

# A Strategy for Unlocking Greece's Hydrocarbon Potential

## An IENE Study Project (M25)

### “Hydrocarbon Exploration and Production in Greece and the East Mediterranean”

IENE, Open Forum, June 10, 2015, Athens

#### Study Contributors

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## Scope of Study

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- ❑ To assess progress achieved so far in Greece's effort to "restart" hydrocarbon exploration following a 15 year hiatus.
- ❑ To identify, describe and estimate Greece's hydrocarbon oil and gas plays
- ❑ To analyse and understand the non technical obstacles involved which act as barrier to true progress
- ❑ To analyse and understand Greece's competitive advantage for hydrocarbon exploration and production
- ❑ To set realistic goals and describe how these can be effectively implemented
- ❑ To propose a cohesive strategy, a "Strategy for Success" for unlocking Greece's hydrocarbon potential

# Study Outline

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1. Executive Summary
2. Background
3. Overview of Greece's Existing Oil and Gas Infrastructure
4. Greece's Hydrocarbon Resources
5. Current Concessions and their Development Outlook
6. The Legal Framework
7. The 1st International Licensing Round
8. The 2nd International Licensing Round 2014/2015
9. The East Mediterranean and the Cyprus Connection
10. Non Technical Obstacles for Hydrocarbon Exploration and Production in Greece
11. Estimating Greece's Hydrocarbon Potential
12. A Strategy for Developing Greece's Hydrocarbon Resources
13. Key Messages
14. References

## Part A: Geology Infrastructure Rounds Concession

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- i. Overview of Greece's Existing Oil and Gas Infrastructure
- ii. Greece's Petroleum System
- iii. Current Concessions and their Development Outlook
- iv. The 1st International Licensing Round
- v. The 2nd International Licensing Round 2014/2015

# Petroleum System

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“The main Conditions for hydrocarbons existence”  
= **Co-Existence** of the following Elements

- SOURCE ROCKS (quantity, quality, maturity, migration)
  - RESERVOIR ROCKS (porosity, permeability)
  - TRAPS
  - SEAL ROCKS
  - APPROPRIATE GEOLOGICAL TIME
- 
- **Possibility Of Success (POS) %**



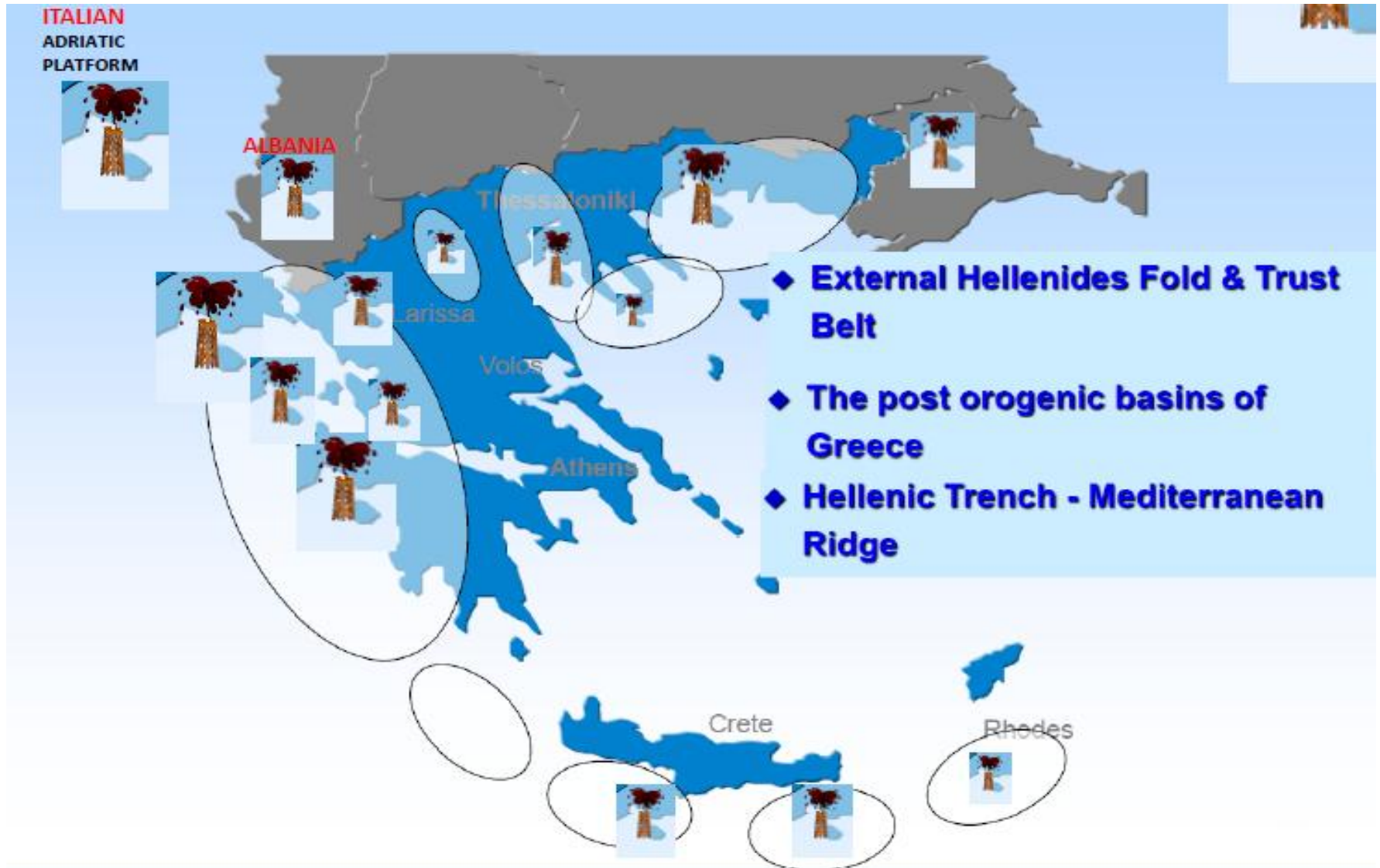
**Analogues ???**

## Conclusions

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The **answer** to the question whether or not Greece has any exploration and production potential for H/C, is definitely **positive**. This because there are **proven and active petroleum systems** in the alpine and Post-alpine basins of Western Greece, as well as, in the molassic and post-alpine tertiary basins of Eastern Greece, where source rocks, reservoirs, cap rocks, traps and proper geological and migration time **co exist**. The **active hydrocarbon seeps and shows** and **hydrocarbon discoveries**, found in both Western and Eastern Greece, attest to the existence of active hydrocarbon systems. Commercial exploitation of hydrocarbon accumulations in the Thracian Sea and in **analogues systems** to the ones of Greece, such as in Italy, Albania, Croatia, as well as discoveries in East Thrace in Turkey, all advocate to high hydrocarbon potential of the similar sedimentary basins of Greece.

# Oil Promising Areas in Greece



# Exploration Activity in Greece

<b>WELLS</b>					
INTERNATIONAL OIL COMPANIES	GREEK STATE + IFP	HELLENIC PETROLEUM	INTERNATIONAL OIL COMPANIES/ HELLENIC	PRINOS	TOTAL
1939-1974	1962-1967	1975-1995	1997-2002	1971-2009	
52	17	74 (*)	6	26	175 (**)
<b>SEISMIC PROGRAMS (in KM)</b>					
INTERNATIONAL OIL COMPANIES	HELLENIC PETROLEUM	INTERNATIONAL OIL COMPANIES/ HELLENIC	PRINOS	TOTAL	
1939-1974	1975-2000	1997-2002	1971-2009		
12200	53550 + 1 3D	2100	7765 + 2 (3D)		75615

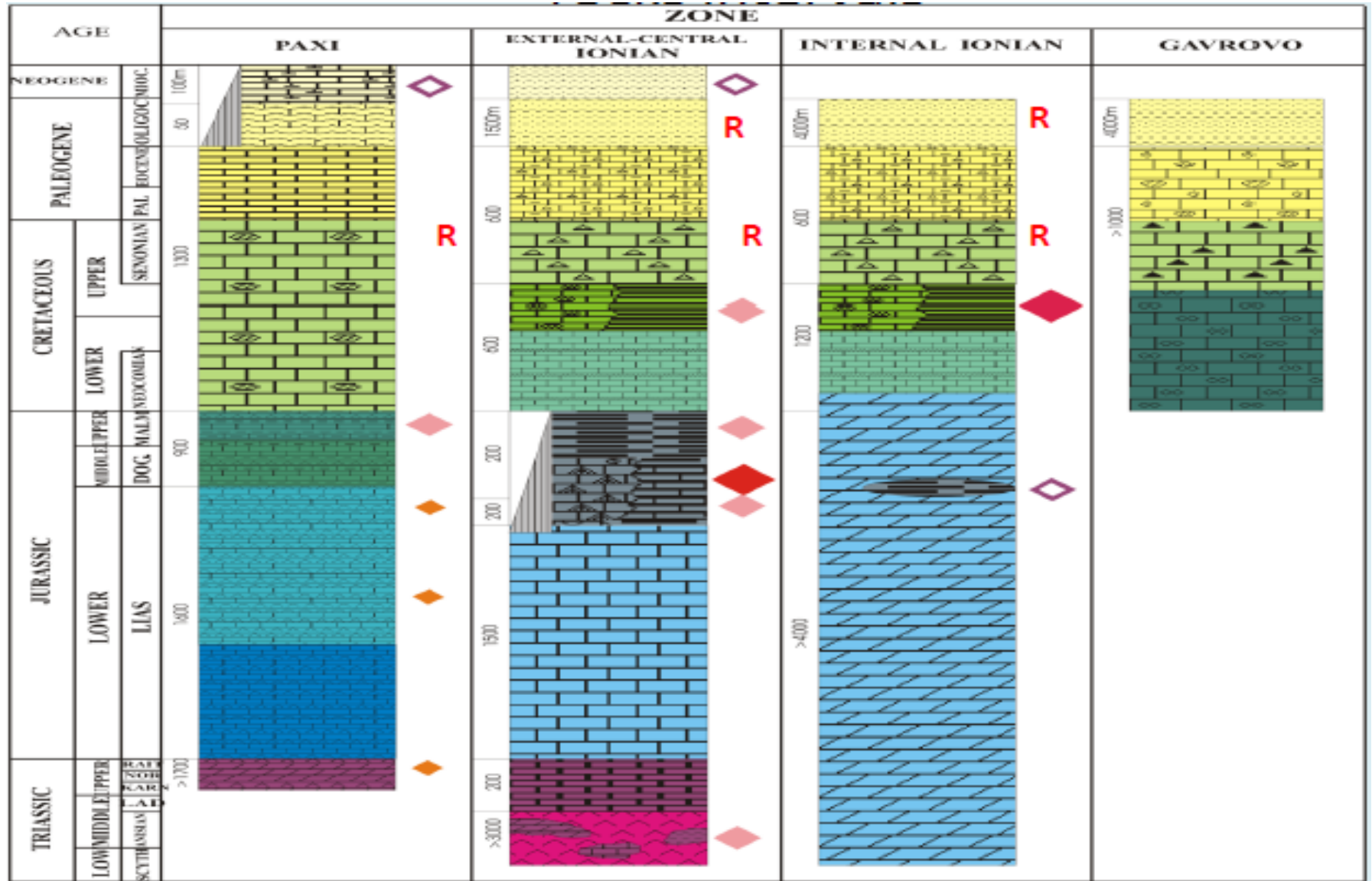
**(\*\*) 80% of the wells: off structure or very shallow depths, or with technical problems**



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# **Petroleum Systems and Analogues of Western Greece**

# Simplified lithostratigraphic columns with main reservoir & source rocks intervals

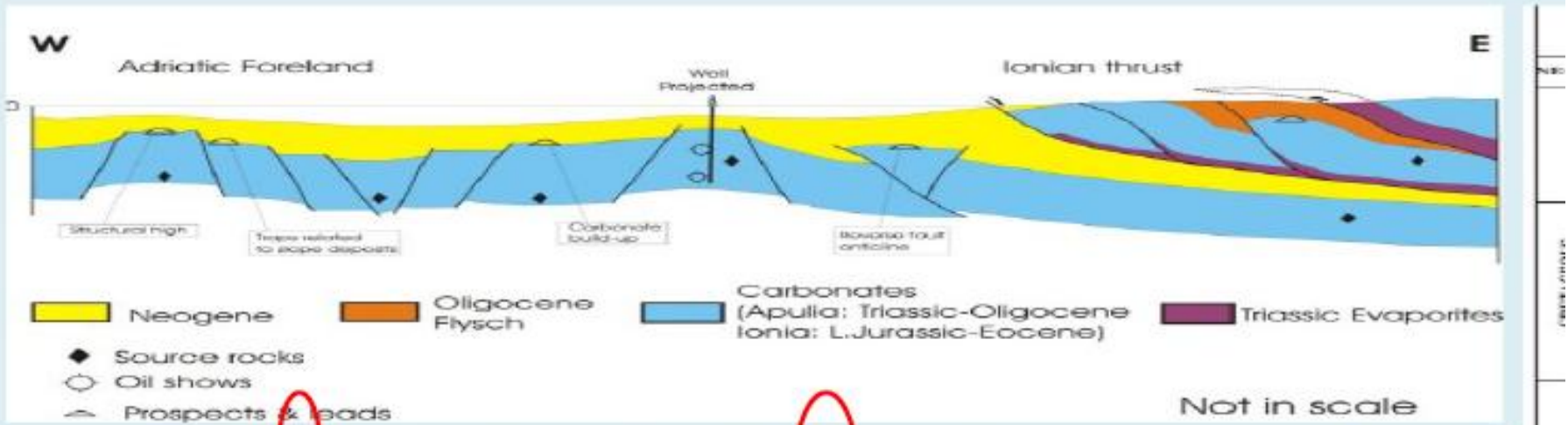


SOURCE ROCK CHARACTERISATION

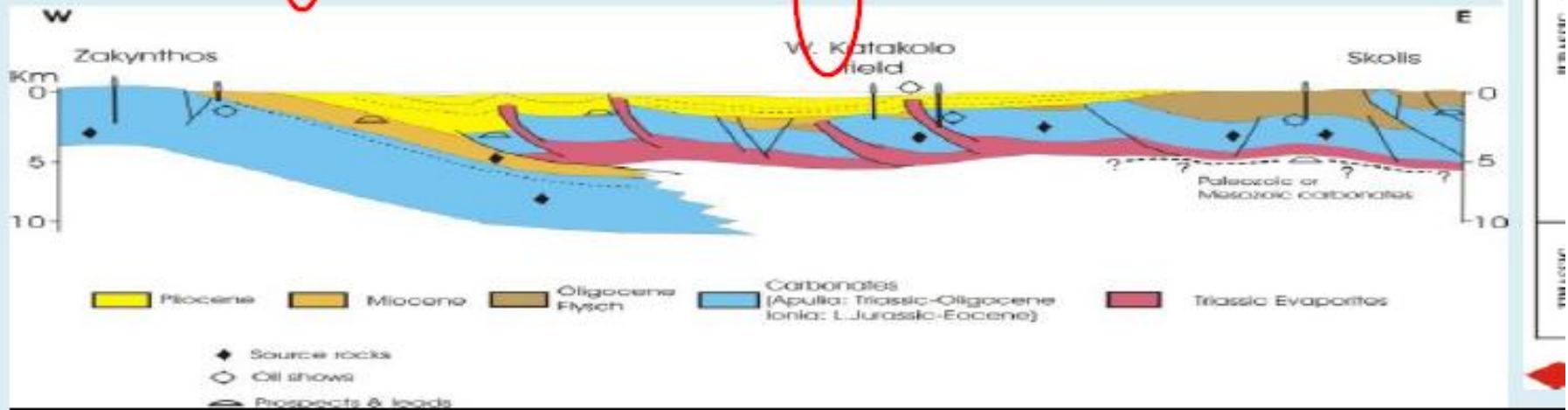
◆ VERY PROSPEROUS   
 ◆ PROSPEROUS   
 ◆ FAIR   
 ◆ POSSIBLE (EXPECTED)

# Ionian Sea: Geological cross sections with play concepts

## Northern Ionian cross section and potential plays



## Central Ionian cross section and potential plays



# Oil and Gas Seeps in Western Greece

Zakynthos Herodotus,  
480 b.C.



