

IENE: 7TH SOUTH EAST EUROPE ENERGY DIALOGUE
-THE NEW REGIONAL PARAMETERS-
Thessaloniki, June 19th & 20th, 2013

GREECE & CYPRUS

Exploration & Production of Hydrocarbons

CURRENT STATUS

&

EXPECTED DEVELOPMENTS

Dr KONSTANTINOS A. NIKOLAOU

Petroleum Geologist – Energy Economist

General Director KANERGY Ltd (kanergy@otenet.gr)

Ex. Technical Director of HELLENIC PETROLEUM SA

HELLAS

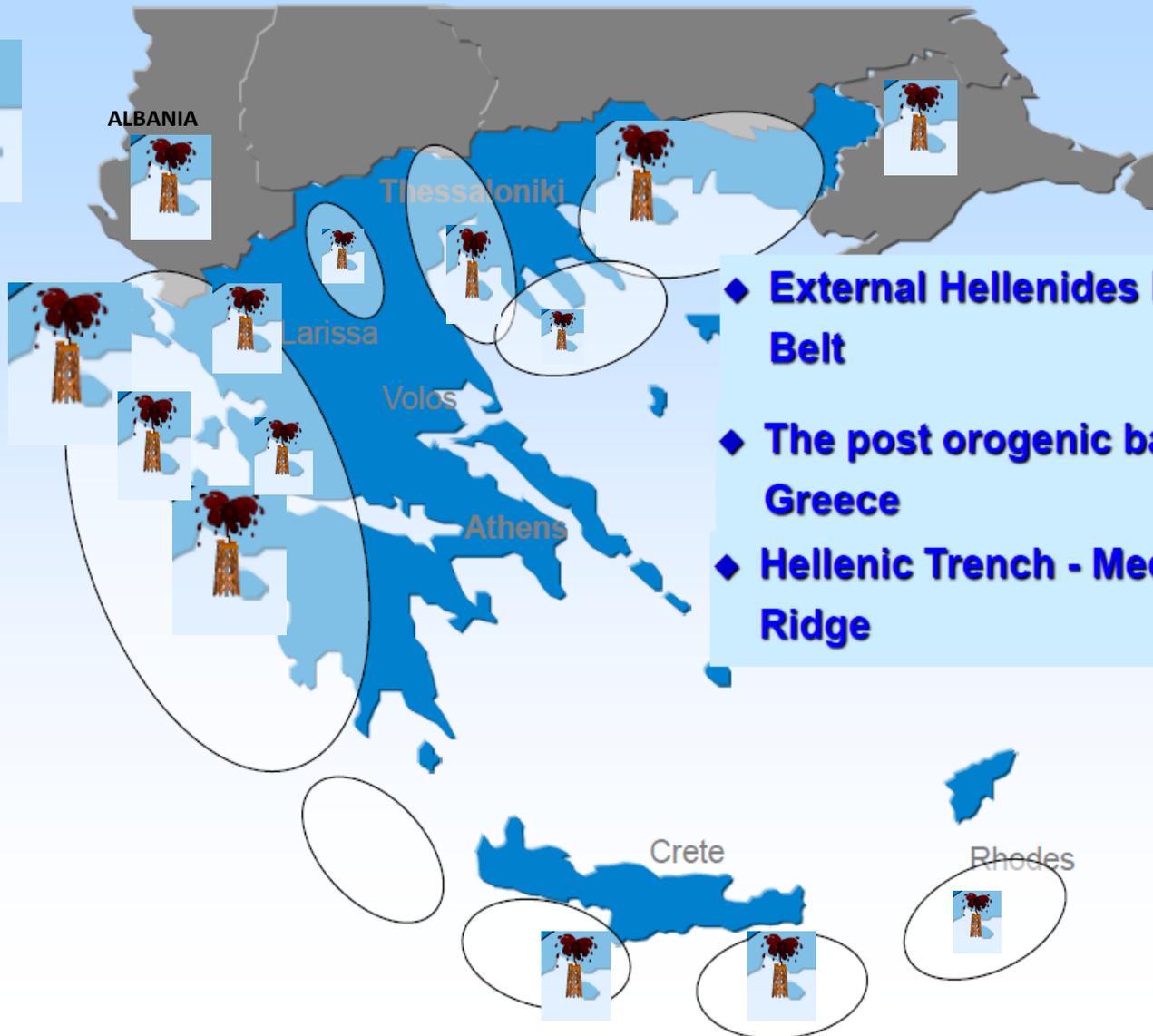


Oil promising areas in Greece

(Helpe 2013)



