

# Exploration & Production of Hydrocarbons in Greece:

**Does the past teaches the future?**

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Ex. Technical Director of HELLENIC PETROLEUM SA

# **Exploration & Production of Hydrocarbons in Greece: Discoveries, Petroleum Systems and Analogues and Perspectives**

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# Oil promising areas in Greece

ITALIAN  
ADRIATIC  
PLATFORM



- ◆ External Hellenides Fold & Thrust Belt
- ◆ The post orogenic basins of Greece
- ◆ Hellenic Trench - Mediterranean Ridge

Hellenic  
Petroleum 2013

# Conclusions of Past Exploration

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.

# **Brief History of exploration in Greece**



# The History of Exploration Activity in Greece before 60's

More than 40 wells in areas with gas and oil surface shows



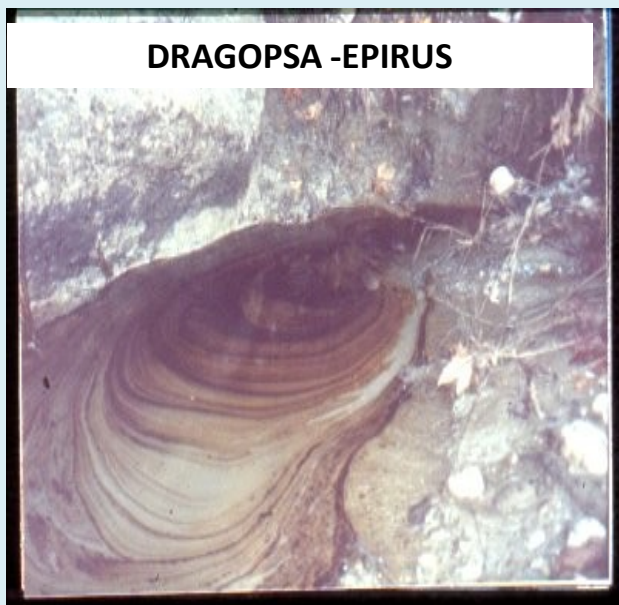
**ZAKYNTHOS**  
**HERODOTUS, 480 bc**



**KATAKOLON "Volcano" 1976**



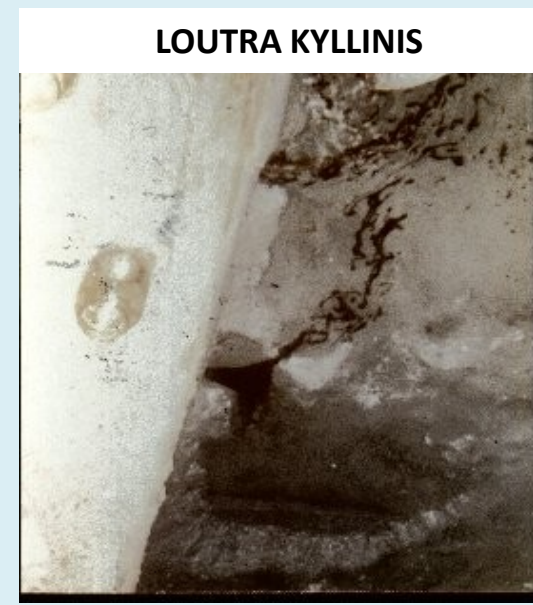
**KATAKOLON "Volcano" 2004**



**DRAGOPSA -EPIRUS**



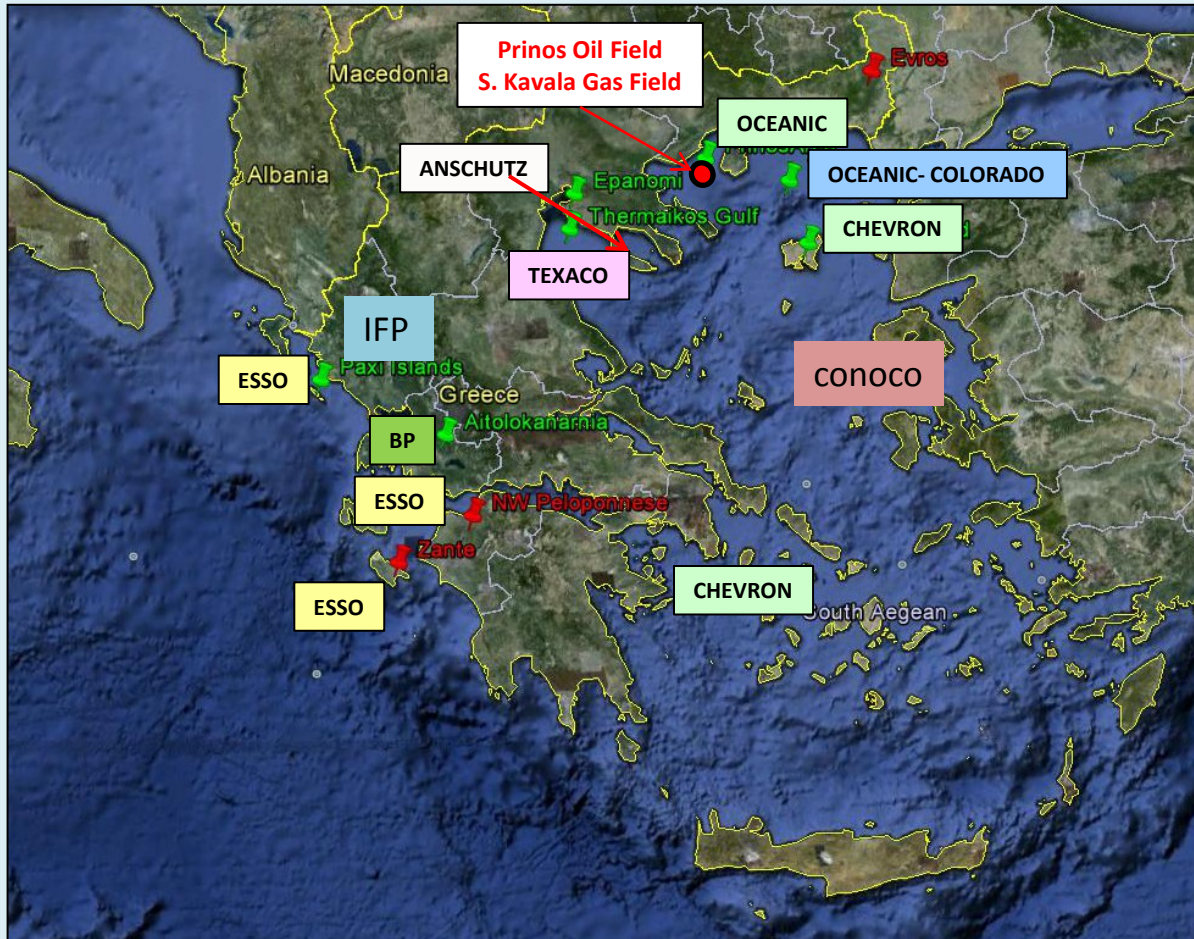
**SMOLITSAS - EPIRUS**



**LOUTRA KYLLINIS**



# The History of Exploration Activity in Greece Early 60's to mid 70's

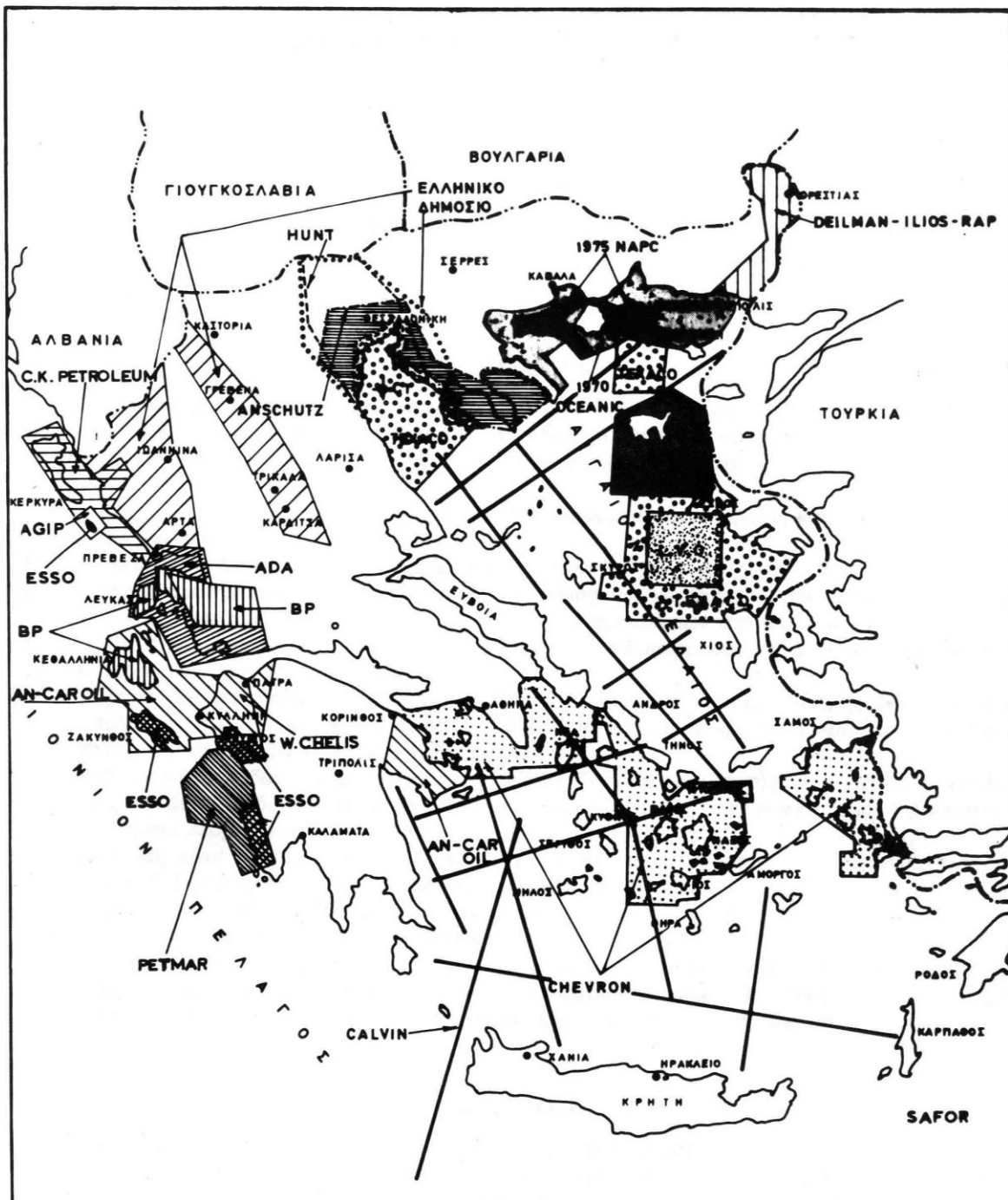


## OPERATORS

- Former Ministry of Industry
- Institute of Geology and Mineral Exploration (IGME)
- Institute Francais du Petrol (IFP)
- International oil companies

The final result of the exploration that took place during that time was the discovery of the first exploitable hydrocarbon reserves in the off-shore area of Thasos island (Prinos oil-field and South Kavala gas-field) by OCEANIC (1971-1974).