Katakolon "Volcano"  
1976



Katakolon "Volcano"  
2004



Dragopsa -Epirus



Smolitsas - Epirus

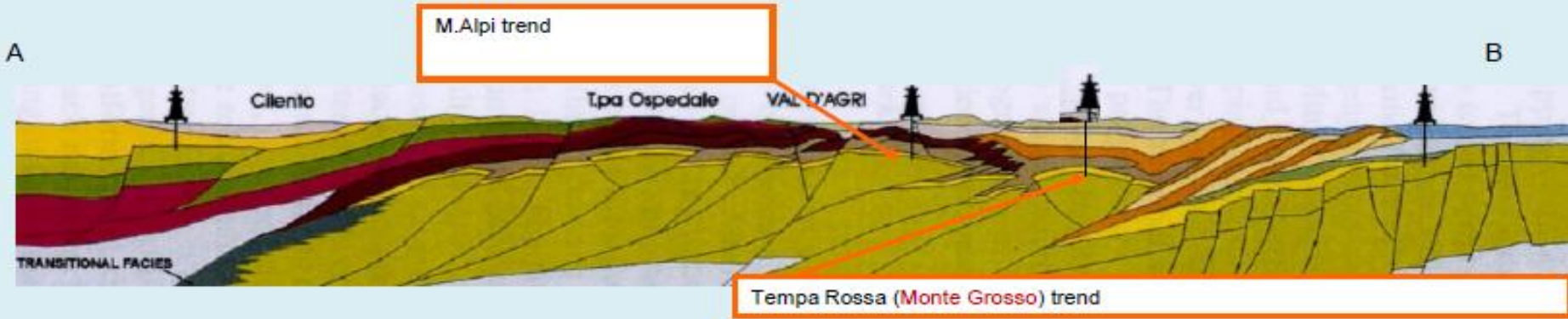
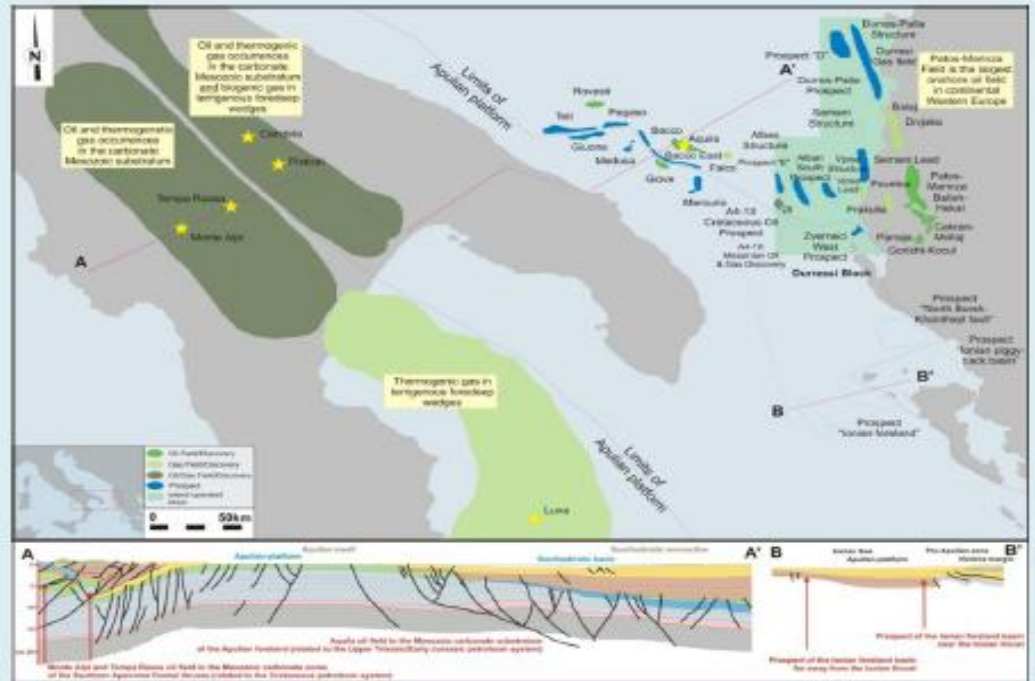


Loutra Kyllinis

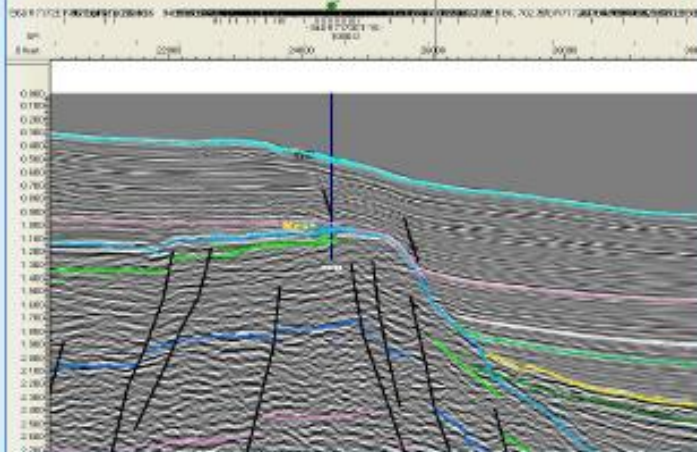


Exploration initially focused on onshore areas in W. Greece driven by oil seepages

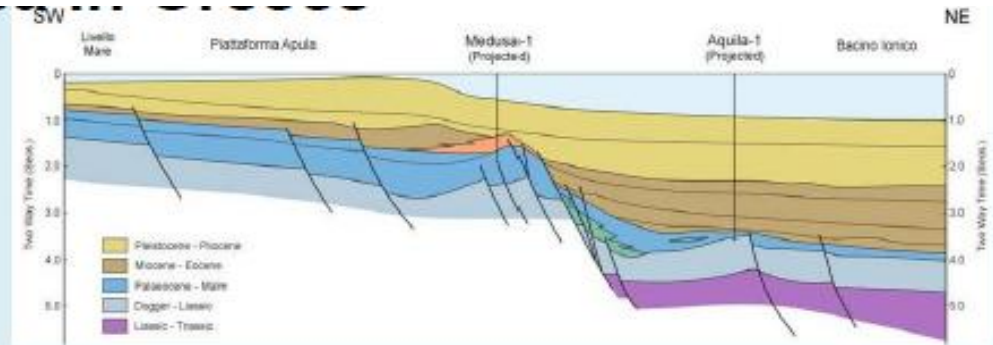
# H-C fields in Italy and Albania



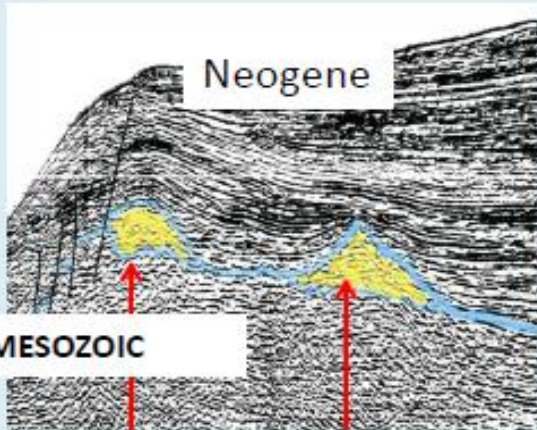
# Analogue: South Adriatic in Italy and North Ionian Sea in Greece



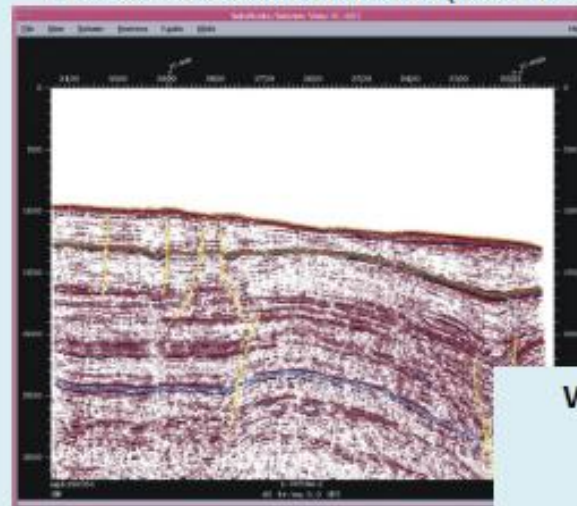
**Carbonate platform margin "build-ups" in the Adriatic Sea in ITALY**



1. Platform margin build-ups (Giove, Medusa discoveries)
2. Pelagic Carbonates -Paleo-structures (Rovesti discovery / Aquila field)
3. Proximal Talus Slope Play
4. Platform Rotated Fault Blocks (Cretaceous/Jurassic)
5. Distal Calcareenite Turbidites (re-sedimented platform carbonates –



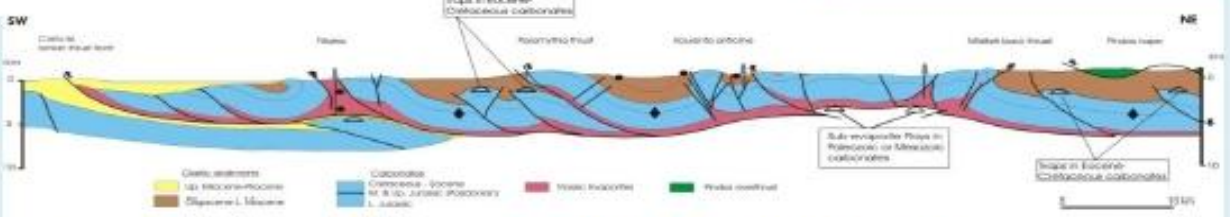
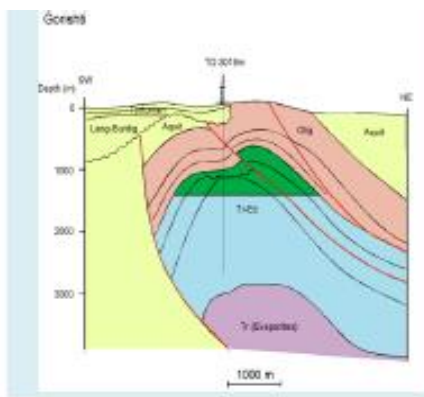
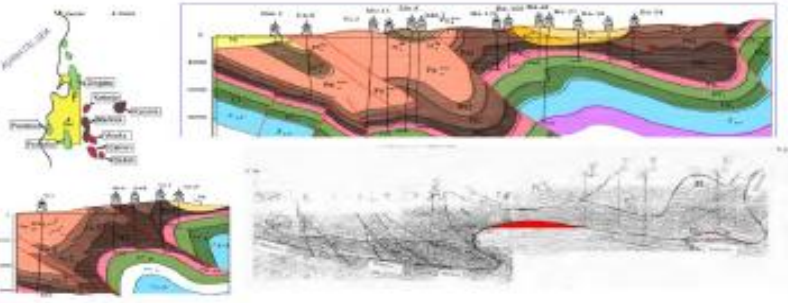
**West Lefkas - Reefal build-ups In Greece**



**West CORFU: Faulted Block (possible "paleo-high") N-S directed seismic line**

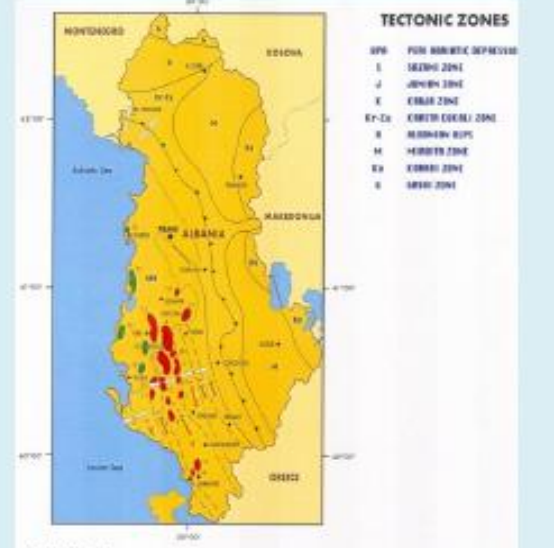
# Analogues in Albania (Oil & Gas Fields)

## ALBANIA BALLSH - HEKAL OIL FIELDS



Western Greece Cross Section

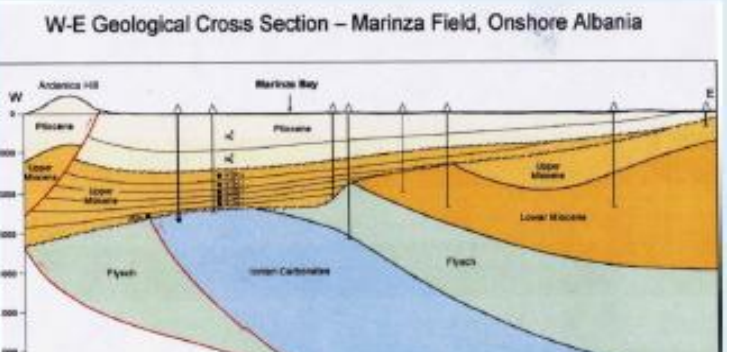
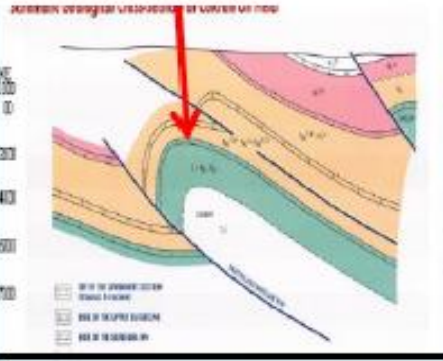
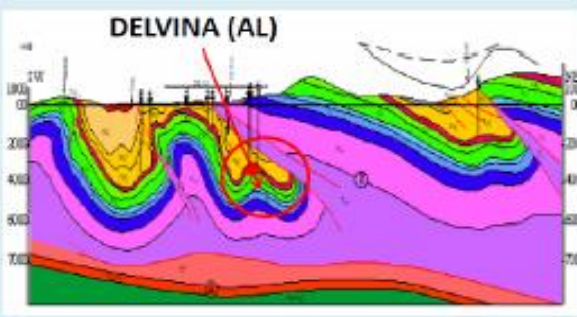
- ◆ Source rock - Posidonian beds
- Oil shows
- ⊕ Prospects & leads



