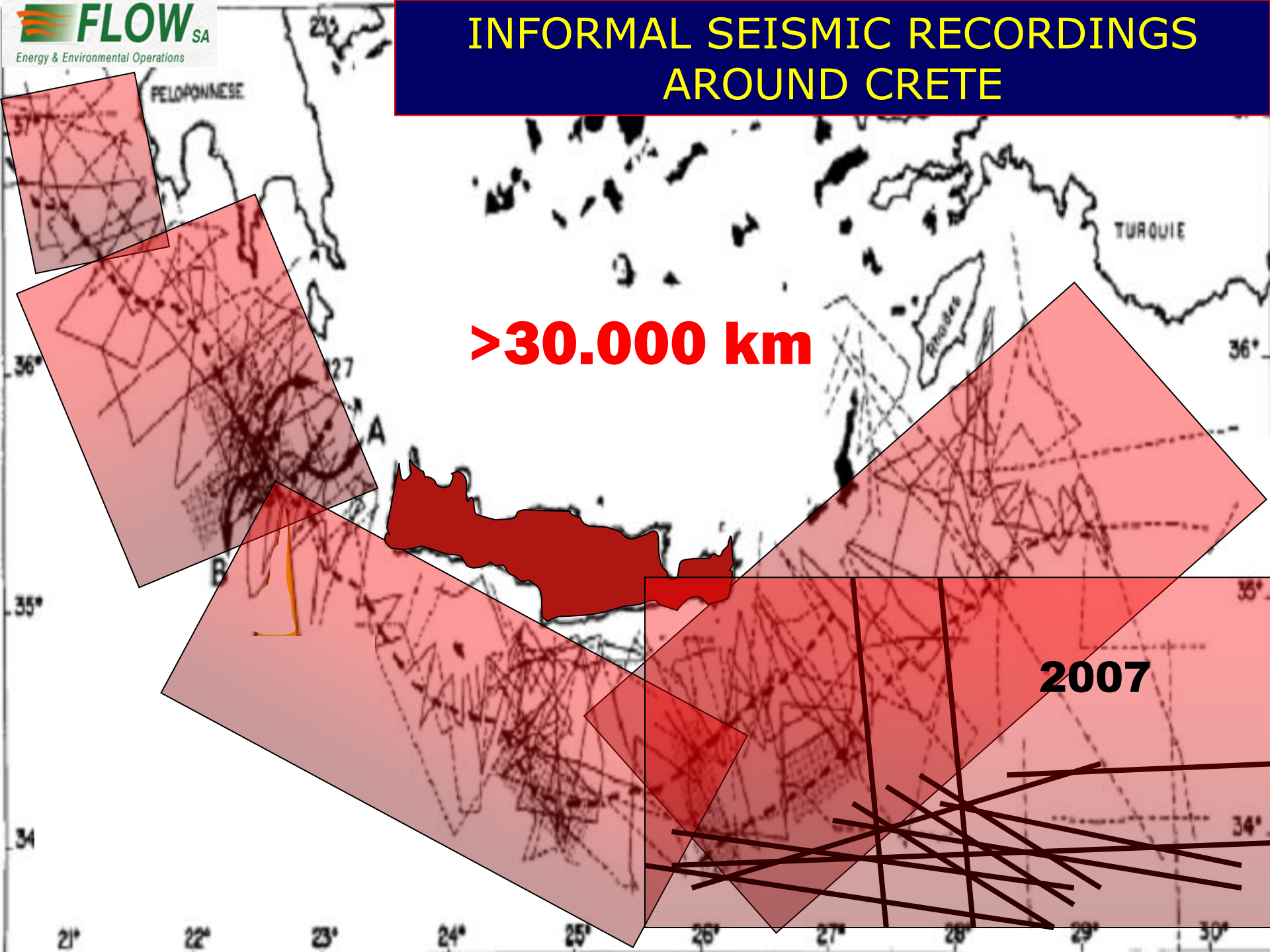
Estimated Resources





Locations of mud volcanoes along the subduction zone, the Aegean Volcanic Arc and the locations of mud volcanoes along the Cyprus Arc and the Nile Cone. Modified after Dimitrov, 2002