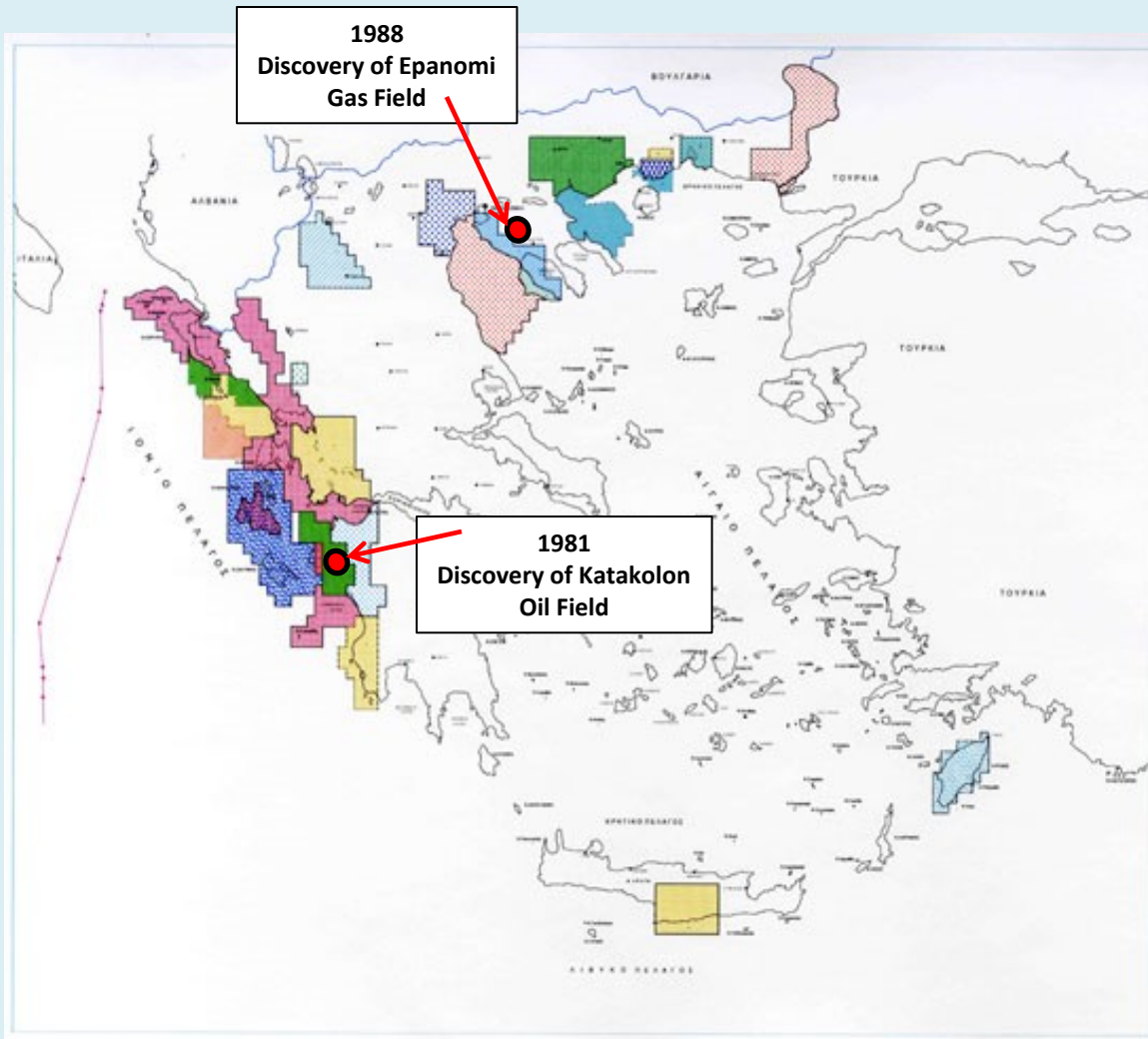
- 40 wells drilled in total
- Encouraging H-C shows
- Improvement of geological background



# Concessions to International Oil Companies before July 1974 (1960-1974)

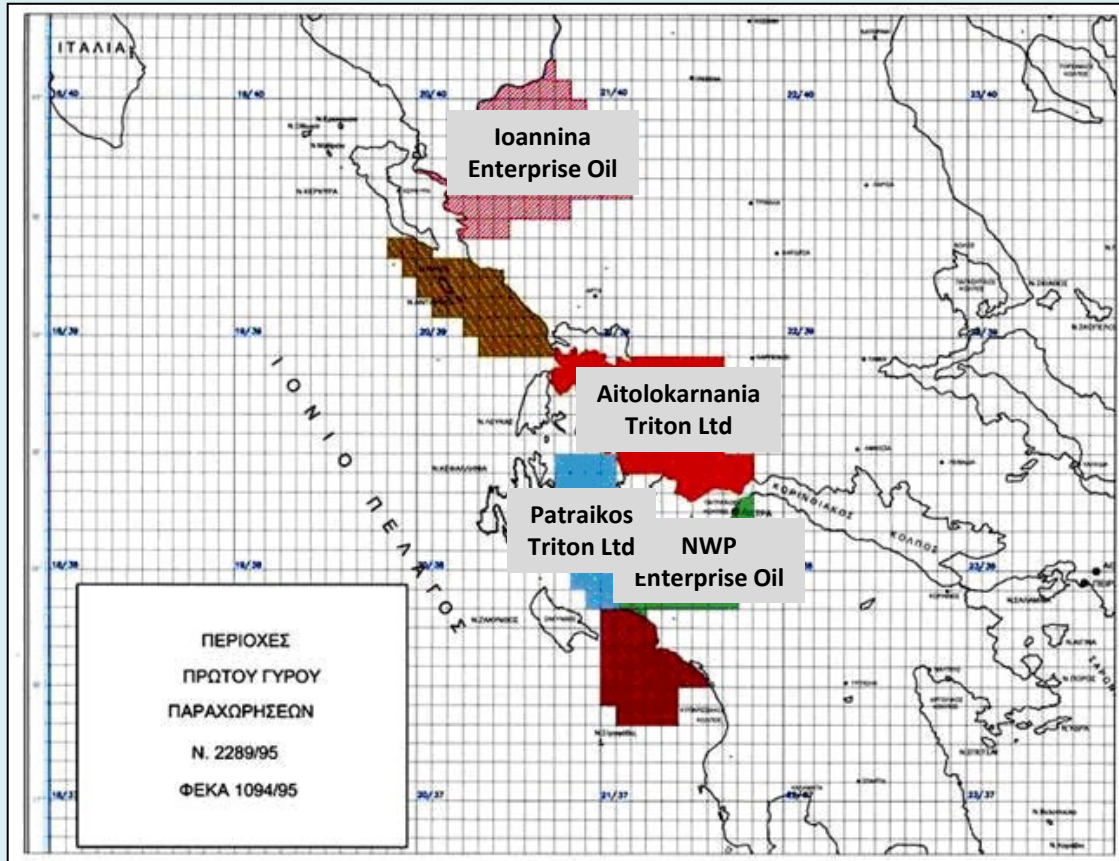


# The History of Exploration Activity in Greece - Mid 70's to mid 90's



- 1975 - foundation of the Public Petroleum Corporation (DEP)
- 1985 – foundation of DEP-EKY (*subsidiary company to DEP*)
- The Greek government granted to the aforementioned two companies 24 on-shore and off-shore areas for HC prospecting, exploration and production
- Total of 73.000 Km of 2D and 300 km<sup>2</sup> of 3D seismic surveys
- 74 exploration wells were drilled
- 1998-99 foundation of Hellenic Petroleum

# The History of Exploration Activity in Greece Mid 90's to mid 00's



- 1996- **1<sup>st</sup> International Licensing Round**, involving 6 concession areas
- 4 licenses were granted for the areas:

- NW Peloponnese & Ioannina (*Enterprise Oil*)

- Aitolokarnania & off-shore Western Patraikos Gulf (*Triton Ltd*)

- Total amount of investment in seismic surveys and drilling reached up to 85 M€.