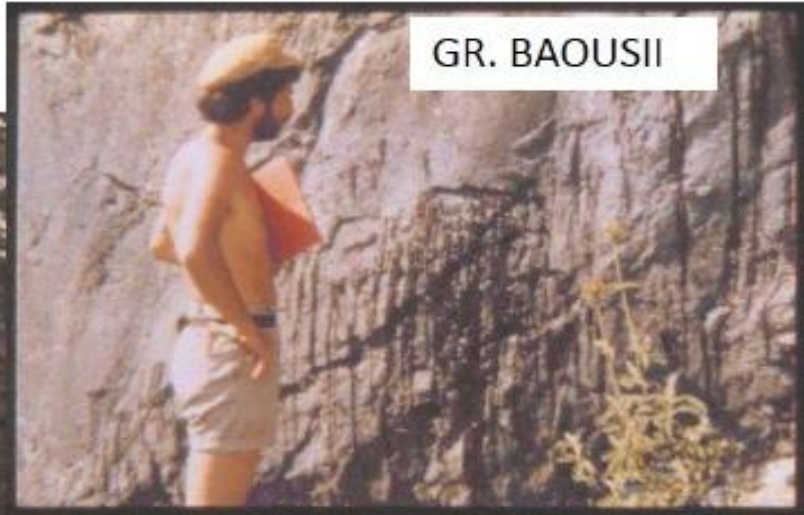
**TECTONIC ZONES**

SPB	PUN BALKANIC DEPRESSION
I	SHKËRBI ZONE
J	JONIAN ZONE
K	KORÇË ZONE
EX-EX	EARTH COLLAPSE ZONE
R	MORPHO RIFT
M	MURRETI ZONE
EX	KORÇË ZONE
S	SHKËRBI ZONE

- OIL & GAS FIELDS**
1. Andromeda (C<sub>1</sub>, P<sub>1</sub>, P<sub>2</sub>)
  2. Hekal (C<sub>1</sub>, P<sub>1</sub>, P<sub>2</sub>)
  3. Ballsh (C<sub>1</sub>, P<sub>1</sub>, P<sub>2</sub>)
  4. Petro-Hekal (C<sub>1</sub>, P<sub>1</sub>, P<sub>2</sub>)
  5. Mëllor-Cakran-Enxhet (C<sub>1</sub>, C<sub>2</sub>, P<sub>1</sub>, P<sub>2</sub>, P<sub>3</sub>, P<sub>4</sub>, P<sub>5</sub>, P<sub>6</sub>, P<sub>7</sub>, P<sub>8</sub>, P<sub>9</sub>, P<sub>10</sub>)
  6. Gjeçal (C<sub>1</sub>, C<sub>2</sub>, P<sub>1</sub>, P<sub>2</sub>)
  7. Gjeçal (C<sub>1</sub>, P<sub>1</sub>, P<sub>2</sub>)
  8. Gjeçal (C<sub>1</sub>, C<sub>2</sub>, P<sub>1</sub>, P<sub>2</sub>)
  9. Anxhet (C<sub>1</sub>, P<sub>1</sub>, P<sub>2</sub>)
  10. Drenova (C<sub>1</sub>, P<sub>1</sub>, P<sub>2</sub>)
  11. Shkërb (P<sub>1</sub>, P<sub>2</sub>)
  12. Petro-Morina-Butorinë (P<sub>1</sub>, P<sub>2</sub>, P<sub>3</sub>, P<sub>4</sub>, P<sub>5</sub>, P<sub>6</sub>, P<sub>7</sub>, P<sub>8</sub>, P<sub>9</sub>, P<sub>10</sub>)
  13. Kucina (P<sub>1</sub>, P<sub>2</sub>, P<sub>3</sub>, P<sub>4</sub>, P<sub>5</sub>, P<sub>6</sub>, P<sub>7</sub>)
- GAS FIELDS**
14. Rinas (P<sub>1</sub>, P<sub>2</sub>)
  15. Fshat (P<sub>1</sub>, P<sub>2</sub>)
  16. Drenova (P<sub>1</sub>, P<sub>2</sub>)
  17. Drenova (P<sub>1</sub>, P<sub>2</sub>)
  18. Rinas (P<sub>1</sub>, P<sub>2</sub>)
  19. Drenova (P<sub>1</sub>, P<sub>2</sub>)
- TARSAND FIELDS**
20. Kucina (P<sub>1</sub>, P<sub>2</sub>)
  21. Kucina (P<sub>1</sub>, P<sub>2</sub>)



# Albania/Greece oil seep in Eocene limestone of the Ionian zone



GR. BAOUSII





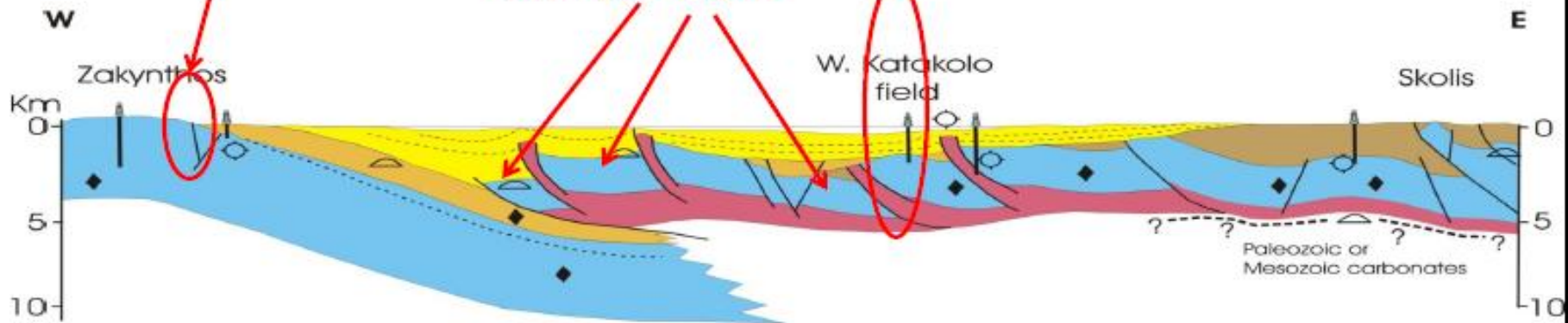
# West Katakolon discovery and analogue plays



SYNTHETIC CROSS SECTION

Alykes Asphalt field

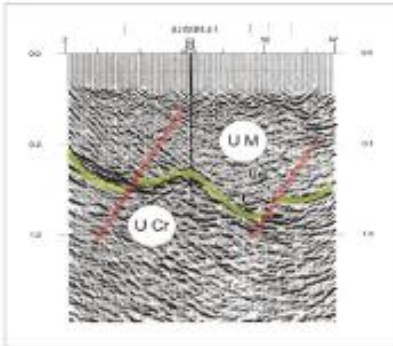
Analogue targets



- Source rocks
- Oil shows
- Prospects & leads

# Zakynthos: Alykes asphalt discovery and Herodotus oil seep

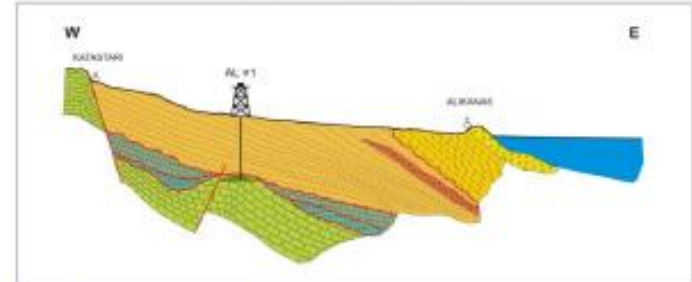
WELL ALIKES#1  
SEISMIC LINE 1



LEGEND  
UM UPPER MIOCENE  
UC UPPER CRETACEOUS

K. NIKOLAOU, 1998

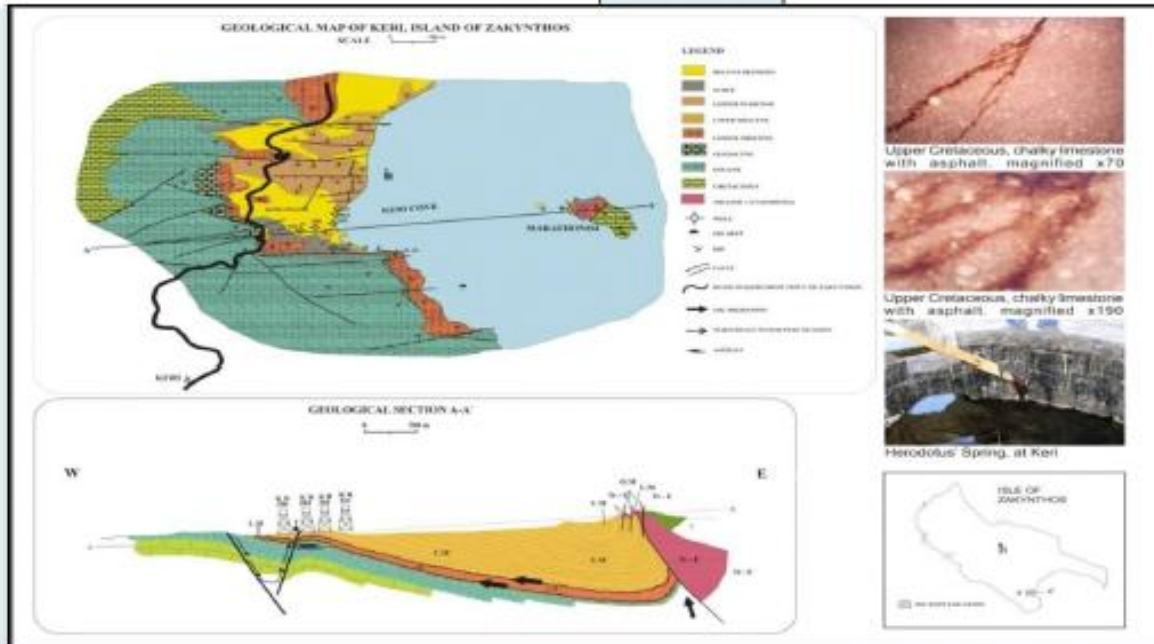
GEOLOGICAL INTERPRETATION OF SEISMIC LINE NO 1  
ALIKES#1 WELL AT ZANTE



LEGEND

FLOCCINESSHISTONES	LOWER MIOCENE-OLIGOCENE EARLY LIMESTONES (MFL CHALK)
FLOCCINESSHISTONES	EOCENE-PALEOCENE (MFL) AND EOCENE OVER PREEOCENE, USUALLY OVERSTURCHED
UPPER MIOCENE EARLY CLAYE OPHRUD	CRETACEOUS (1) SARTONIAN: LIGHT BROWN, SUBSTROMATIC LIMESTONES, INTERCALATED WITH WHITE CHALK LIMESTONES, AT TIMES WITH THE GRAYED ORES
ASPHALT	CRETACEOUS (2) CANTARIN/MASTROCIPIAL: WHITE, SMALLER LIMESTONES WITH MARLS AND GLOSTROCHIASAL MARLS

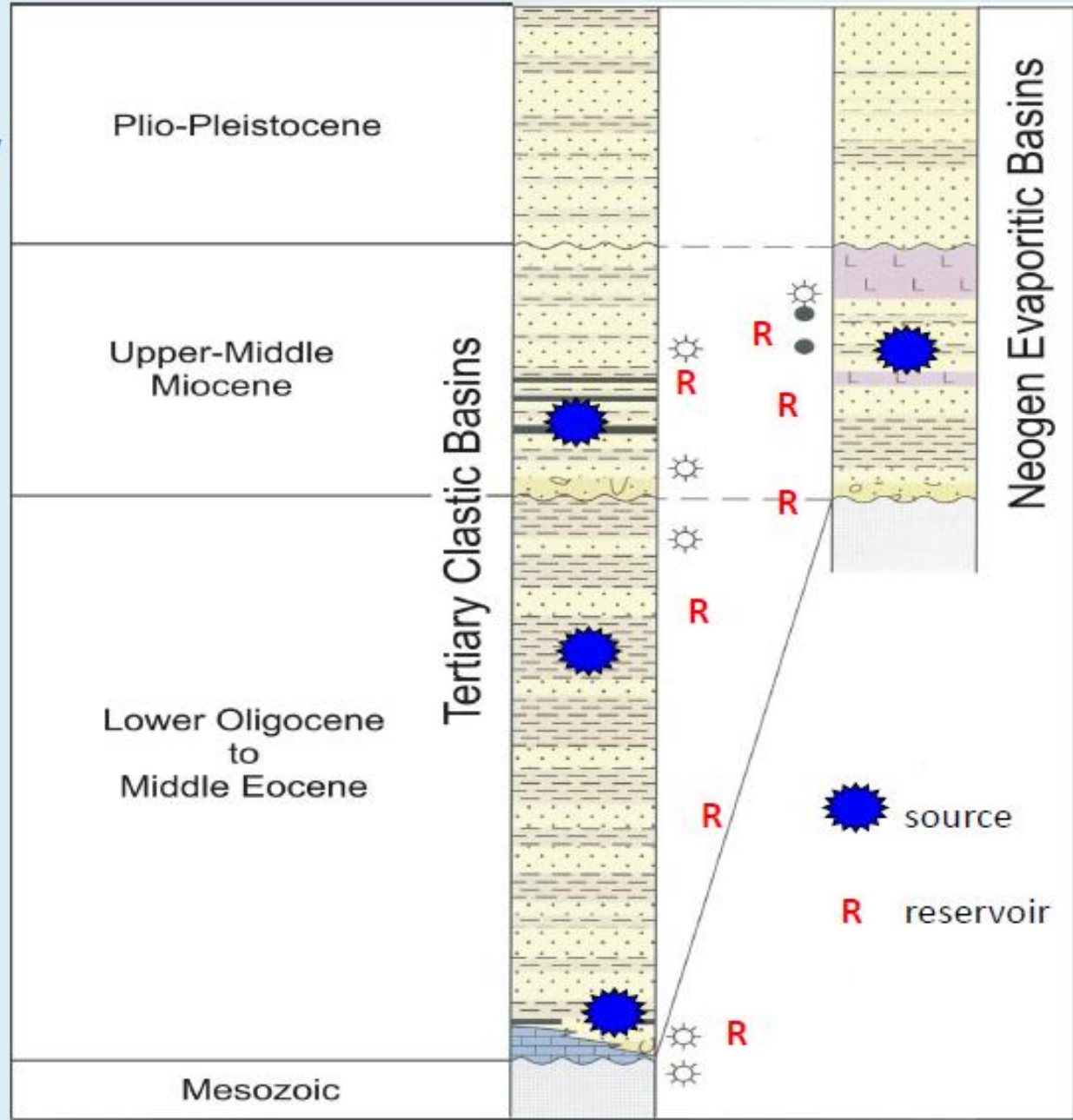
K. NIKOLAOU, 1998



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# **Petroleum Systems and Analogues of Eastern Greece**