ITALIAN
ADRIATIC
PLATFORM



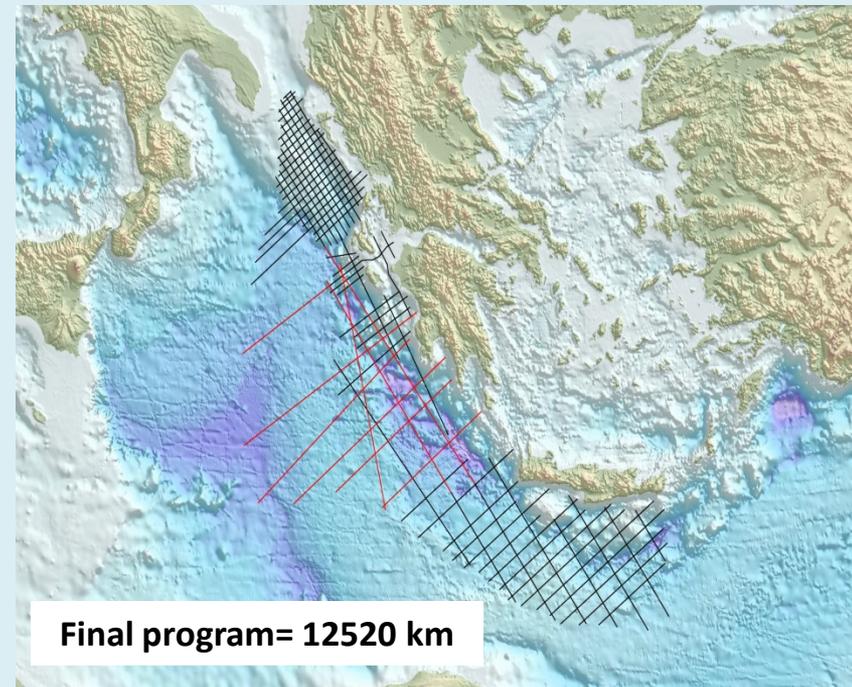
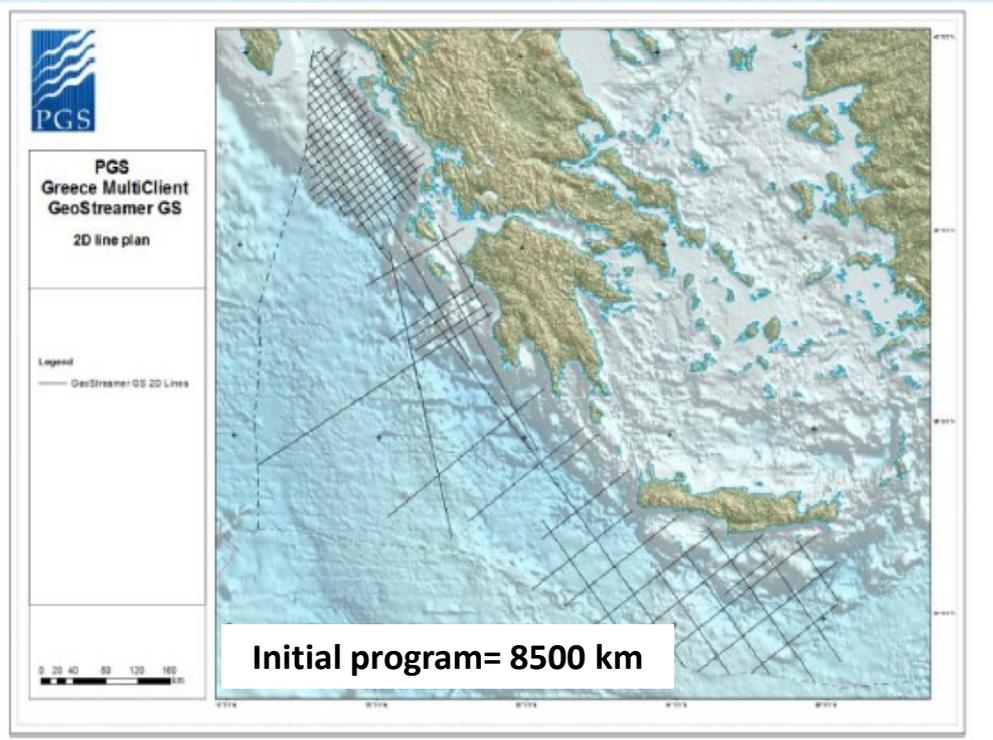
- ◆ External Hellenides Fold & Thrust Belt
- ◆ The post orogenic basins of Greece
- ◆ Hellenic Trench - Mediterranean Ridge