- All wells were P&A with minor HC shows.

- Acquisition of Triton Ltd by Amerada Hess and acquisition of Enterprise Oil by Shell and the companies withdrew in 2000-2001. (low oil prices)

## EXPLORATION ACTIVITIES IN GREECE

### WELLS

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(**)

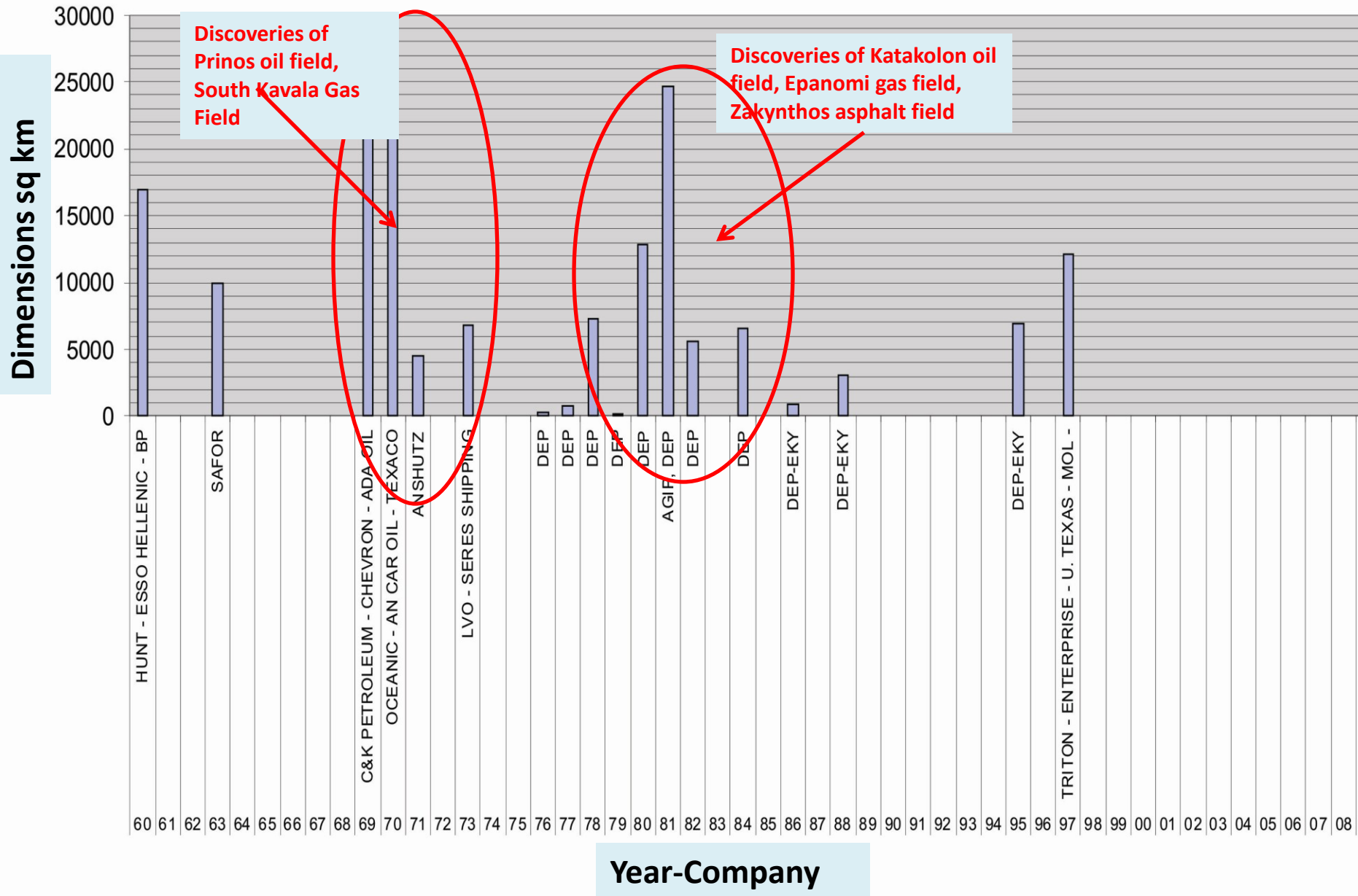
(\*\*) 80% off structures or very shallow depths,  
or with technical problems