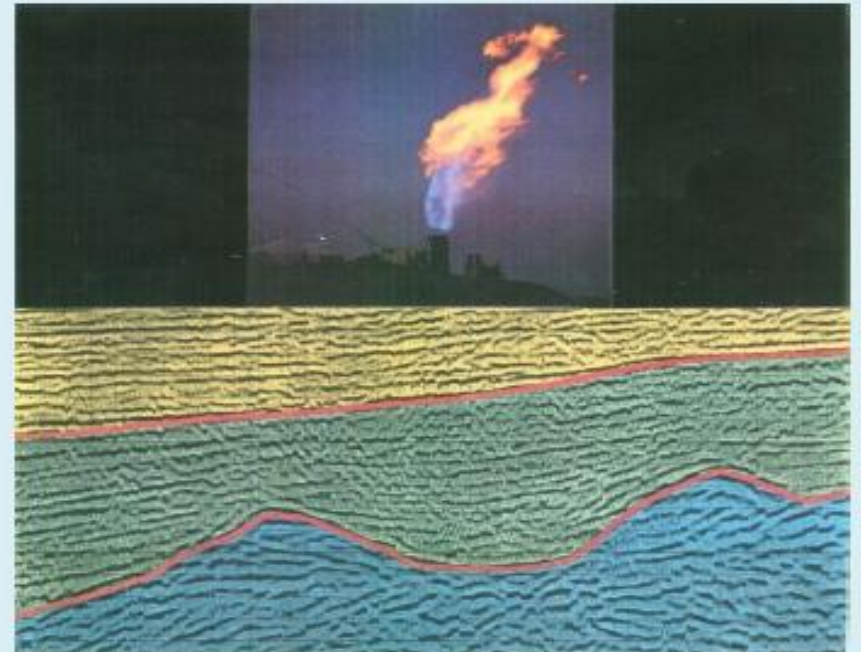
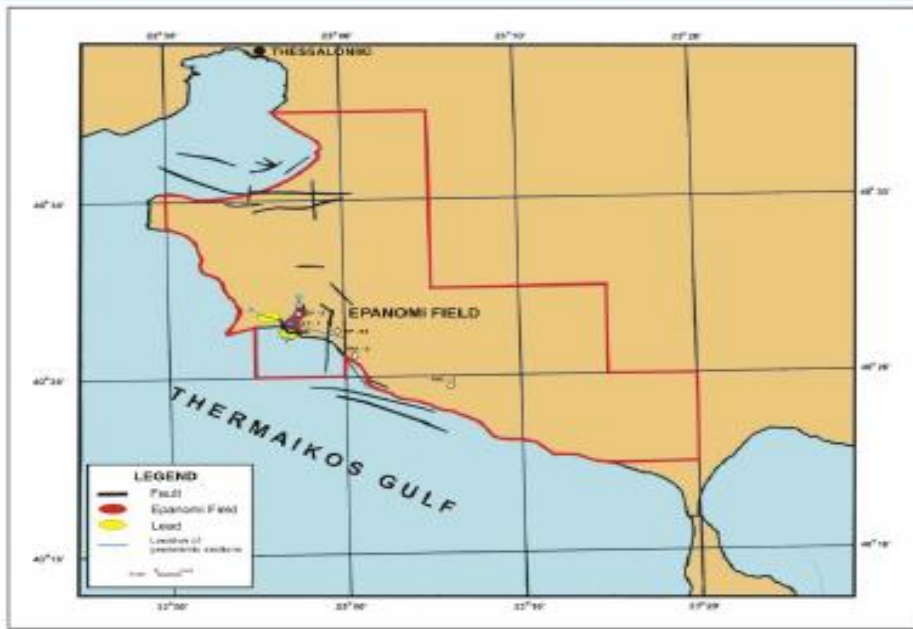
# Stratigraphy & source and reservoir Rocks Position of Eastern Tertiary Basins



# Analogues in Eastern Thrace in Turkey



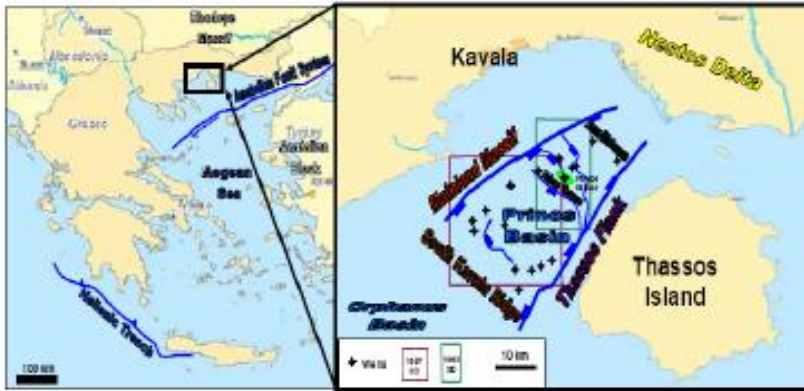
# Epanomi gas discovery



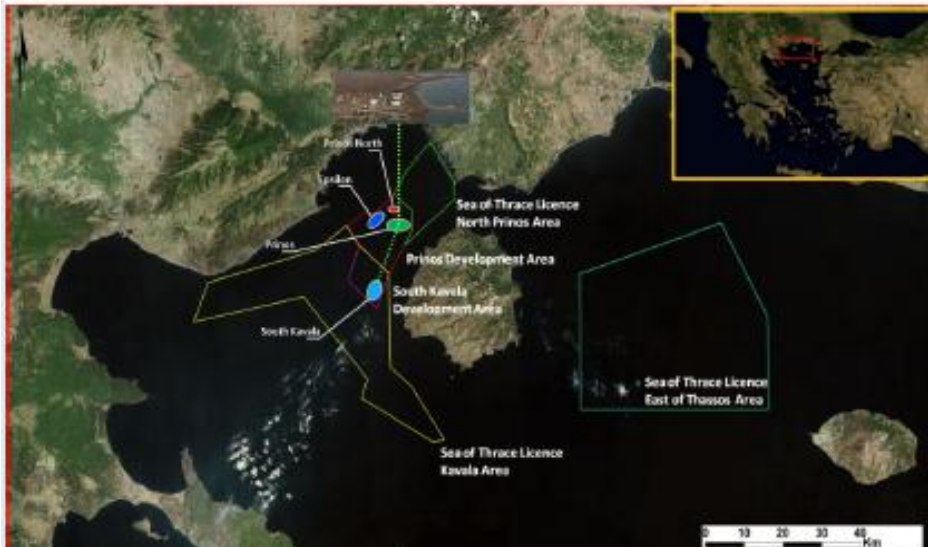
- distance of about 30 km from Thessaloniki.
- Two wells have been drilled.
- Gas was tested from a gas bearing zone at a depth from 2600 to 2800 m.
- Reservoir rock is a fractured Mesozoic limestone.
- The trap is a buried paleo-high

# Prinos – South Kavala basin

Figures:



1: Prinos Basin Location Map, Tectonic Elements, Wells and 3D Seismic Coverage



# GR: Hydrocarbon fields and discoveries

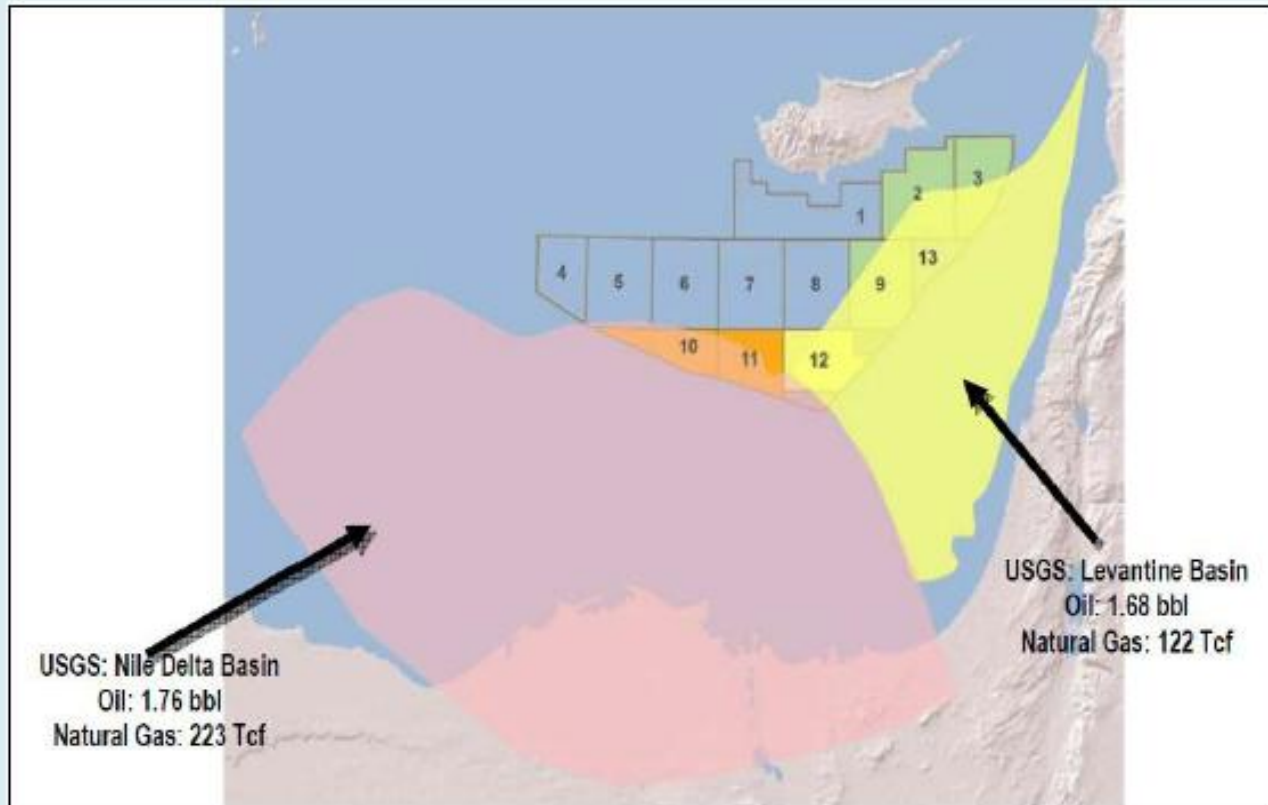
- PRINOS (oil field) Thracian Sea **(Still in Production)**
  - SOUTH KAVALA (gas field) - Thracian Sea **(depleted, to be converted to UGS ?)**
  - NORTH PRINOS (oil field)-Thracian Sea **(Still in Production)**
  - EPSILON (oil field)- Thracian Sea **(to be developed)**
  - EPANOMI (gas field)- Chalkidiki **(contingent resources)**
  - WEST KATAKOLON (oil field)- Ionian Sea **(contingent resources)**
  
  - ALYKES(Asphalt discovery) – Zakynthos
  - Athos (oil discovery)- Thracian Sea
  - AMMODIS (Heavy Oil Discovery)- Thracian Sea
  - EAST THASSOS (Heavy Oil Discovery )-Thracian Sea
- TECHNICAL DISCOVERIES**  
**(contingent resources)**
- Interesting biogenic gas accumulations were discovered while drilling Neogene layers.
  - More than 200 oil /gas shows on surface or in wells



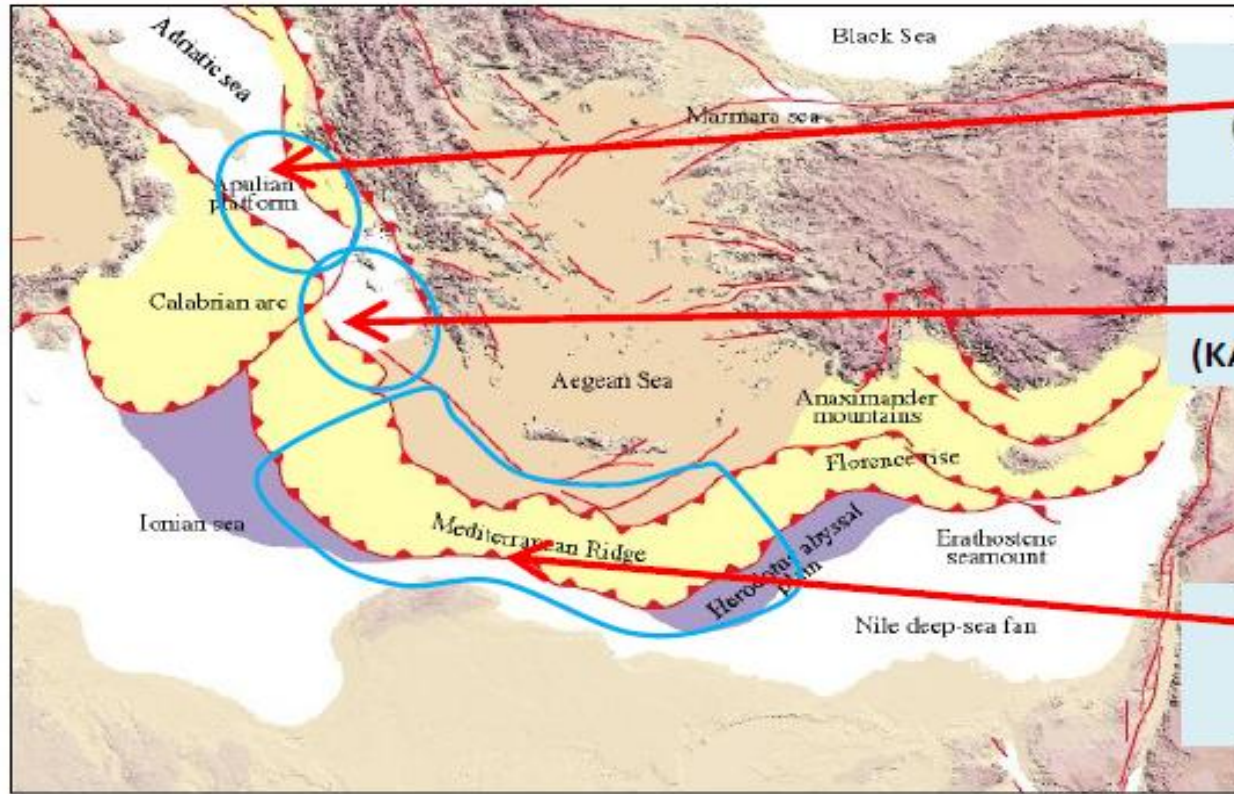
# The Area South of Crete

# Assessment of resources in SE Mediterranean

- According to US Geological Survey (USGS) the Levantine Basin potentially holds about 122 tcf of natural gas and 1,68 bil. bbl of oil and the cone of the Nile and Herodotus basin 223 Tcf of gas and 1,76 bil. bbl of oil.