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



Area of non exclusive seismic surveys
> 200.000 sq km

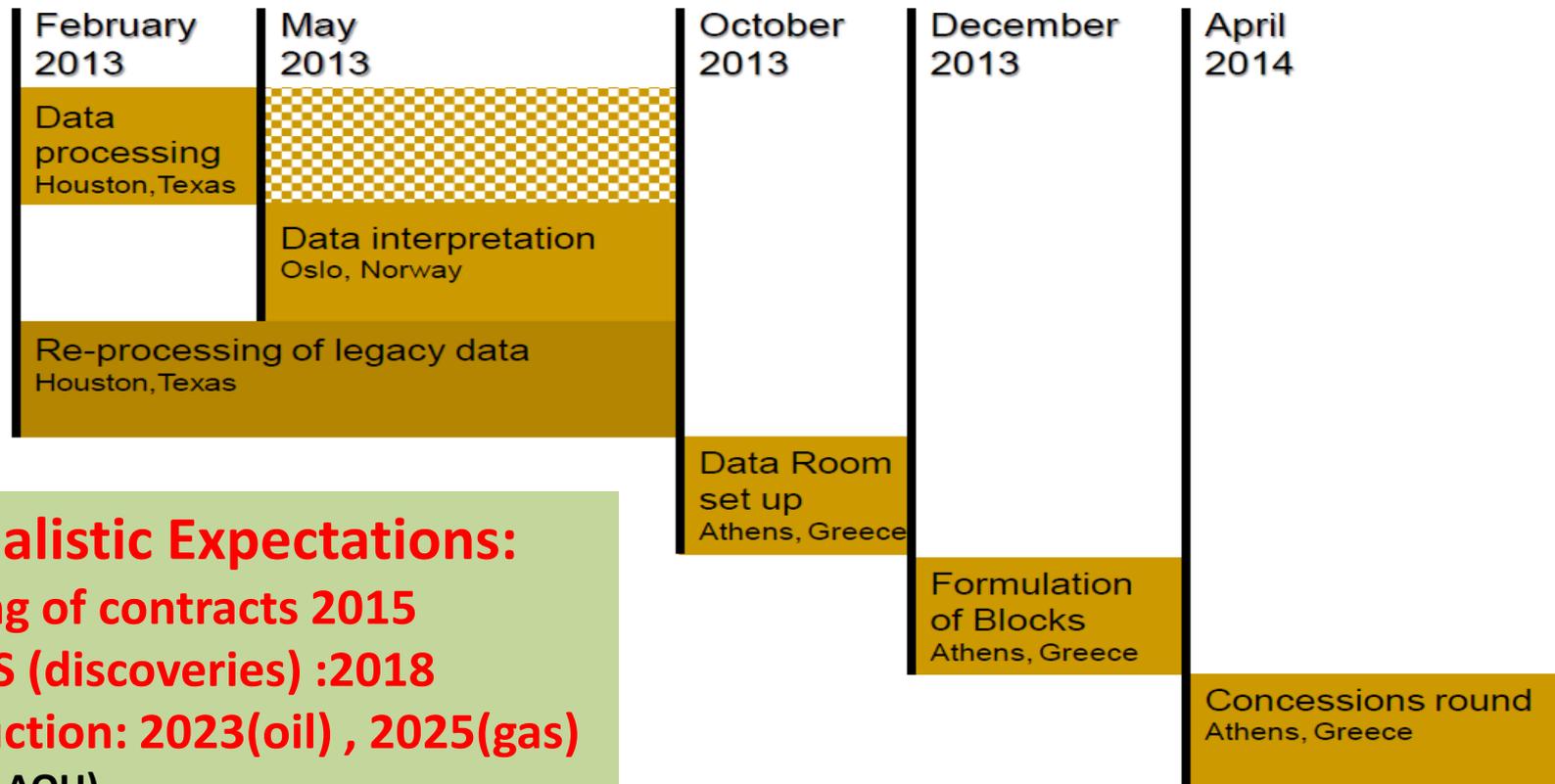


NON EXCLUSIVE SEISMIC SURVEYS AND FUTURE EXPLORATION ROUND

(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)