(\*) + Plus two (2) geothermal wells

### SEISMIC PROGRAMS (in KM)

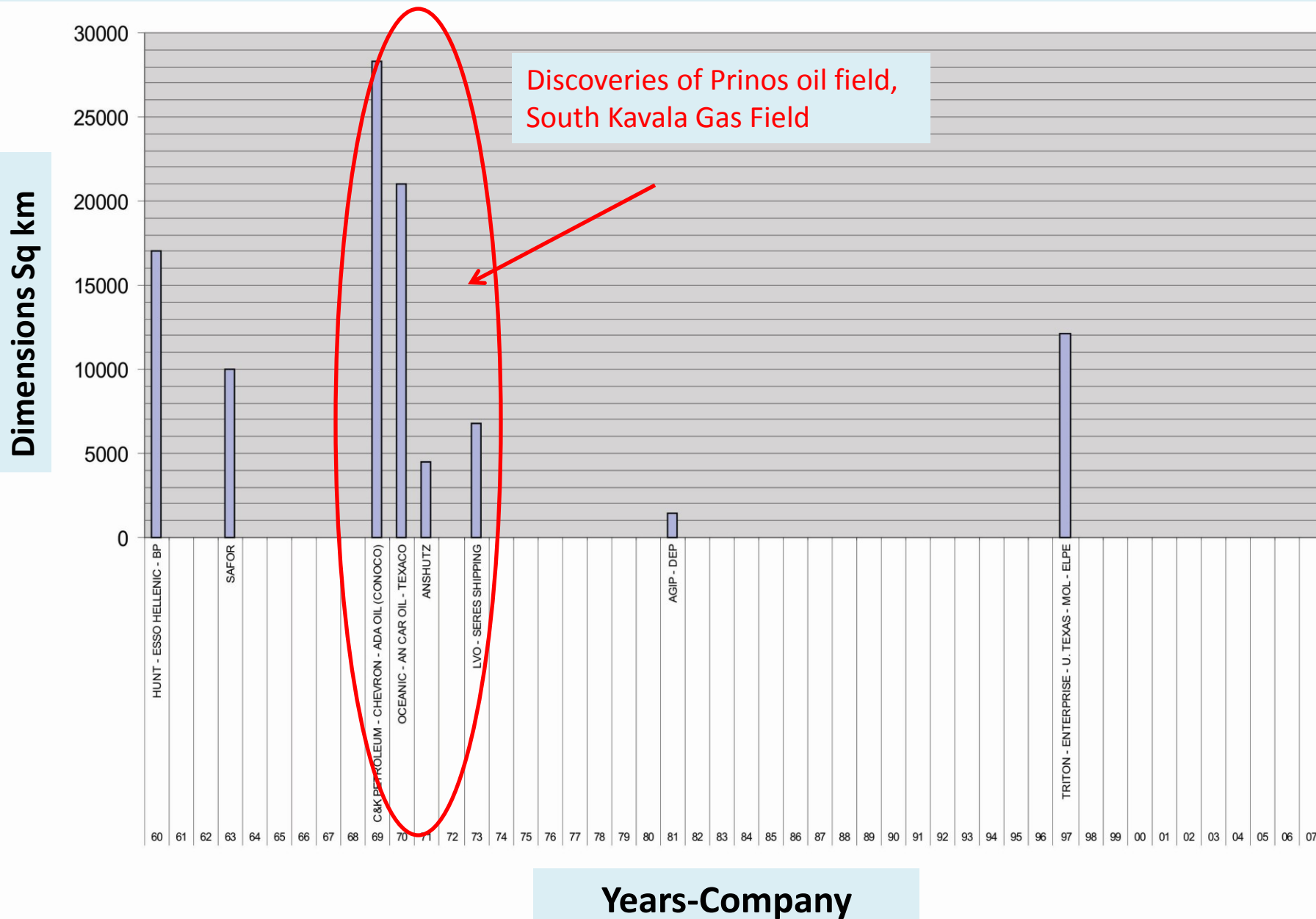
INTERNATIONAL OIL COMPANIES	HELLENIC PETROLEUM	INTERNATIONAL OIL COMPANIES/ HELLENIC	PRINOS	TOTAL
1939-1974	1975-2000	1997-2002	1971-2009	
12200	53550 + 1 3D	2100	7765 + 2 (3D)	75615

# Total Exploration Licenses in Greece 1960-2009





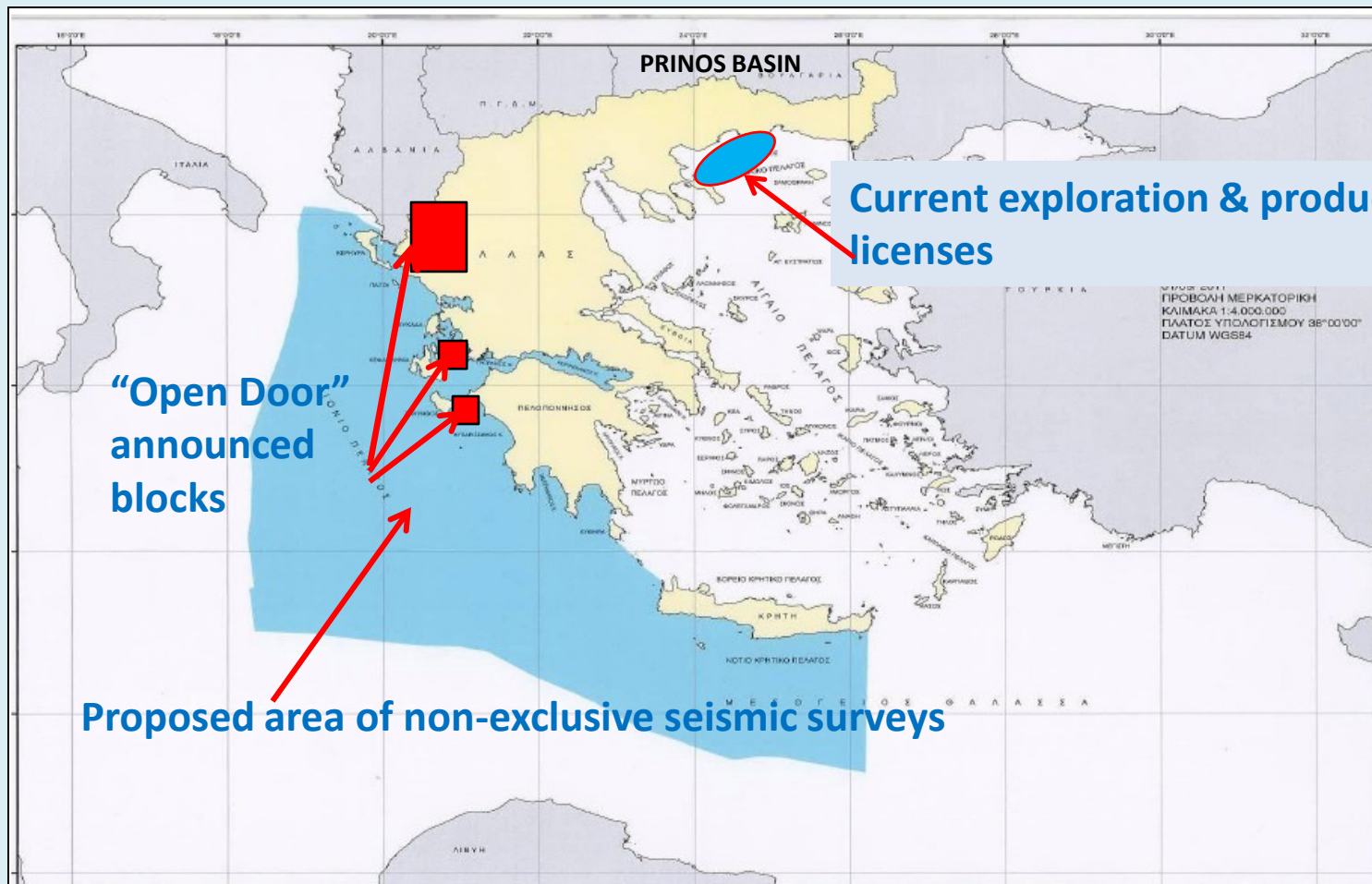
# E-P Licenses to International Oil Companies 1960-2009