# Tectonic Sketch of Eastern Mediterranean



**NORTH IONIAN SEA  
(SOUTH ADRIATIC/APULIAN  
PLATFORM)**

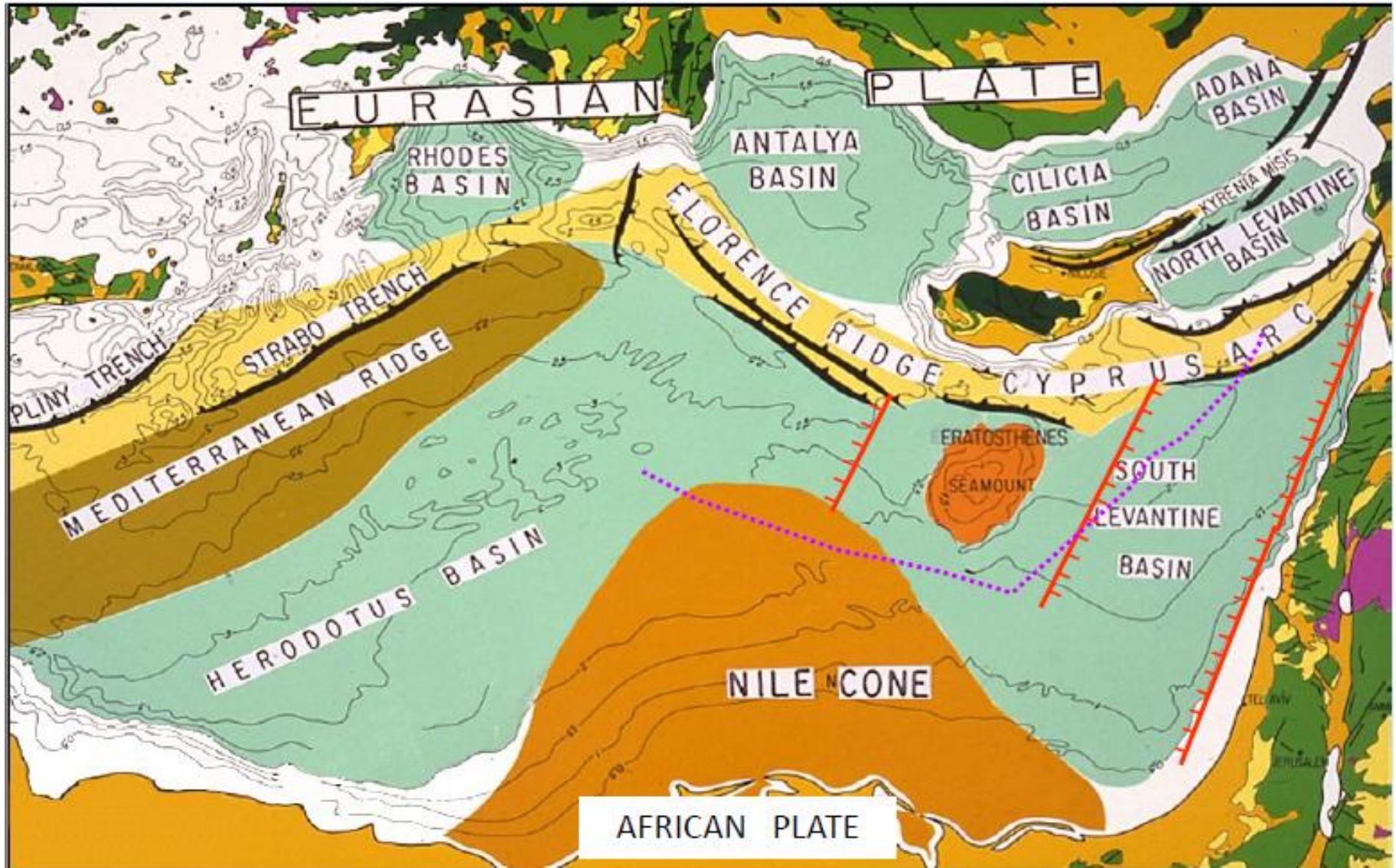
**CENTRAL IONIAN SEA  
(KATAKOLON - PATRAIKOS GULF)**

**SOUTH IONIAN and  
SOUTH CRETE AREA  
???**

 Post-orogenic basins	 Neogene oceanic crust	 Thrust
 Neogene shortening	 Mesozoic oceanic crust	 Fault

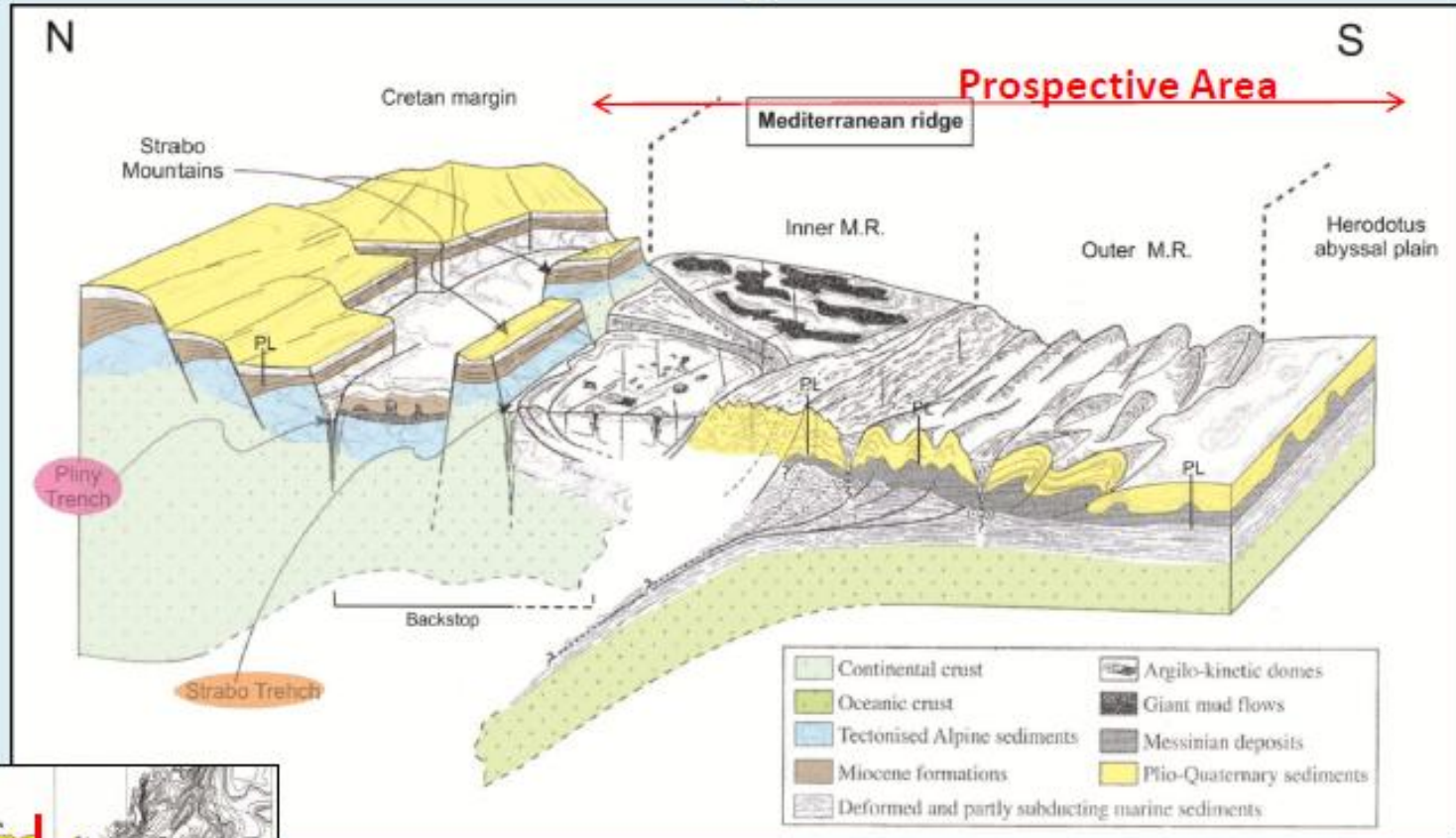
*Tectonic sketch of the Eastern Mediterranean  
(adapted from Barrier, E., Chamot-Rooke, N. and Giordano, G., 2004,  
Geodynamic Map of the Mediterranean, Commission for The Geological Map of the World, CCGM)*

# East Mediterranean basins



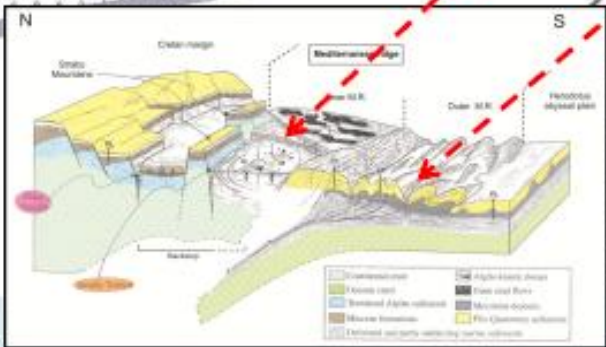
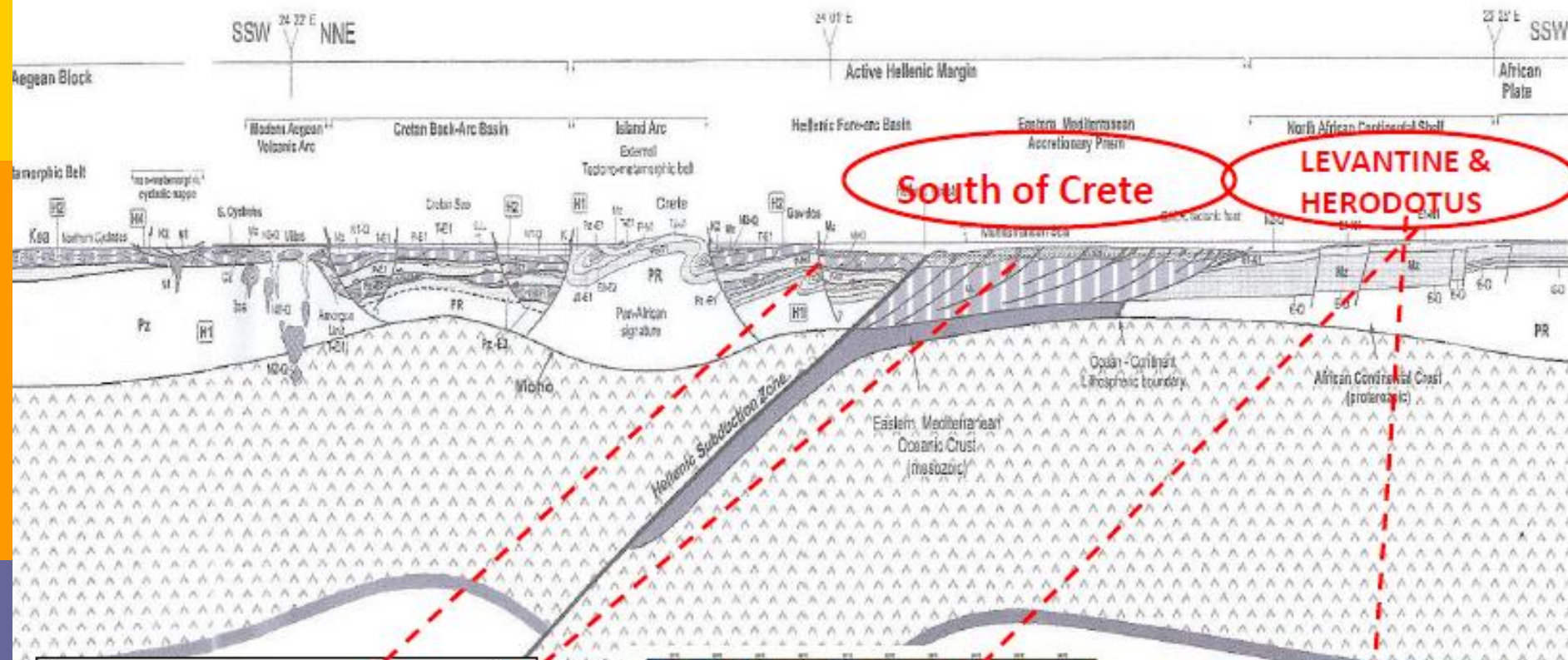
# Greece: Exploration potentiality of Southern Crete

## General Geological Model



Huguen et al (2001)

# Eat Mediterranean and plate tectonics



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# **Restarting the E&P in Greece, in 2011**

# Active lease agreements in Greece (2014)





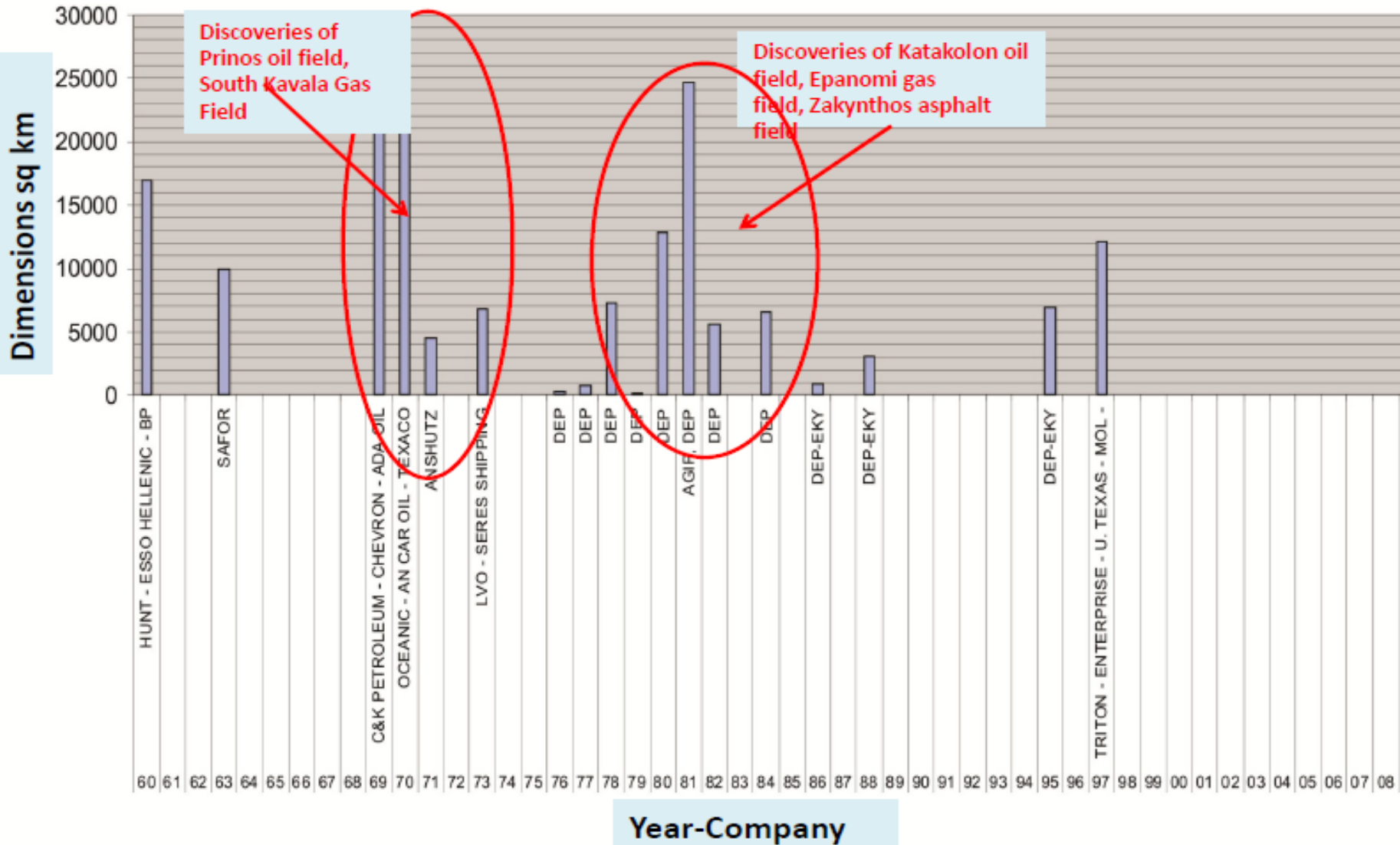
# 2014: New onshore round in Western Greece



# Greece Mega Project – 20 different blocks



# Lessons from the past



# The Legal Framework

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**(1) Law 2289/1995**

The “Hydrocarbons Law”, which transposed the EU legal regime (EU Directive 94/22/EC)

**(2) Law 2321/1995**

Ratification of the Convention on the Law of the Sea

**(3) Law 4001/2011**

Greece’s basic “Energy Law” which among others covers the hydrocarbon exploration and production sector

**(4) Presidential Decree 14/2012**

For the setting up of the state company “Hellenic Hydrocarbons Resource Management S.A.” (EDEY S.A.)