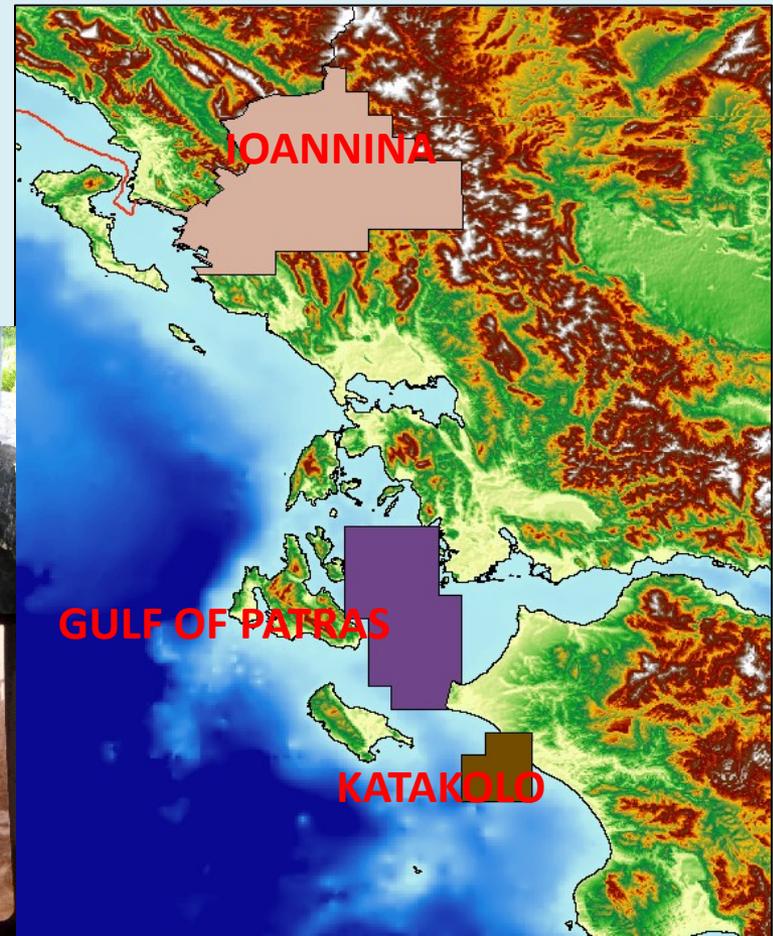
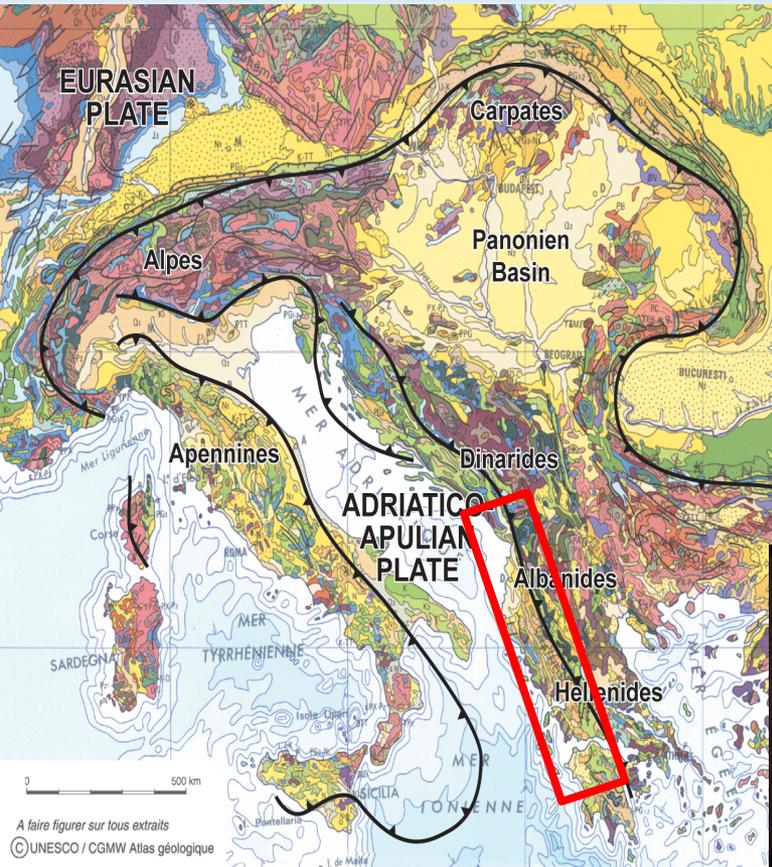
REVIVAL E&P 2ND PHASE: FIRST "OPEN DOOR" TENDER

AREAS INTEGRATED IN THE PROCESS:

GULF OF PATRAS (2118 SQ KM), EPIRUS – IOANNINA (4219 SQ KM), WEST KATAKOLON OIL FIELD (545 SQ KM)

- FIRST ANNOUNCEMENT OF THE TENDER: **SEPTEMBER 2011**
- OFFICIAL ANNOUNCEMENTS OF THE TENDER: **2ND OF APRIL, 2012**
- OFFERS: **2ND OF JULY 2012** [8 OFFERS: (IOANNINA=4, PATRAIKOS=2, KATAKOLON= 2)]
- OPENING OF OFFERS - BEGINNING OF EVALUATION : **2ND OF SEPTEMBER 2012**
- **JUNE 2013**: 6 OFFERS STILL UNDER EVALUATION AND NEGOTIATIONS !!!
- SIGNING OF CONTRACTS **????**