INFORMAL SEISMIC RECORDINGS AROUND CRETE



CYPRUS - A

LEVIATHAN

TAMAR

BLOCK 12

Tamar

Dalit

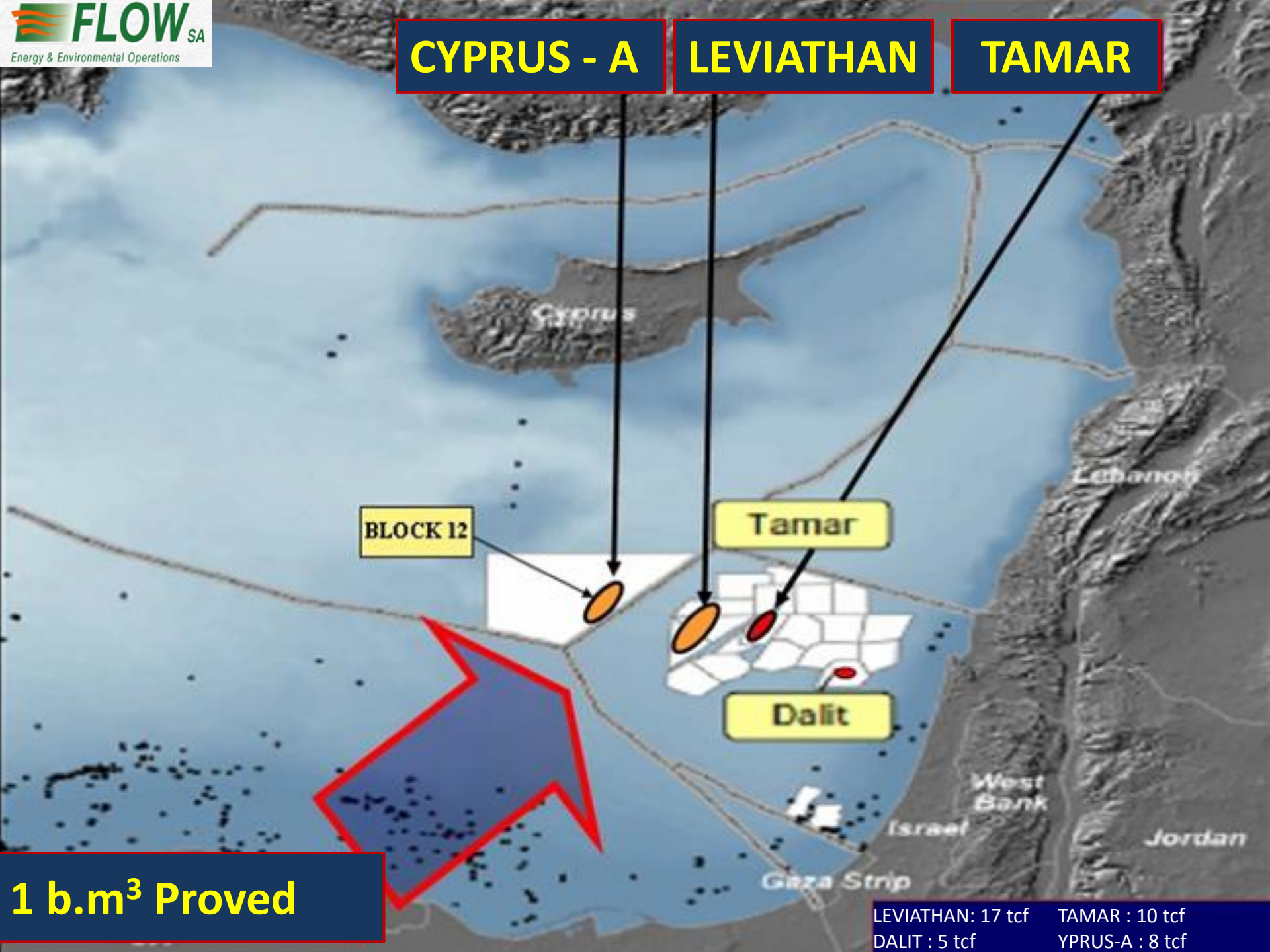
1 b.m³ Proved

LEVIATHAN: 17 tcf

DALIT : 5 tcf

TAMAR : 10 tcf

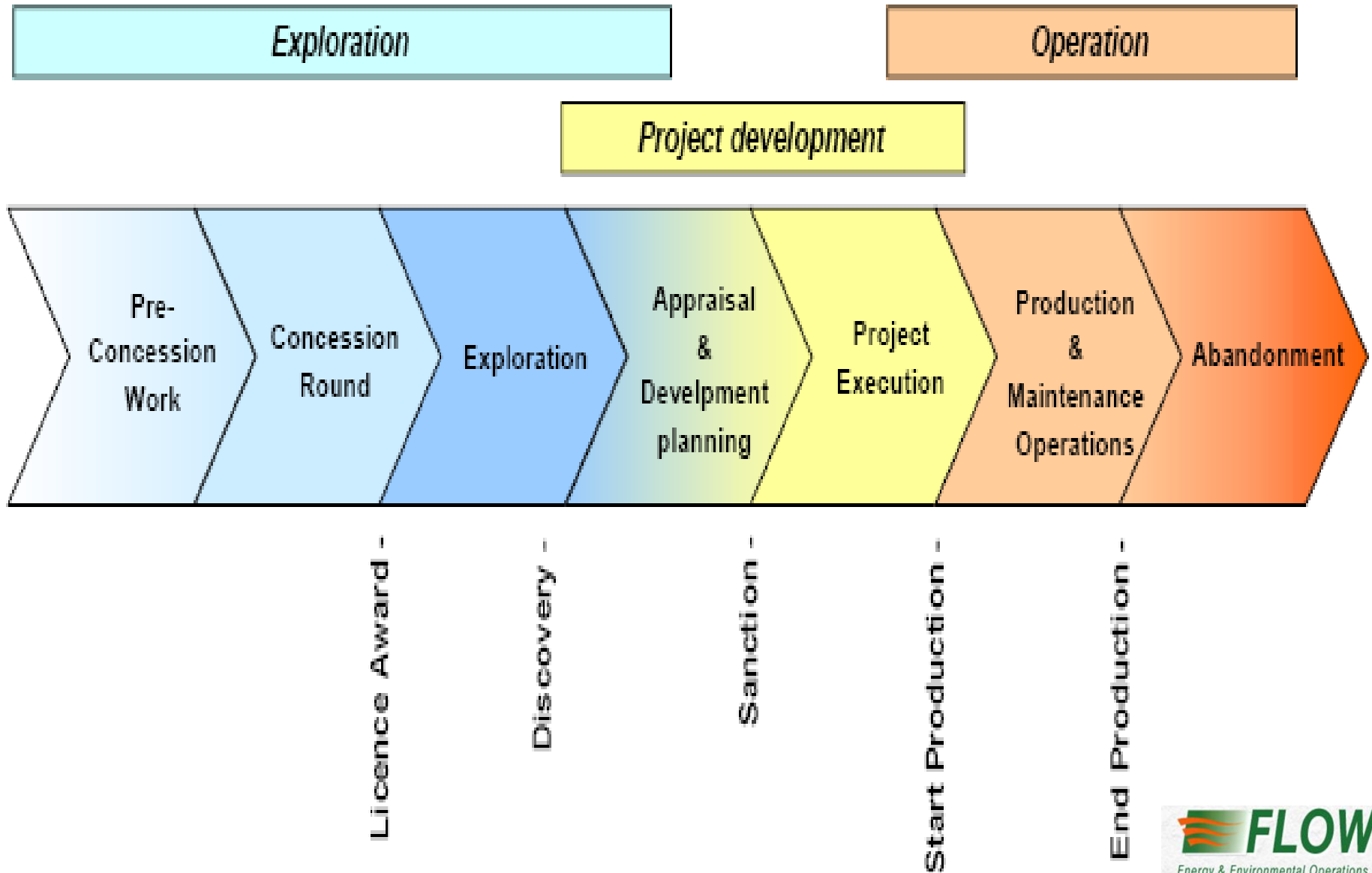
YPRUS-A : 8 tcf



Investment Structure for Exploration & Exploitation

| | |
|--|---------|
| EXPLORATION (GEOPHYSICS-EXPLORATION WELLS) | 10%-20% |
| DEVELOPMENT (PRODUCTIVE WELLS) | 50%-60% |
| FACILITIES (ΕΠΕΞΕΡΓΑΣΙΑΣ Υ/Α) | 10%-20% |
| TRANSPORTATION (PIPELINES-TERMINAL CONNECTION) | ~10% |
| ABANDONMENT | ~10% |

Stages of the Upstream Activity



Attract International Oil Industry

- Government has to design fiscal regime in order to maximize the value of revenues from oil and gas resources and at the same time to be competitive in the International and Regional Context (Government Take)
- Provide clear and detailed Terms in the Tender with a tight time-schedule
- Provide a clear proforma for potential investors to consider
- Create a climate for petroleum investment which would represent a fair balance between the State and the International Companies