**(5) 2013/30/EC**

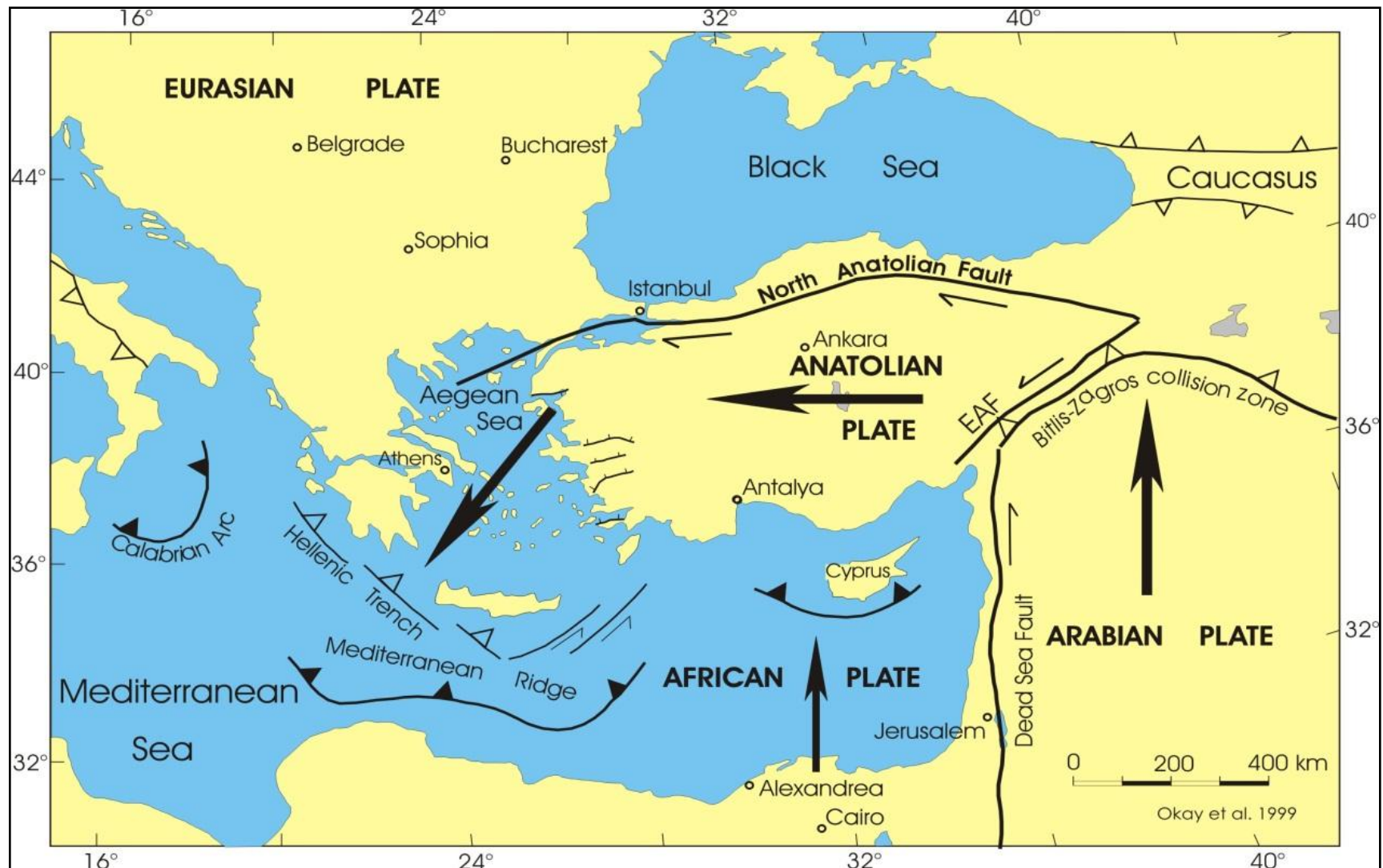
Offshore Safety Directive

## Part B: Hydrocarbon Potential, Non Technical Obstacles, Strategy

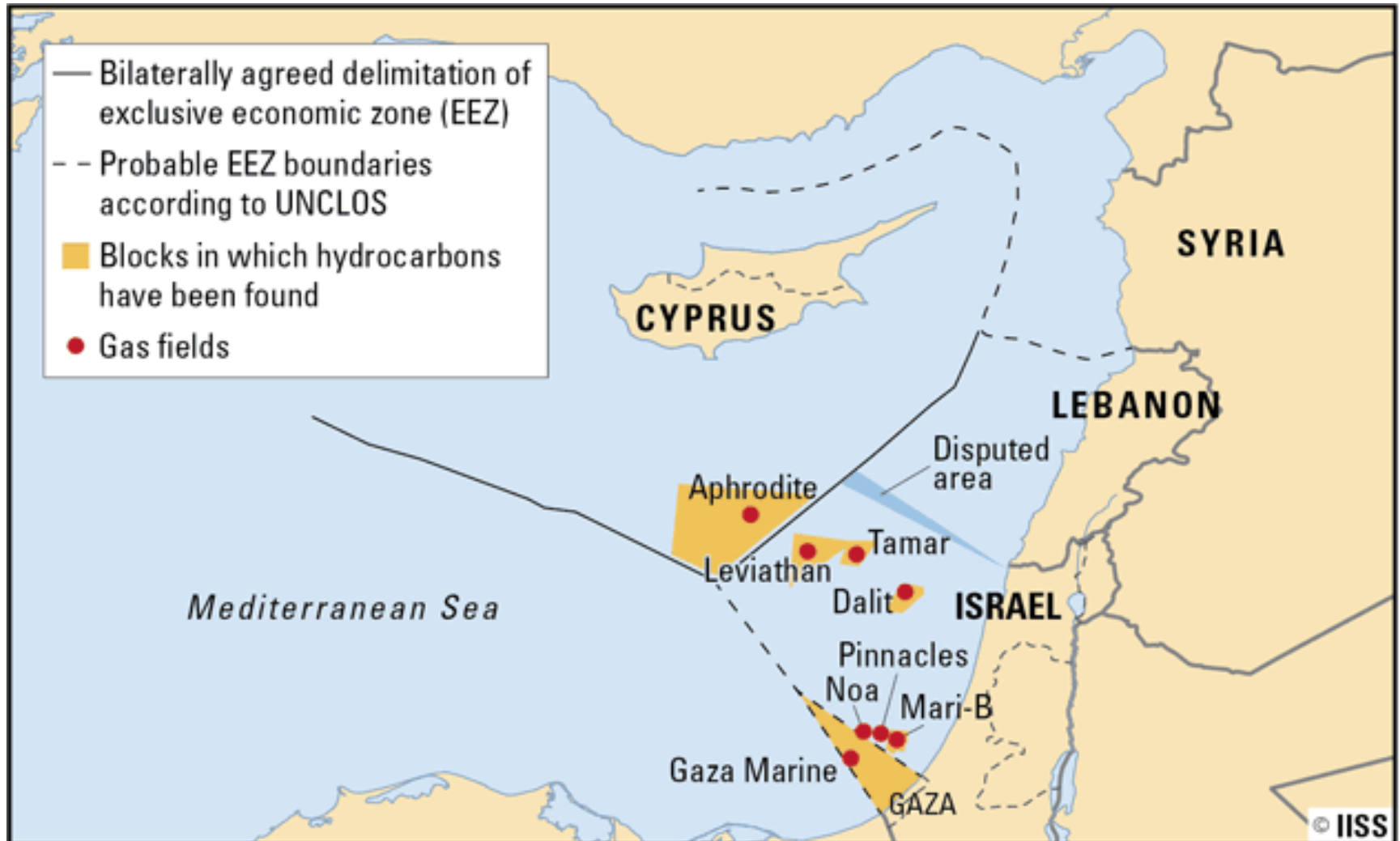
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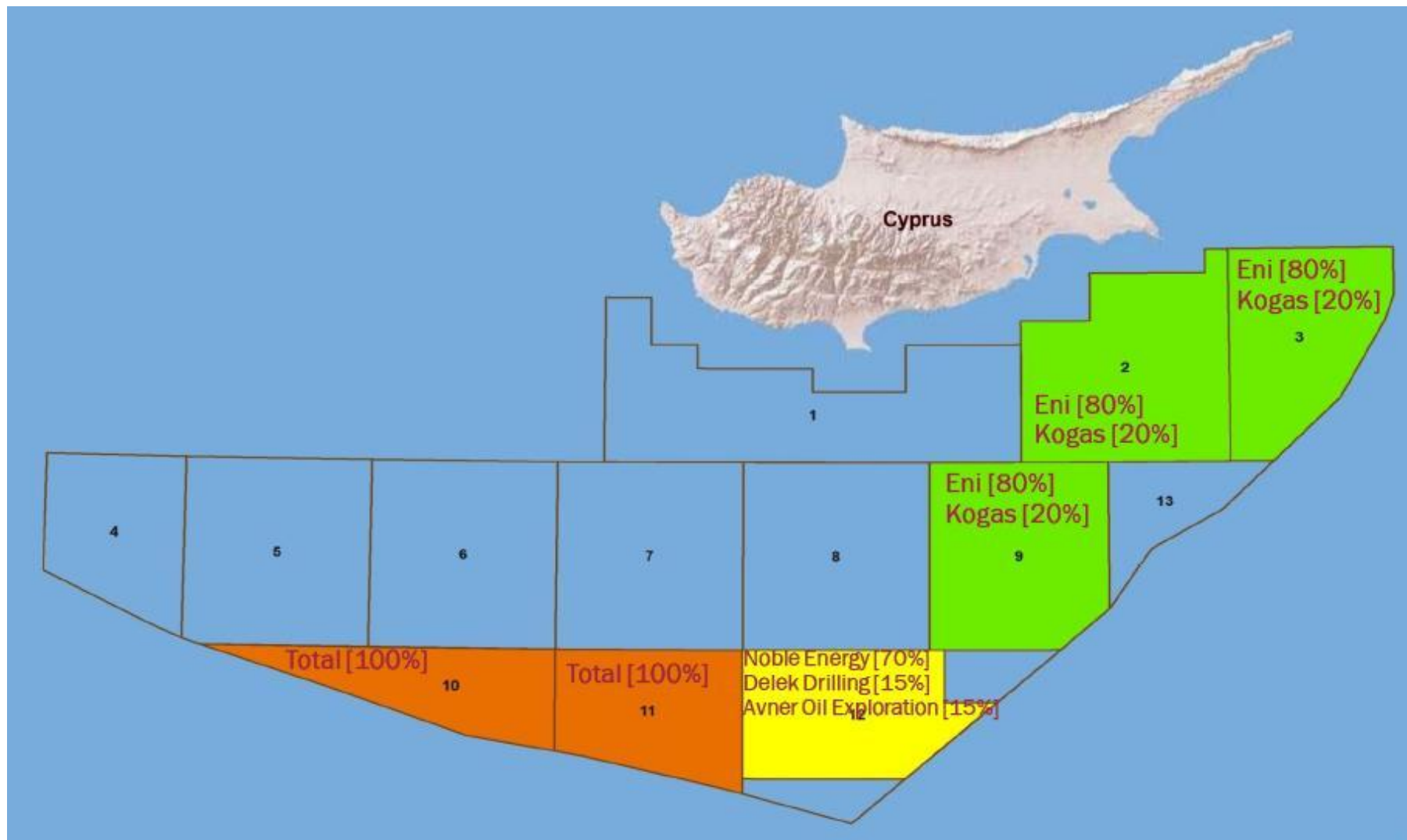
# The Eastern Mediterranean Sea tectonics. (after Okay et al. 1999)