External Hellenides geotectonic zones

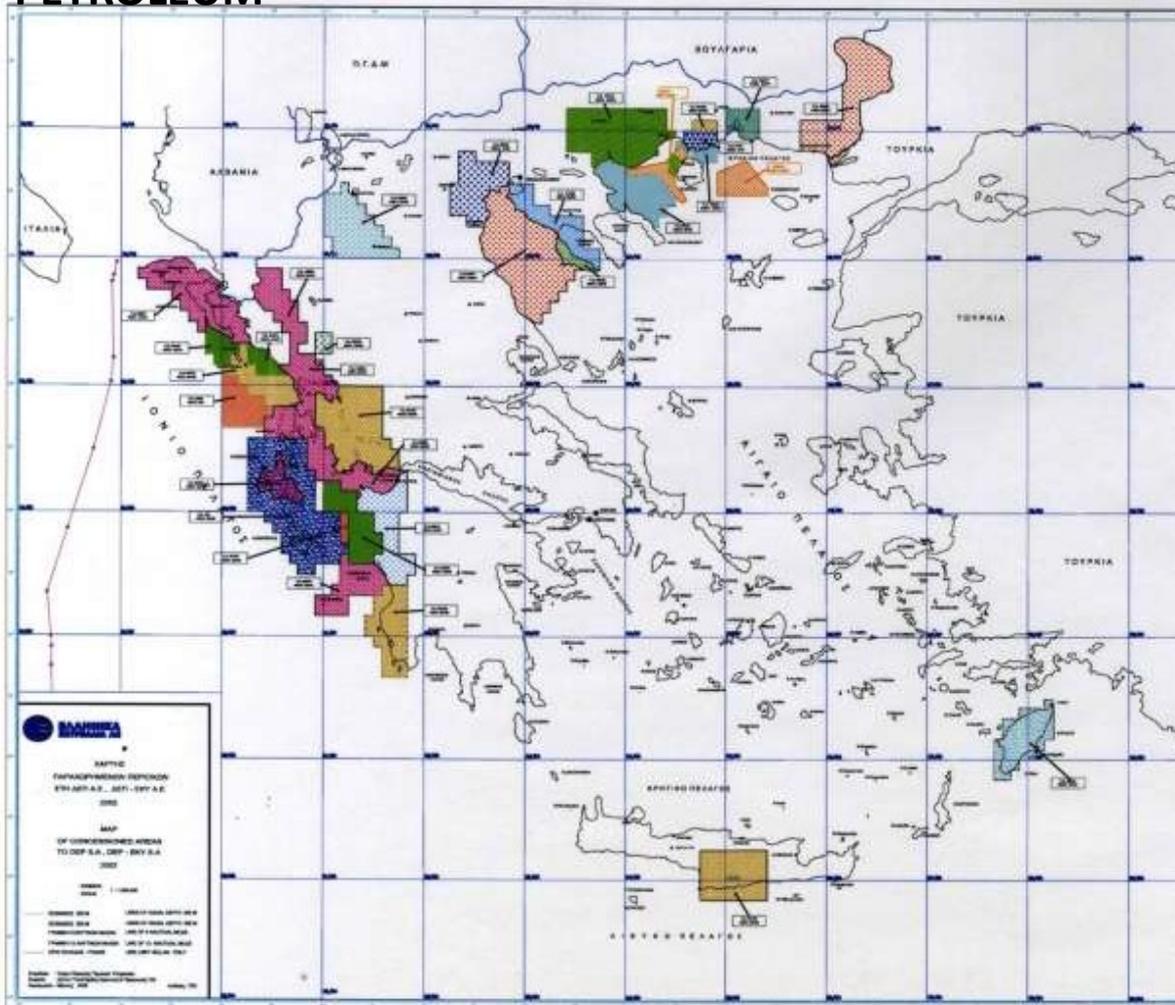


Potential areas for future “open door” tenders

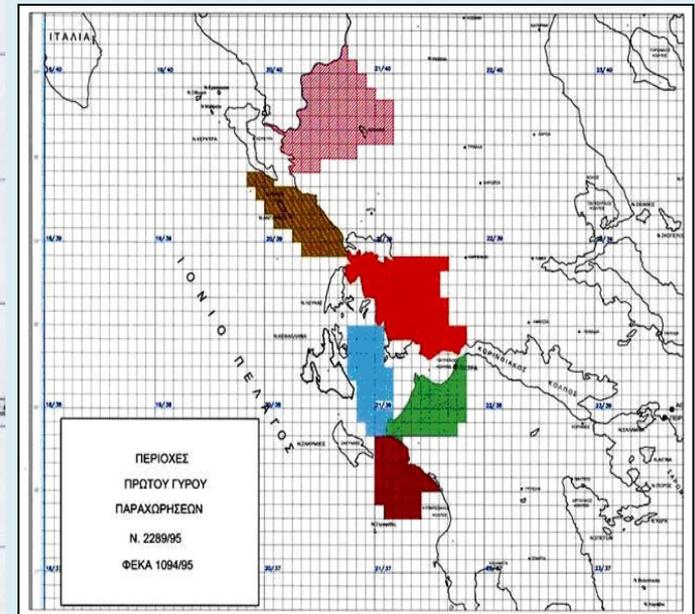
[Areas had been relinquished by previous operators]

How and When ???