# **RESTARTING E&P IN GREECE 2011**

# Exploration Activity in Greece - Current Status

- After 12 years of inactivity, re-establishment of the Hellenic Hydrocarbons Management Company S.A, 2011. (Still in papers), Two weeks ago the government appointed the Chairwoman and CEO, and the vice president of the company)
- Tender for non-exclusive seismic surveys
- Tender for 3 areas using open door procedures

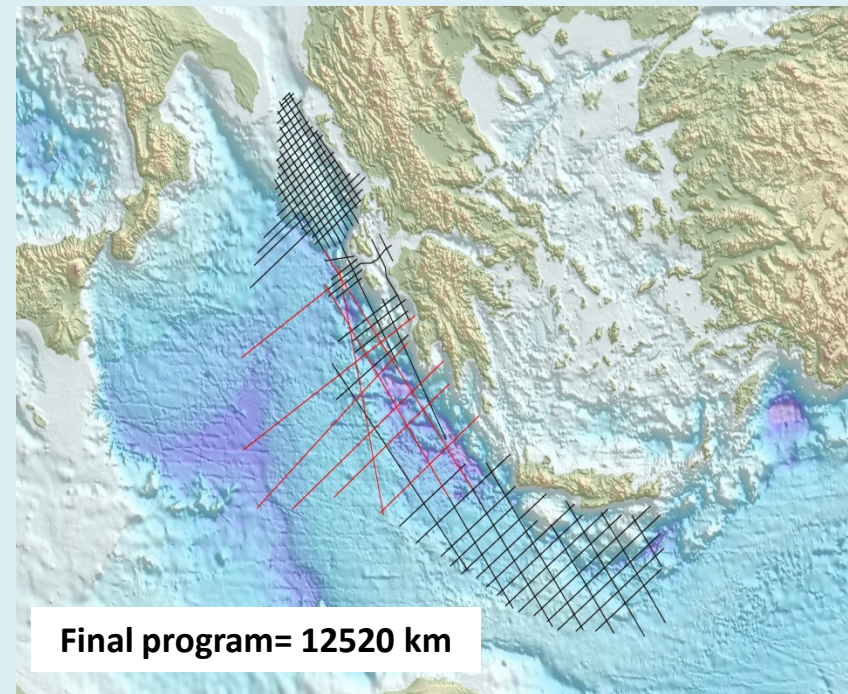
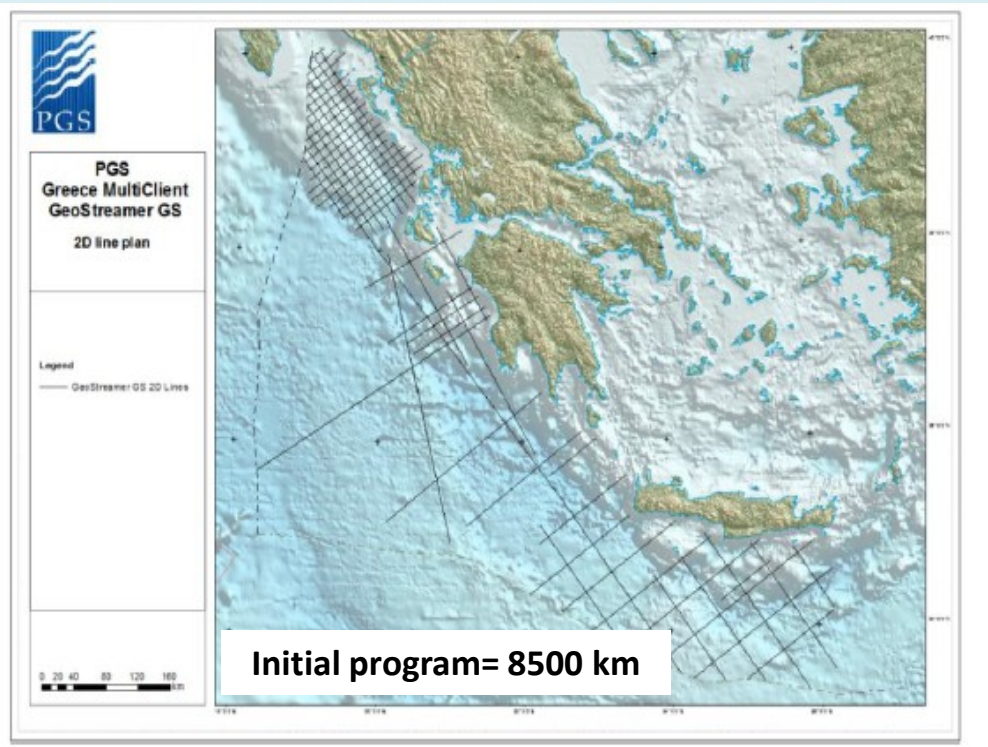


# REVIVAL E&P: A) NON EXCLUSIVE SEISMIC SURVEYS

- September 2011: Call for participation
- March 2012: Final date for submitting offers
- October 2012: Signing of contract
- Nov. 2012: Beginning of data acquisition
- Feb. 2013: Completion of data acquisition
- 2013: processing / interpretation