# Eastern- Mediterranean Gas Fields



# Hydrocarbon Activities in Offshore Cyprus

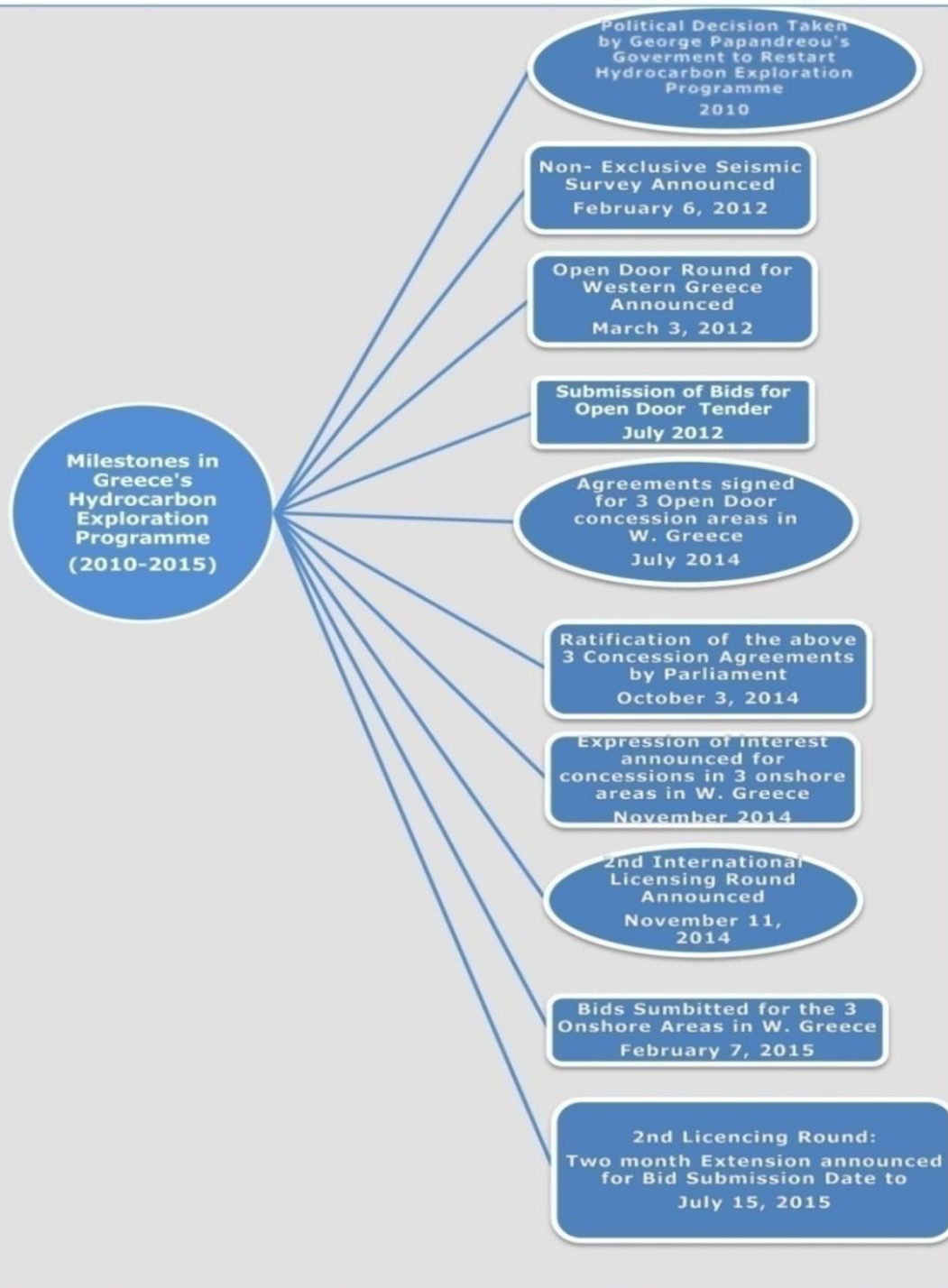




# Non Technical Obstacles for Hydrocarbon Exploration and Production in Greece

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- ❑ Chronic negative sentiment by large segment of the population against industrial development, save tourism (which alas is not an industry)
- ❑ Widespread phobia by many local communities in tourist areas
- ❑ Mild environmental group opposition on account of possible oil seepage and spills
- ❑ Red tape and lack of resources at Ministry and local community level
- ❑ There is a serious “disconnect” between the country’s economic and energy targets and commitment to develop hydrocarbon resources



## Milestones in Greece's Hydrocarbon Exploration Restart

# The Unfolding of Licensing Rounds and Concession Activity in Greece 2014-2018



# The Role of EEZ in Greek Hydrocarbon Exploration

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- ❑ As a substantial part of Greece's estimated oil and gas potential is to be found offshore the adoption of an Economic Exclusion Zone (EEZ) is of paramount importance
- ❑ EEZ is defined in the context of UNCLOS
- ❑ EEZ can be adopted for different sea zones of the country on a step by step basis
- ❑ EEZ is necessary as it safeguards the specified sea blocks within which exploration and production activities take place
- ❑ In its call for tenders for the 2<sup>nd</sup> International Licensing Round the Greek government officially announced the detailed co-ordinates of all sea blocks thus defining the outer boundaries of its EEZ for this part of its sea area (i.e. Ionian and South Crete)

# The Offshore Area in West Greece and South of Crete which has been Designated for Hydrocarbon Exploration with Outward Limits Drawn according to UNCLOS Provisions



## A Strategy for Success

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Successful strategies share four common factors:

- i. The objective appraisal of resources
- ii. A profound understanding of the competitive environment
- iii. Setting goals which are consistent and long term
- iv. Effective implementation



Field	Date	Company	Estimated reserves or resources ( in million barrels )	Category
East Thassos I	1971	Oceanic-Colorado	350.0 In place	Contingent resources Heavy oil
East Thassos II	1971	Oceanic-Colorado	80.0 In place	Prospective resources
Babouras	1971 /72	Oceanic-Colorado	150.0 In place	Prospective resources
Stavros	1971 /72	Oceanic-Colorado	122.in place	Prospective resources
NikeI	1971 /72	Oceanic-Colorado	60.0 In place	Prospective resources
NikeII	1971 /72	Oceanic-Colorado	63.0 in place	Prospective resources
South Kavala (natural gas)	1972	Oceanic-Colorado	950.0 millionm <sup>3</sup> gas	Depleted Gas field
Amodes (heavyoil)	1972	Oceanic-Colorado	45.0	Contingent resources
Athos	1972	Oceanic-Colorado	45.0	Contingent resources
Prinos	1972 2015	Oceanic- Colorado Energean	60 <sup>(1)</sup> 11,7	Proven recoverable Remaining recover.
West Katakolo	1982	DEP/EKY	4.0-8.0	Contingent resources
AlikesZakinthou	1984 /85	DEP/EKY	35.0 <sup>(2)</sup>	Contingent resources Non recoverable
Epanomi (natural gas)	1987	DEP/EKY	450.0 million m <sup>3</sup> gas	Contingent resources
Prinos- North Prinos	2015	Energean	3,3	Remaining recoverable reserves
Patraikos Gulf	1998 /99	Enterprise Oil - Triton	-	Prospective
Ioannina Region	1998 /99	Enterprise Oil - Triton	-	Prospective
Prinos- Epsilon	2015	Energean	15.2 (39.0)	Recoverable reserves (in place)
Total recoverable reserves (proven)			30.2	
Total contingent reserves			94-98	
Total in place and prospective reserves			703	

## Objective Appraisal of Resources

### Active fields - Hydrocarbon Discoveries, Fields and Prospects in Greece

(1) Some 116 million barrels of oil had been recovered by the end of 2014. Estimated original reserves in place: 290 mmbbl

(2) Asphalt contingent resource base has been found but considered to be non exploitable due to environmental and technical constraints

# Resources - Discovered Oil & Gas Fields in Greece



## Thermaikos basin

Discovered: 1 Bcm NG (Epanomi gas field)

Oil and gas shows in many wells

## Prinos basin

Produced: 120 MMbbls (Prinos field)

Additional prospects identified

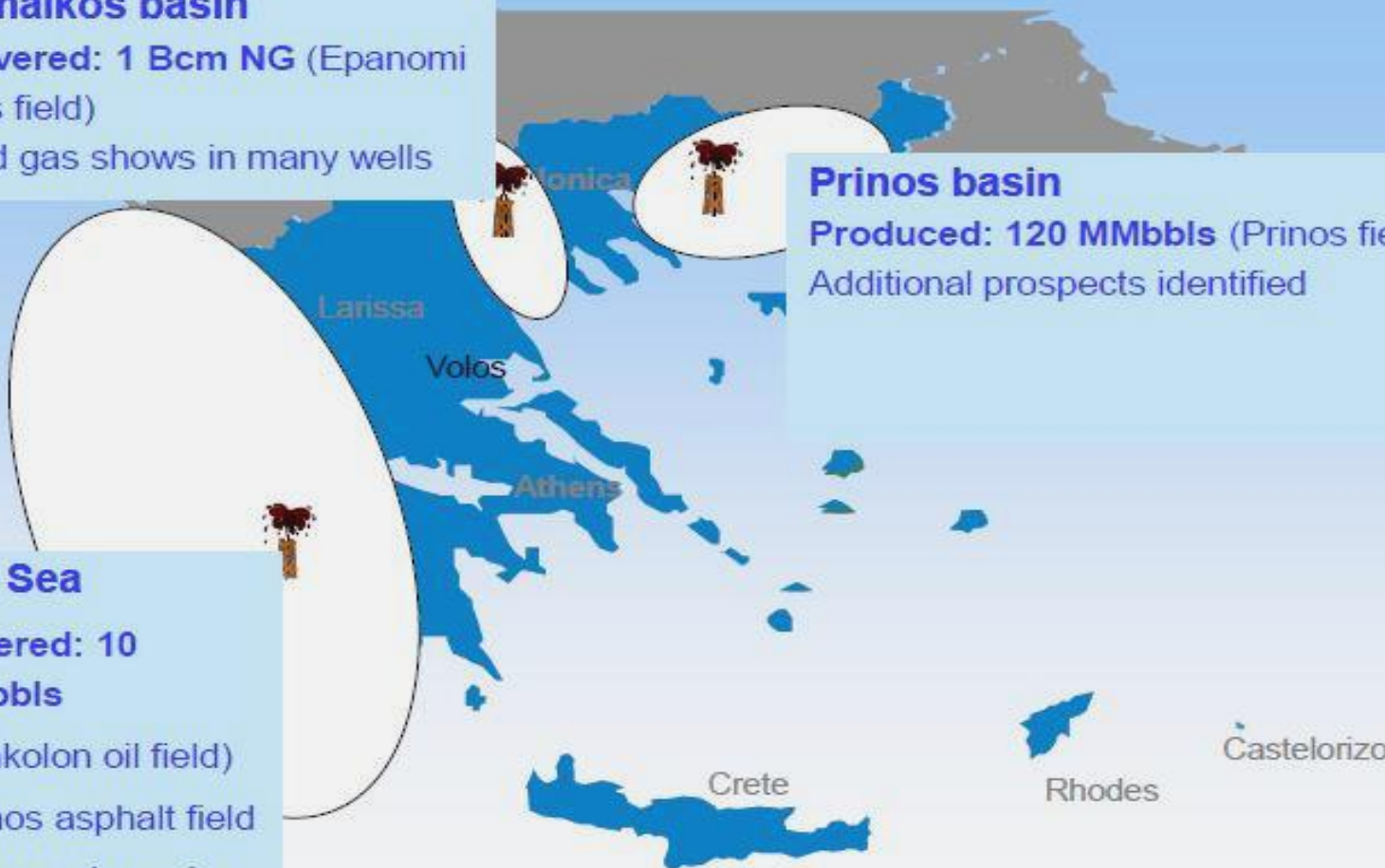
## Ionian Sea

Discovered: 10 MMbbls

(Katakolon oil field)

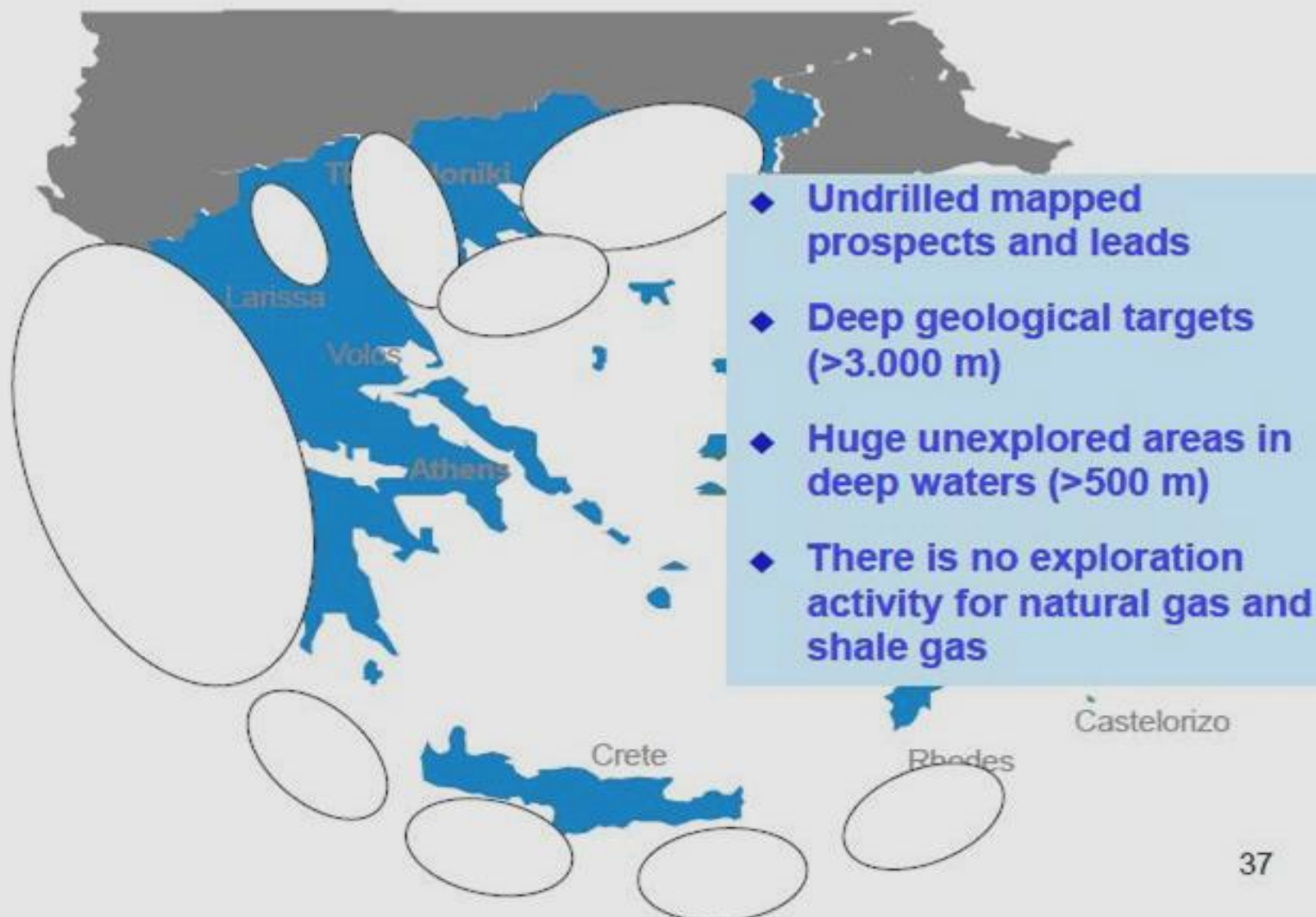
Zakynthos asphalt field

Oil and gas shows in many wells





# Oil Promising Areas in Greece



# Greece's Competitive Advantage

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- i. Greece is a full member country of the European Union (since 1981) which means that its legal regime, tax status and banking network are fully harmonized with the EU governance
- ii. Greece has a well developed local oil industry, focused in refining and retailing but has also an equally important metal and light manufacturing industry which could support the construction and maintenance of oil production and support facilities
- iii. Greece has an extended network of shipping facilities covering a wide range of aspects from ship birthing, dry docking, ship building and ship repair, chartering, loading-unloading etc.
- iv. Greece has unique access to international shipping services and resources thanks to its global leadership in this key economic sector
- v. The country has a well educated workforce, with skilled and semi skilled workers, some of them in the oil and gas industry with many of them in their 30's, 40's and 50's
- vi. Greece's proximity to major European oil processing and trade centers is another distinct advantage

## Setting Goals

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- i. The constant furthering of our knowledge and understanding of the country's hydrocarbon resources
- ii. Exploration programmes should be established and run on a continuing basis
- iii. Effective management and development of known oil and gas plays
- iv. Discovery of new oil and gas fields, appraisal drillings, and advancement with further exploratory and reservoir development programme
- v. Increase the size of proven resources
- vi. Increase of current production levels