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



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



CYPRUS



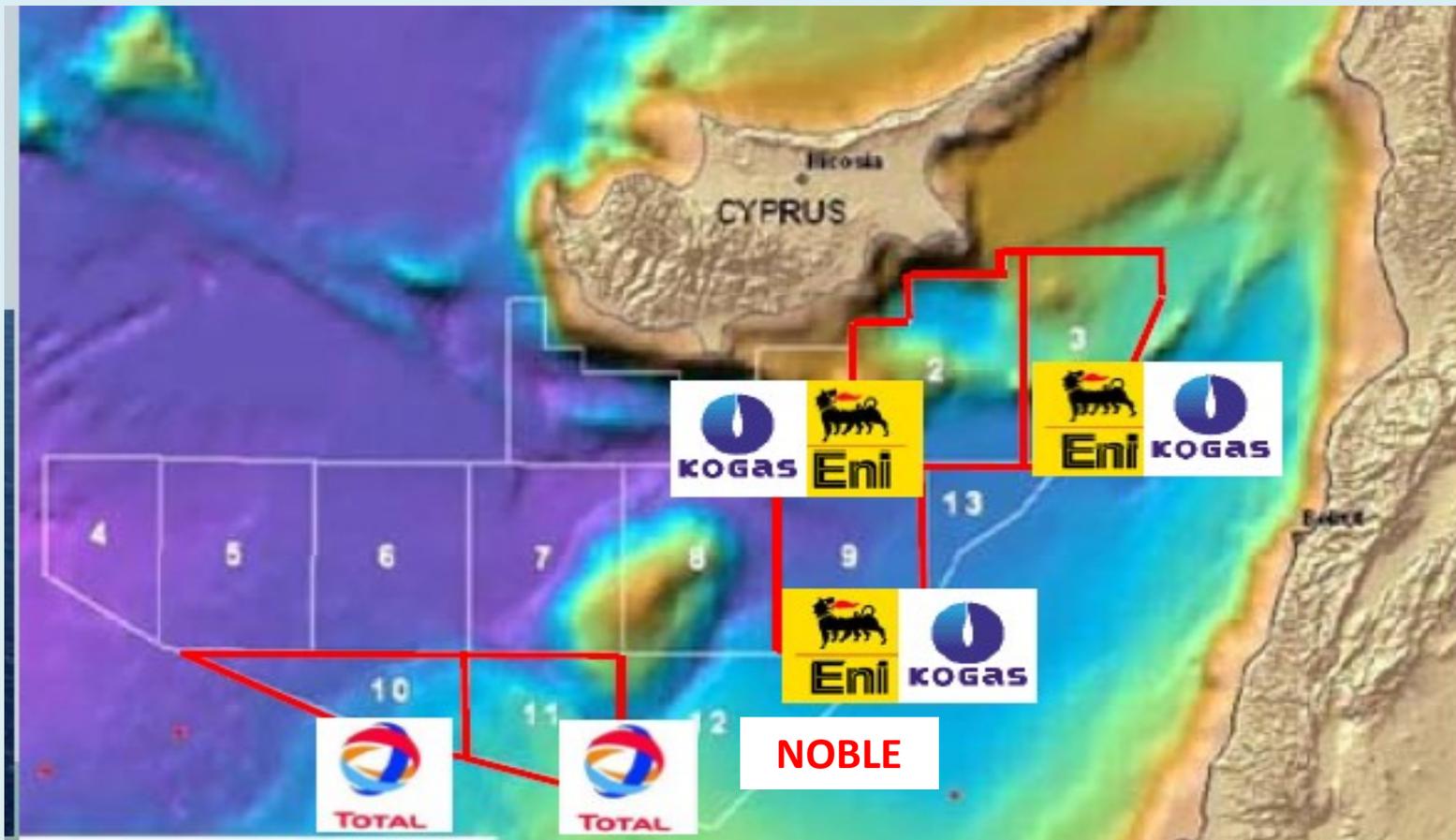
**Information from CNHC,
[recent presentations (Ch. Ellinas and S. Kassinis)]**

CURRENT STATUS OF EXPLORATION LICENSES

1st Exploration Round: **Block 12**: Noble Energy (70%) –Delek Drilling (15%) –Avner Exploration (15%)

2nd Exploration Round : **Blocks 2, 3 & 9**: Eni(80%) –Kogas(20%)

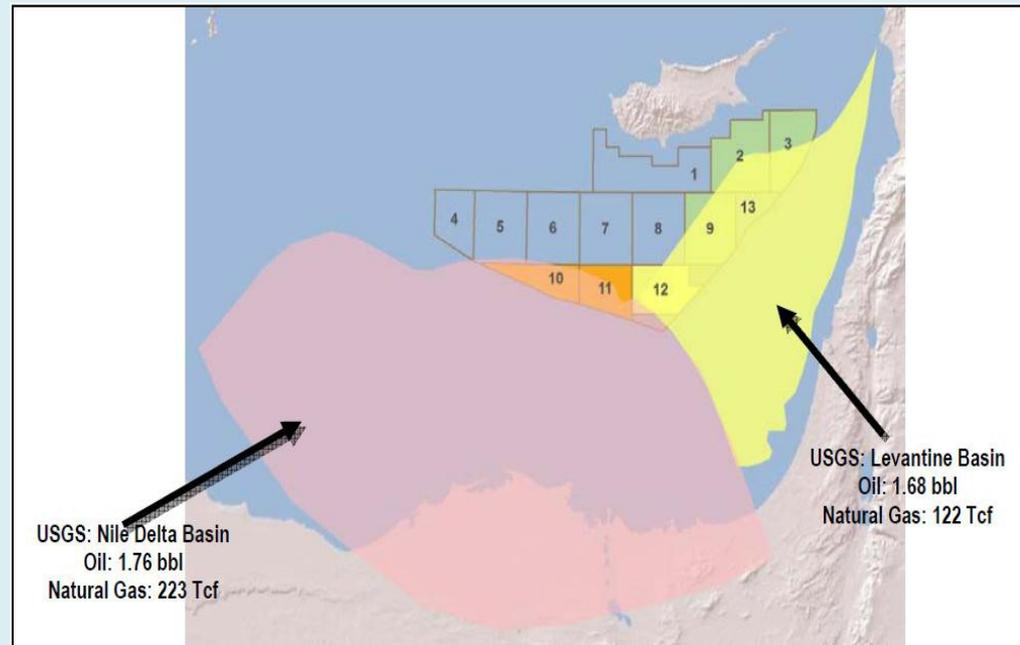
Blocks 10 & 11: Total (100%)