Area of non exclusive seismic surveys > 200.000 sq km





# REVIVAL E&P 2<sup>ND</sup> PHASE: FIRST "OPEN DOOR" TENDER

## AREAS INTEGRATED IN THE PROCESS:

**-GULF OF PATRAS, EPIRUS – IOANNINA, WEST KATAKOLON OIL FIELD**

FIRST ANNOUNCEMENT OF THE TENDER: **SEPTEMBER 2011**

- OFFICIAL ANNOUNCEMENTS OF THE TENDER: **2<sup>ND</sup> OF APRIL, 2012**

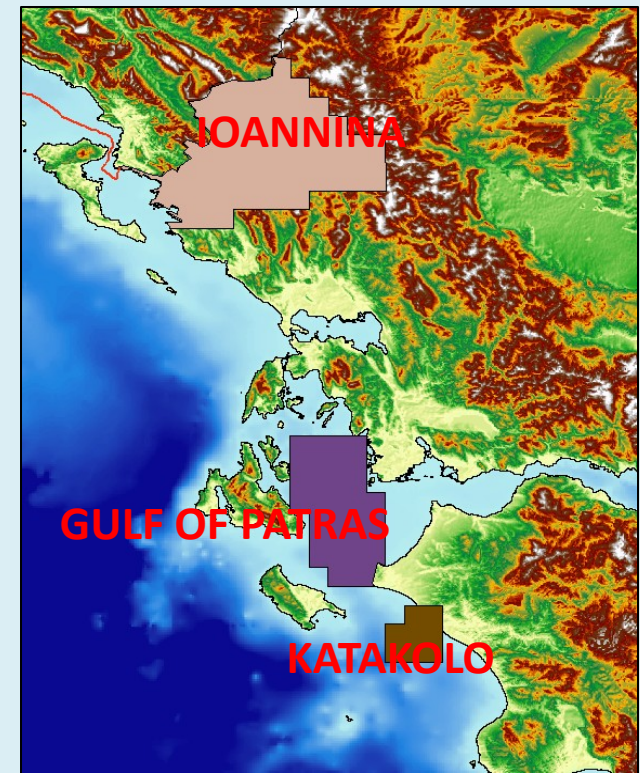
- OFFERS: **2<sup>ND</sup> OF JULY 2012**

- OPENING OF OFFERS - BEGINNING OF EVALUATION : **2<sup>ND</sup> OF SEPTEMBER 2012**

- OCTOBER 2013: AFTER 16 MONTHS, TWO CONTRACTS TO BE SIGNED. ONE STILL IN NEGOTIATIONS !!!

- SIGNING OF CONTRACTS **????**

-RATIFICATION BY THE PARLIAMENT **????**



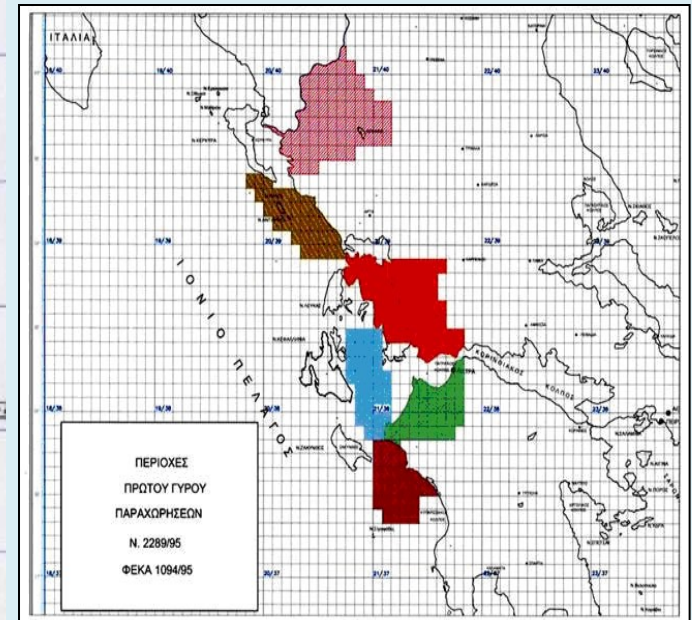
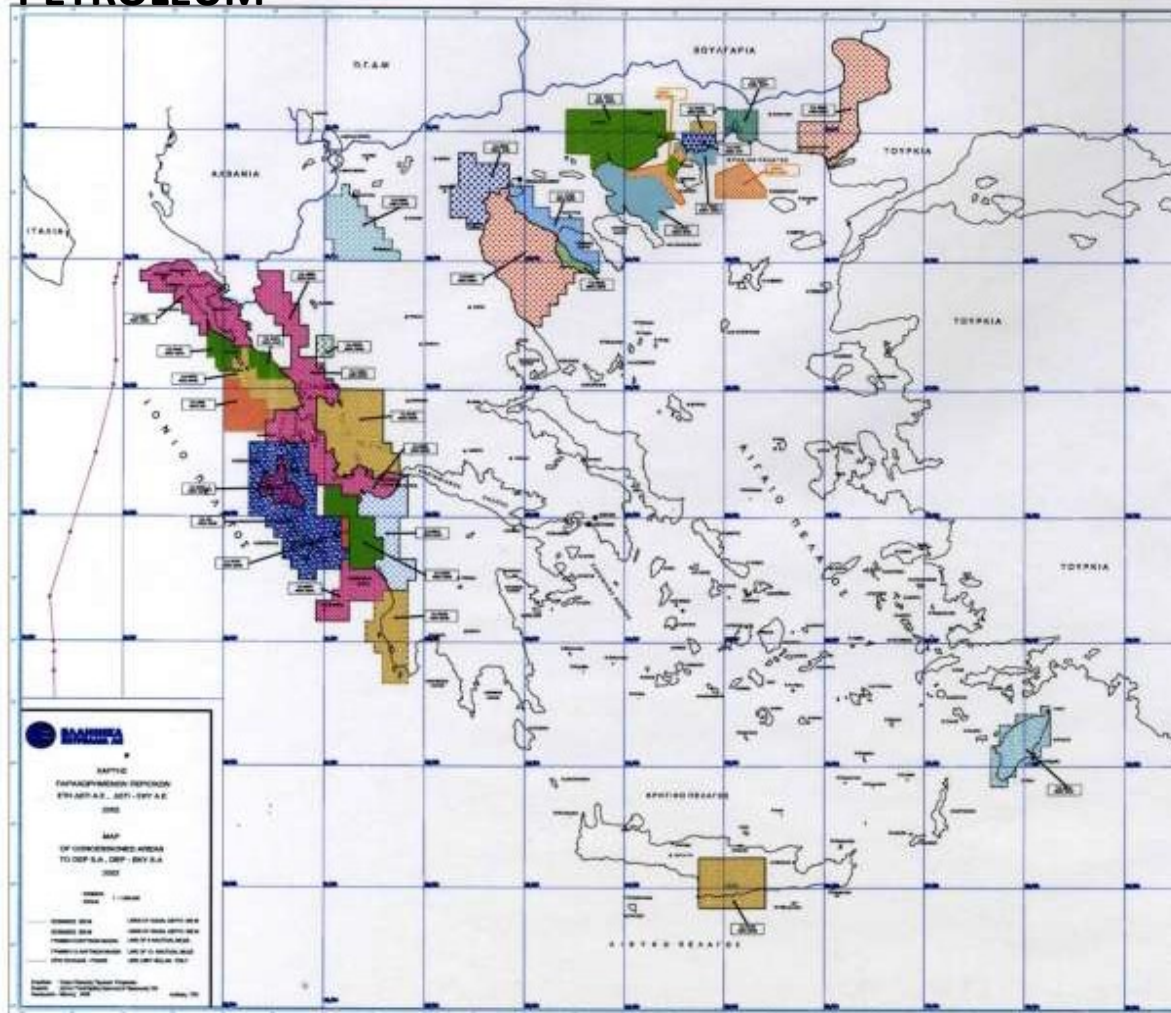
# Potential areas for future “open door” tenders