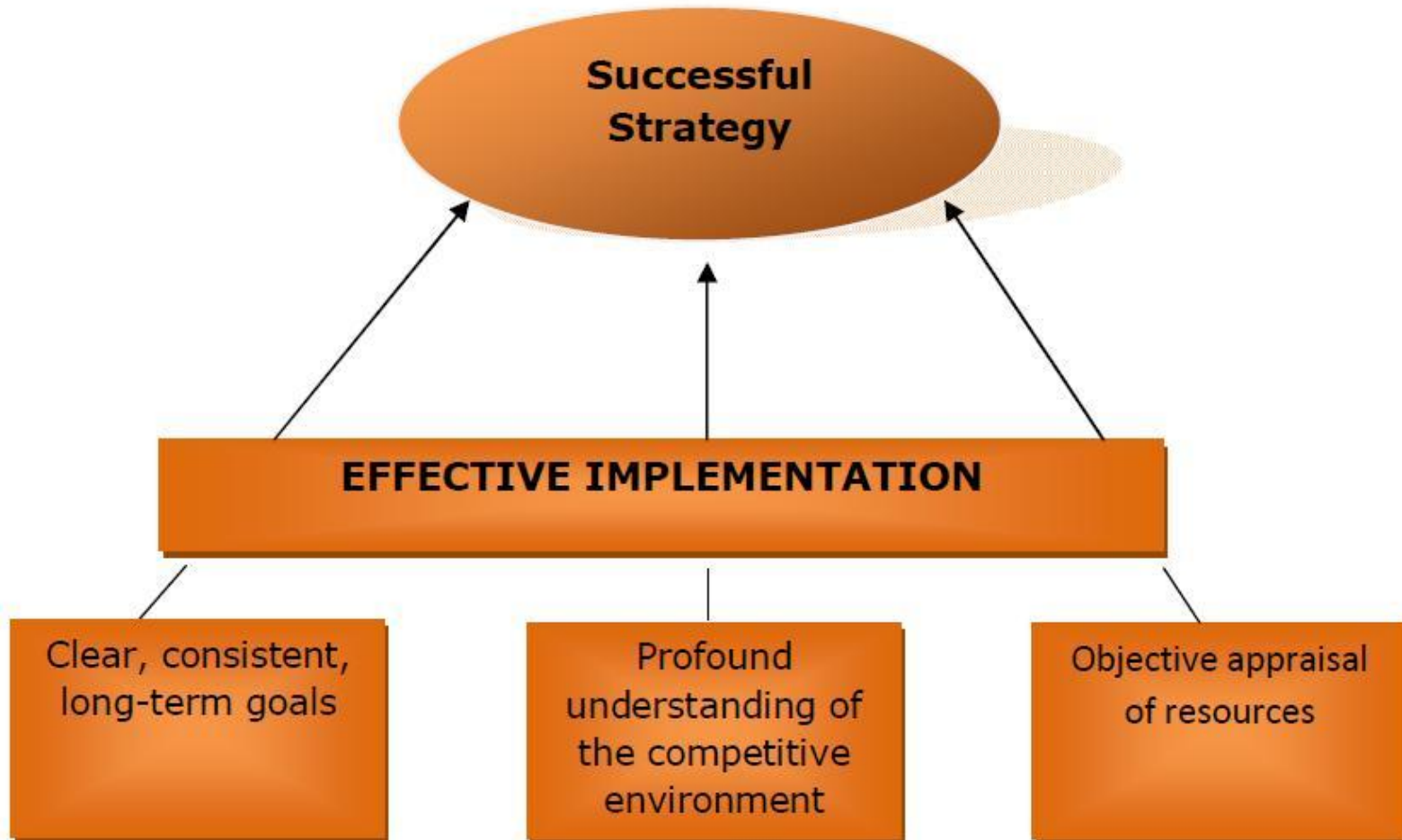
# Effective Implementation

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- ❑ Setting up a well organised and competent agency accountable to the Ministry which will undertake to co-ordinate, organise, and supervise all hydrocarbon exploration and production related activities
- ❑ Setting up as an independent body an “Oil + Gas Health and Safety Inspectorate”
- ❑ Ensure high professional standing and independence of agency management and personnel

# Common Elements in Successful Strategies

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# The Basic Framework: Strategy as a Link between the Government and its Environment

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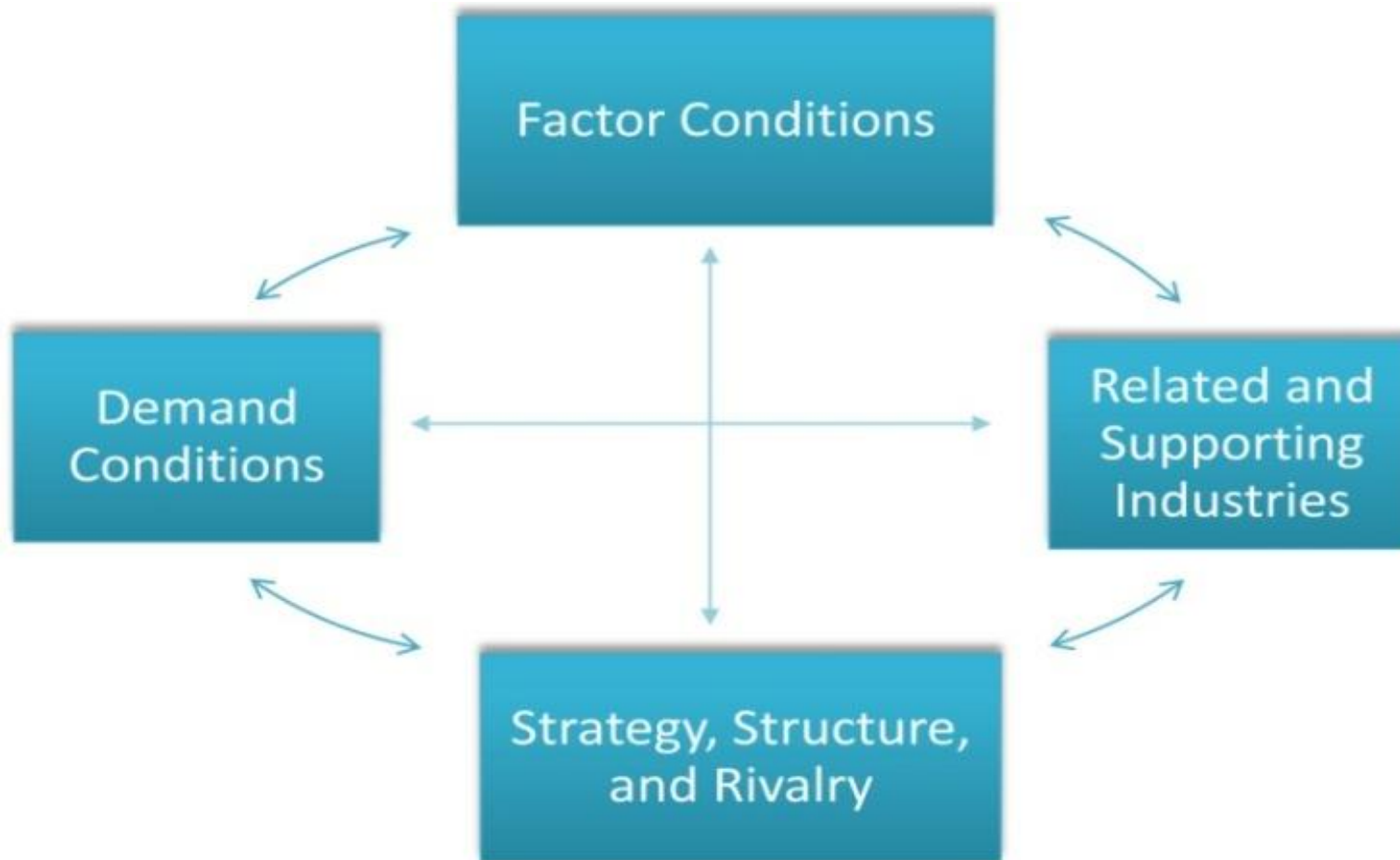


# A SWOT Analysis for Hydrocarbon Development in Greece

<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Technical Potential</li> <li>• Proven petroleum systems.</li> <li>• Suitable productive analogues (e.g. Italy, Albania, East Thrace)</li> <li>• Existing Oil &amp; Gas Infrastructure</li> <li>• EU Membership</li> <li>• Well Established Legal and fiscal framework (and fully harmonized with EU provisions)</li> </ul>	<ul style="list-style-type: none"> <li>• Unstable political and business environment</li> <li>• Cumbersome licensing procedures and inadequate state supervisory mechanism</li> <li>• Absence of E +P services</li> <li>• Lack of suitably qualified Oil &amp; Gas personnel</li> </ul>	<b>Weaknesses</b>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Attractive geological environment</li> <li>• Proximity to large production and consumption markets</li> <li>• Existing of attractive frontier areas</li> </ul>	<ul style="list-style-type: none"> <li>• Unpredictable political environment</li> <li>• International oil price volatility</li> <li>• Geopolitical risks</li> </ul>	<b>Threats</b>

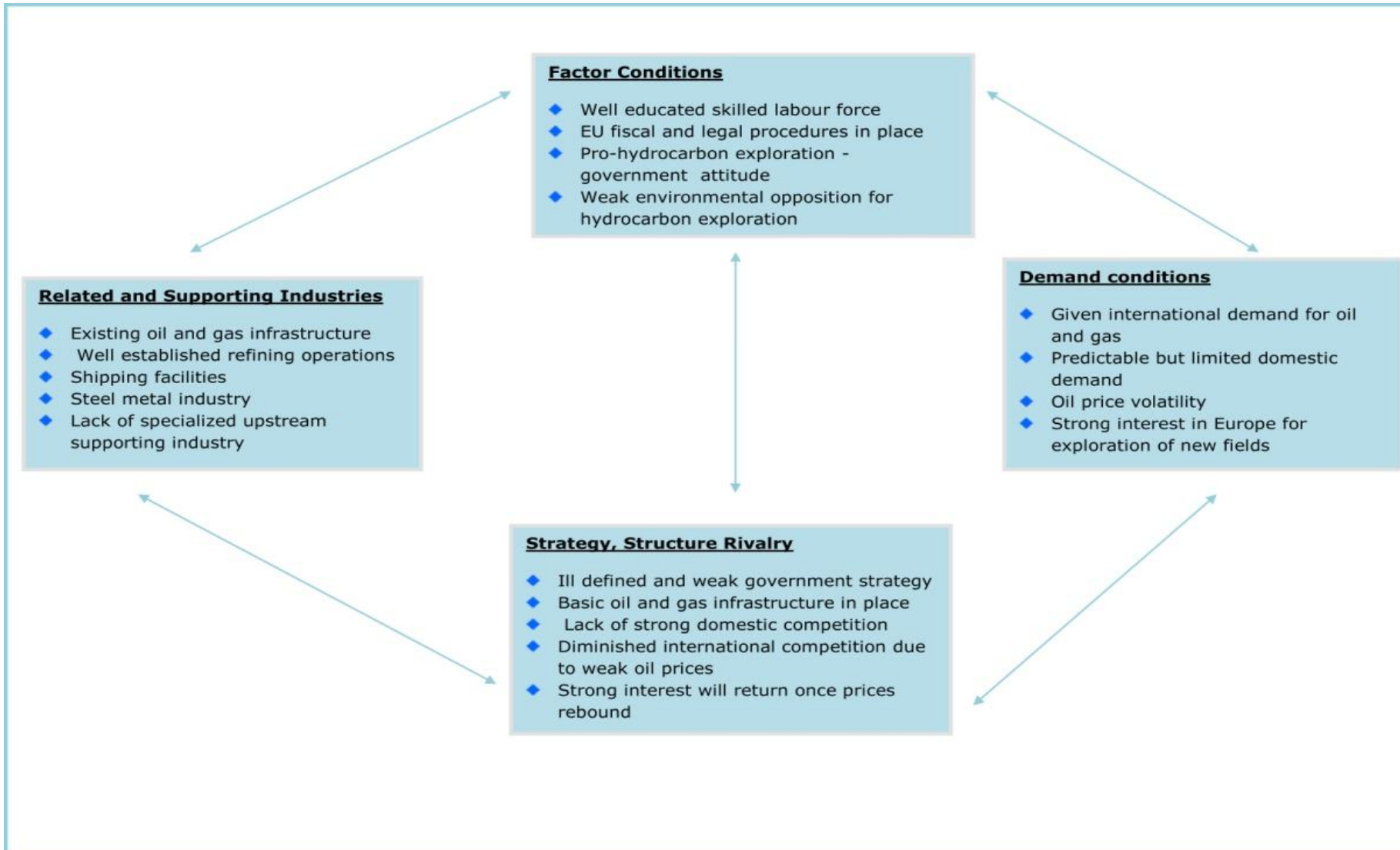
# Porter's National Diamond Framework

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# Porter's National Diamond Framework as Applied to Hydrocarbon Exploration in Greece



## Proposed Strategy (i)

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- ❑ The need to further expand our knowledge and understanding of Greece's hydrocarbon resources
- ❑ The need to increase the country's proven hydrocarbon reserves
- ❑ To implement 1 & 2 an ongoing programme of exploratory activity, which should include regular concession rounds but also the relinquishing of research areas, must be established. In other words at all times there should be in place a continuous programme with a que of prospective concession areas prepared and ready to be put in the market. This programme to include all three different types of call for tenders used so far:
  - (i) Open Door
  - (ii) Individual expressions of interest
  - (iii) International Licensing Rounds

## Proposed Strategy (ii)

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- ❑ To implement 3 a permanent body or agency, within the state machinery, which will co-ordinate and supervise all exploration and production activity must be set up and function. The Hellenic Agency for Hydrocarbon Exploration (EDEY) set up by the Ministry and Environment and Energy two years ago, but not yet fully activated, could be a suitable medium for this activity. However, every effort should be made to ensure the tenure of the management at the Agency in order to avoid frequent changes and interference by political forces which are counterproductive to the goals and mission of such a body
- ❑ The need for a stable political environment cannot be over- emphasized as the change of ministers, even from within the same government term, inadvertently affects the organisation of licensing rounds and the evaluation procedure. This obliges companies to extend unnecessarily their time allocation for projects in Greece and as a result creates a rather unfavourable business and environment as the withdrawal recently of several companies from exploration activity has showed

## Proposed Strategy (iv)

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- ❑ Hydrocarbon exploration and development must be included as a top priority in any government's political agenda. This is necessary as it is directly related to economic and foreign policy
- ❑ The country needs to define and safeguard its sea boundaries within the provisions foreseen in Economic Exclusive Zones (EEZ). The consequent exercise of sovereign rights, as foreseen by the various clauses of UNCLOS (Montego Bay, 1982), should be sought as part of the overall hydrocarbon exploration process
- ❑ A “next generation” fund should be set up to take care of the potential state proceeds from oil and gas exploitation following the example of other oil producing countries i.e. Norway's Government Pension Fund (SPU). This shall be a professionally managed fund with a goal of increasing its value over the years and for supporting when necessary state pension and social welfare programmes
- ❑ The development of local E + P expertise, both at professional and technician level, through the introduction of appropriately designed courses and on site training should be a permanent goal
- ❑ The development of local E + P infrastructure in terms of access to exploration and production equipment, operation of a repair base and qualified services availability (i.e. laboratory equipment and personnel, IT services, accounting etc.) should be encouraged and facilitated



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your attention**

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