ASSESSMENT OF RESOURCES Offshore Cyprus

- In accordance to a study by the US Geological Survey (USGS) the Levantine Basin potentially holds about 122 tcf of natural gas, of which 60 tcf are in the Cyprus EEZ.
- Noble Energy has already discovered about 7 tcf gross mean resources in Cyprus' EEZ and is in the process of appraisal drilling.
- Noble has strong indications through the evaluation of their 3D survey data that there is another gas field in Block 12, possibly of the order of about 3-5 tcf.

- All indications are that Block 9 holds substantially more gas resources than Block 12.
- Based on the above, it is estimated that all 6, licensed, Blocks potentially hold 40 tcf of natural gas.

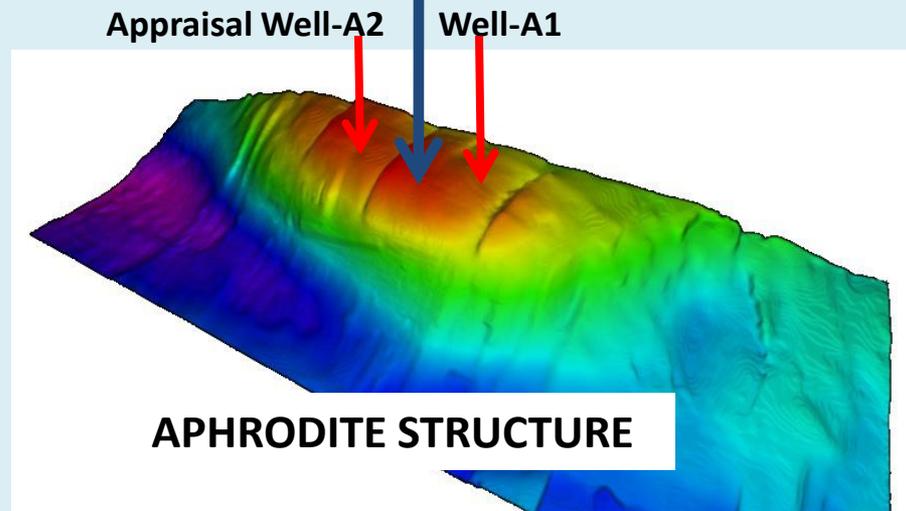
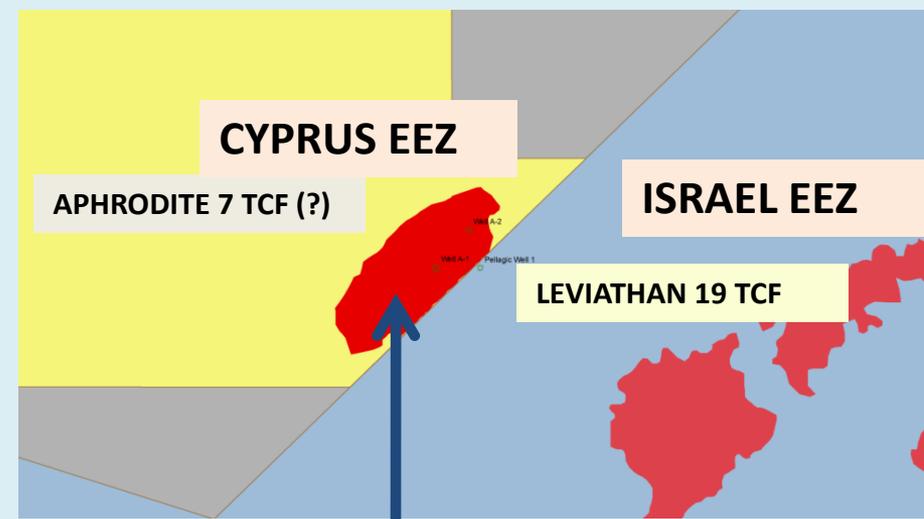


APHRODITE DISCOVERY

The drilling of the “Appraisal Well” commenced in June 2013.