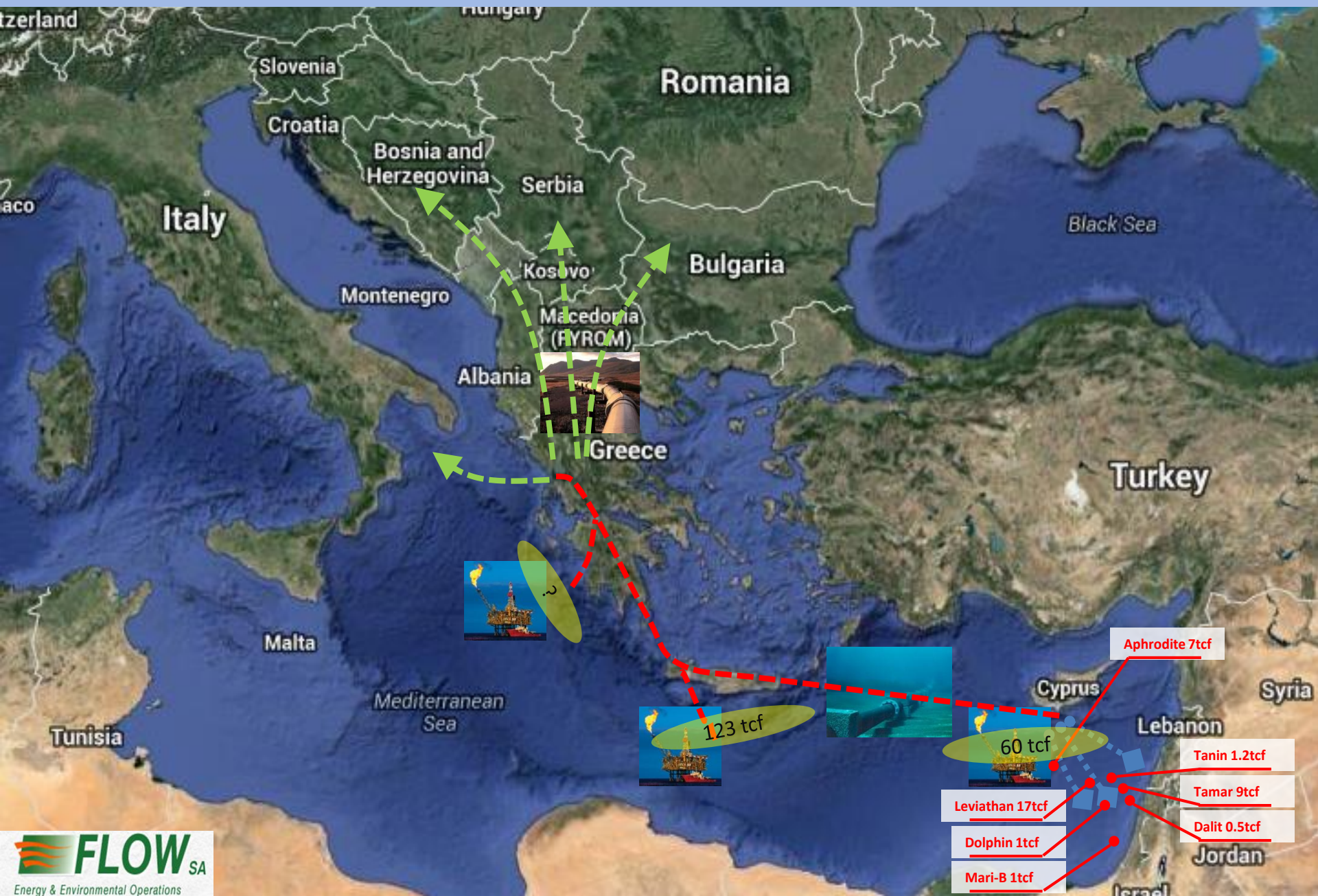
Critical Considerations

- Immediate selection of highly specialised experts in the sector in order to regain the confidence and trust of the potential Investors
- Further delay will result in severe loss of the last opportunity in achieving political stability and economic independency
- Failing in Contributing in the regional supply chain will result in geopolitical shrinkage and foreign weakness

Conclusions

- The USA supports the E.U.'s effort to diversify Europe's source of energy and to reduce dependence on Russia and Gulf. The export of part of the newly and future discovered Gas reserves in the eastern Mediterranean to Europe, when they come Onstream in sufficient quantity, would help achieve this goal.
- Apart from the potential of a new "South Corridor" of E.U. energy supply, the efficient exploitation of Greek Hydrocarbons potential, Unifies, Integrates and makes the further development of the whole region much more favorable in economic terms, providing the sufficient quantity for the region.
- Greece - Cyprus - Israel axis is the only long term sustainable and E.U. friendly force for development of energy exploitation in the Whole region, with economic and foreign policies aligned towards stability and interstate cooperation.

Gas Pipeline to Europe (South Corridor)



An offshore oil rig is shown at sunset or sunrise, with the sky and water in shades of orange and yellow. The rig's derrick is illuminated with red lights, and the platform has several bright lights. The text "Thank you" is overlaid in a white, italicized serif font.

Thank you

Questions.... ?