[Areas had been relinquished by previous operators]

**How and When ???**

Areas Had been granted to DEP, DEP – EKY, HELLENIC PETROLEUM

- 1996- **1<sup>st</sup> International Licensing Round**, involving 6 concession areas
- 4 licenses were granted

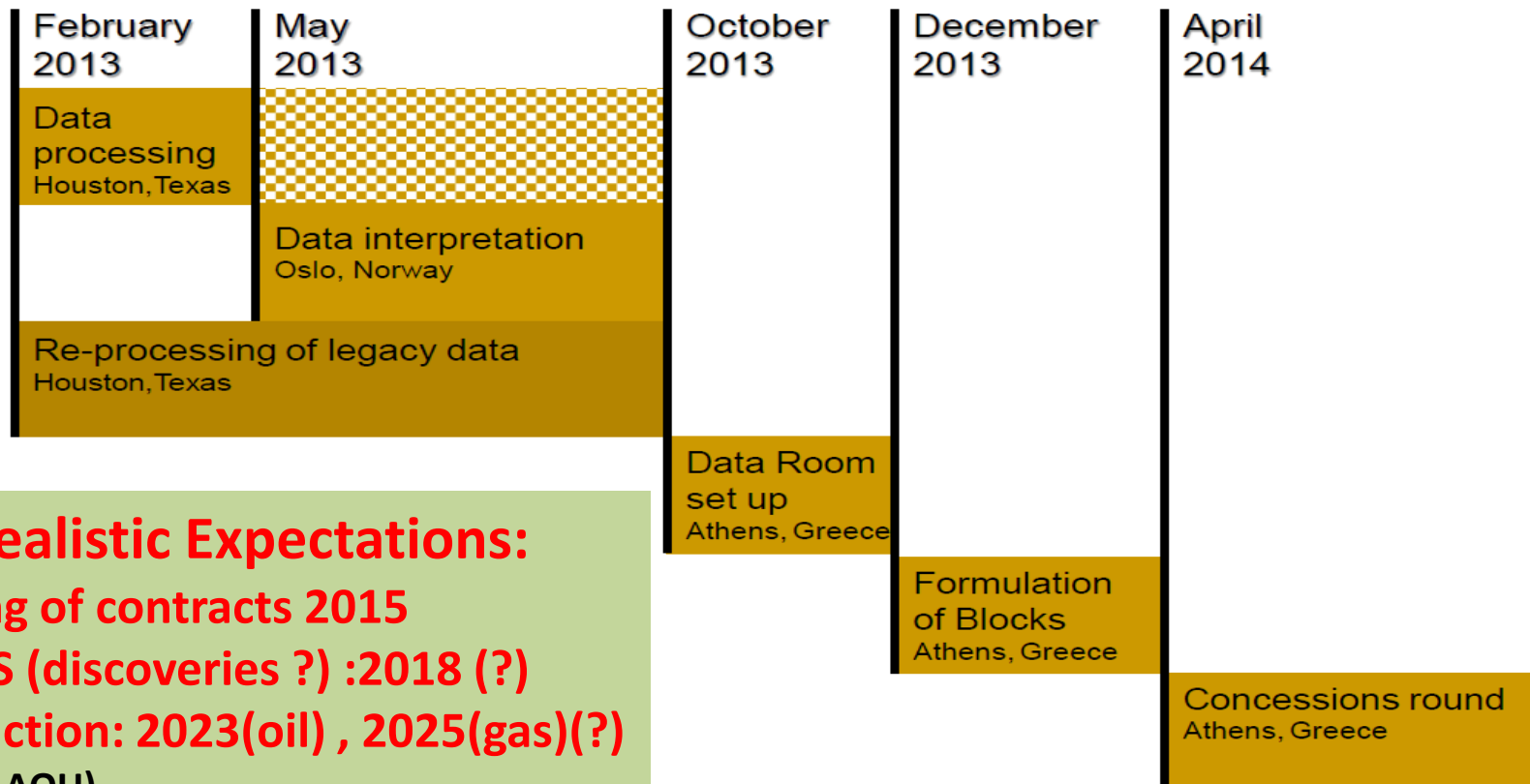


# NON EXCLUSIVE SEISMIC SURVEYS AND FUTURE EXPLORATION ROUND

(YPEKA April 2013)

18-19 April | Cyprus | Alexandra Sdoukou

## NEXT STEPS: Plan for the Development of Hydrocarbons



### Realistic Expectations:

- Signing of contracts 2015
- WELLS (discoveries ?) :2018 (?)
- Production: 2023(oil) , 2025(gas)(?)

(K NIKOLAOU)



# Conclusions

- **Hydrocarbon reserves are not found from television and news papers, nor with public relations and announcements. The history of the last 53 years shows that when there was intensive effort, with many concessions and many wells, there were successes.**
- **The Greek government should expedite the necessary exploration rounds and open door tenders and should award over 15 E&P licenses in order to have important success . The existing probabilities and geological risk show this fact . The State must be well organized and should be stable and consistent. The up to now policy, of stopping for a long time, restarting for a while and again the same, and the same leads nowhere.**



# Proposals to Accelerate Exploration and Attract Oil Companies

**(Competition is very tough in the region)**

- Establishing and function of stable and efficient licensing and supervisory Authority, in real terms, rather than on paper, in order to be the credible interlocutor of the State.
- Staffing the authority with experienced, capable and efficient scientific personnel.
  
- Improve the business Environment
- Avoid the endless bureaucracy
- Countering and combating corruption