End of drilling/testing: October 2013

Final Results: End of the year
(confirm gas volumes and commerciality, taking into account export and project execution options).



| | Water Depth(m) | Total Depth(m) |
|---------|----------------|----------------|
| Well-A1 | 1,688 | 5,860 |
| Well-A2 | 1,730 | 5,950 |

Development of Aphrodite

The political decision for the establishment of an onshore LNG plant has been taken

- Preliminary Front End Engineering Design: This is in progress and will be completed by Q2 2013.
- Appraisal drilling will take place during the summer of 2013, and by Q4 we should be able to confirm gas volumes and commerciality, taking into account export and project execution options.
- Expect to complete FEED by Q1 2015 and LNG sales before the middle of 2015.
- The Final Investment Decision (FID) is targeted to be taken before the end of 2015.
- Start construction of the offshore facilities, subsea pipeline and the LNG Plant at Vasiliko early in 2016.
- Delivery of natural gas for the local market is expected by the end of 2018.
- End of 2019 the LNG Plant should be operational, starting LNG exports

Design of VASILIKO LNG TERMINAL

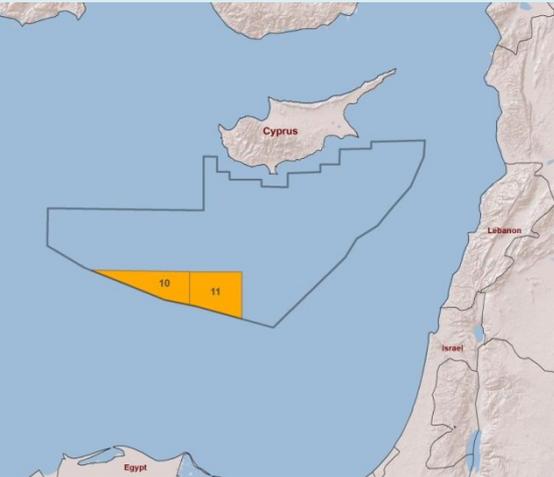


- By 2025 Cyprus could be in a position to export 25 million tones LNG (35 bcm) per year, starting with 5 million tones (7 bcm) by 2020.



NEW EXPLORATION LICENSES - TIME SCHEDULES

TOTAL: Exploration Licences -Blocks 10 & 11

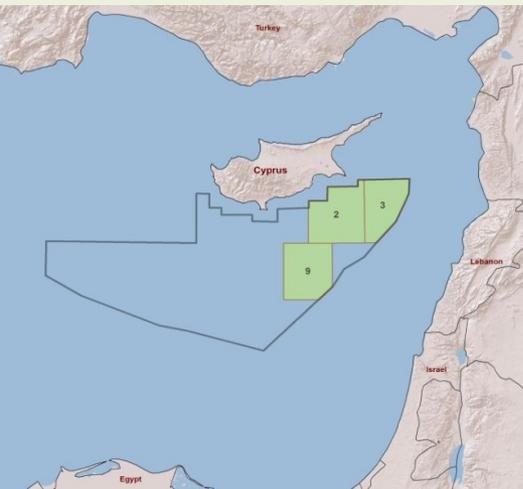


February 2013
Hydrocarbon Exploration Licences

Q 3- Q 4, 2013 Geophysical Surveys

2014-2015 Exploratory Wells

ENI & KOGAS: Exploration Licences -Blocks 2, 3 & 9



January 2013
Hydrocarbon Exploration Licences

Q 3- Q 4, 2013 Geophysical Surveys

2014-2015 Exploratory Wells

auxiliary slides

CYPRUS E&P: Regulatory Framework

•Production Sharing Contract

- Exploration License: Granted for 3 yrs; ability for two renewals of 2 yrs each
- Exploitation License: Granted for 25 yrs; ability for one renewal of up to 10 yrs

•Zero Taxation

Criteria for Evaluation

- The Technical and Financial ability of the applicant
- The ways in which the applicant intends to carry out the activities
- The financial consideration
- Any lack of efficiency and responsibility ,under any previous license
- National security and public interest

Rights for exploration and exploitation of hydrocarbons are granted on behalf of the Greek State:

- a) Either after **an invitation to tender**,
- b) Or after **submission of application by an interested party**
- c) Or after an **open invitation (open door)**

BIDDABLE TECHNICAL AND FISCAL PARAMETERS

- Euro commitment for each phase
- Royalties linked to the ratio Revenue/Costs
- Capital depreciation
- Exploration Work Program for each phase
- Signature and Production bonus
- Training
- Relinquishments

FISCAL TERMS

Type of Agreements : Royalty/Tax

Royalty 2 – 20%

Income tax 20% + 5% regional tax (total **25%**)

Depreciation: 40 – 70%

EXPLORATION STAGE

Exploration Stage shall be divided into consecutive Exploration Phases as follows:

ONSHORE : 7 years. (Three phases: 3 years; 2 years; 2 years)

OFFSHORE : 8 years. (Three phases: 3 years; 2 years; 3 years)

Exit possibility at the end of each Phase

2nd Exploration Phase must comprise at least one well

EXPLOITATION STAGE

The exploitation period will be up to 25 years with possibility of extension