Cyprus Oil Gas Association
Under the auspices of the Cyprus Chamber of Commerce and Industry

NICOSIA May 7th 2014

“Forum on Visegrad Group-Eastern Mediterranean Energy Cooperation”

UNIVERSITY OF CYPRUS

Membership
East Med Industry Developments
Prospects and Investment Potentials

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Energy Technology - Strategy - Investment Advise

www.cyoilgas.org
New Frontiers for Cyprus

“Building the new energy economy”

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Cyprus Oil & Gas Association Membership

The Cyprus Oil and Gas Association (COGA) was founded under the auspices of the Cyprus Chamber of Commerce and Industry, with the aim of serving the interests of the companies and professionals in the oil and gas industry.

Our Objectives:

1. To protect and promote the interests of our members.
2. To provide a forum for discussion on issues of common interest.
3. To promote co-operation and B2B among members.
4. To promote the development of local resources in the oil, gas and petrochemical industries.
5. To collaborate with local and international research centres and institutions to stimulate skills development programs and training in Cyprus.
6. To promote, research, innovation and new Energy Technologies.
7. To Attract Foreign Direct Investment in SPV’s for Industry Infrastructure Projects.
8. To become the regional industry share value hub.

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Ordinary Members:

Any multi-discipline Oil & Gas operator, drilling company, seismic data provider, petrochemical laboratory, importer or exporter of petrochemical products, land storage carriers, field licensee, equipment manufacturer, by-product engineering company, oil and gas consulting firm, marine engineering, oil and gas shipping, LNG bulk carriers, oil tanker operators, company that provides services to clients in the Oil, Gas and Petrochemical industry and satisfies the following conditions is eligible for Each applicant, as described above, shall be reviewed and approved by the Board of Directors.

Associate Members:

Associate Membership will be opened to all service providers, engineering companies providing services to the Oil, Gas and Chemical Industry but not eligible to join as Ordinary Members.

Example: Environmental companies, corporations and individuals involved in activities such as specialist studies in plant safety / loss prevention, design subcontract, manpower supply, sales and/or services of equipment/materials, fabrication of equipment packages, and construction of facilities. Associate members can be legal, secretarial, auditing, management consultancy, financial services, facility architects and civil engineering designers, oil and gas asset finance companies, engineering professors and students in the related field. The Board has the right to expand the list on its discretion to cover other related fields.
Maritime Boundaries

**International Bilateral Agreements**

- **Arab Republic of Egypt**
  - Delimitation of the EEZ (2003)
  - Framework Agreement concerning the development of cross-median line hydrocarbon resources (2006)

- **Lebanon**
  - Delimitation of the EEZ (2007)

- **Israel**
  - Delimitation of the EEZ (2010)
New Cyprus Economy?
Oil & Gas Will Dominate the Energy Mix

65%Gas grows faster than any other major fuel source, with demand up 65 percent by 2040.

Source: ExxonMobil

Oil and Gas will continue to dominate the energy mix
Global Energy Demand

[Graph showing energy demand from 1990 to 2040 for OECD and Non-OECD, with a dashed line at ~500 Quads representing energy saved through efficiency gains.]

Global Energy Mix

[Bar chart showing energy mix in 2010 and 2040 for Oil, Gas, Coal, Nuclear, Biomass, Wind/Solar/Biofuels, and Hydro/Geo.]

(1) OECD = Organisation for Economic Co-operation and Development.

Source: ExxonMobil, 2013 The Outlook for Energy: A View to 2040
How Petroleum and Natural Gas Were Formed

Tiny sea plants and animals died and were buried on the ocean floor. Over time, they were covered by layers of sediment and rock. Over millions of years, the remains were buried deeper and deeper. The enormous heat and pressure turned them into oil and gas.

Today, we drill down through the layers of sedimentary rock to reach the rock formations that contain oil and gas deposits.

Note: not to scale
Exploration Activities – Block 12

The drilling of the “Appraisal Well” is anticipated to commence in June 2013.
Cyprus
Aphrodite - Block 12

“A New Milestone in Cyprus History”

09/11/2013 19:32

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Block 12 – Development Plan

- Verification (exploratory) well drilling
- Reservoir appraisal and assessment
- Studies on the installation of offshore and onshore equipment
- Production drilling and well completion
- Subsea system installation
- Deep water host commissioning
- Export pipeline installation
Efficient Options for Monetizing Natural Gas

- **Pipeline**
- **LNG**
- **LNG + GTL?**
- **Gas-To-Liquids (GTL) - Fischer Tropsch**
- **Stranded or Possibly GTL (Methanol DME)**

**Gas delivery (bcm/year)**

- 16
- 14
- 12
- 10
- 8
- 6
- 4
- 2
- 0

**Distance to consuming market (km)**

- 0
- 1,000
- 2,000
- 3,000
- 4,000
- 5,000
VASSILIKOS ENERGY PORT
VASSILIKOS LNG TERMINAL

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EXPORTING POSSIBILITIES (LNG)

PROPOSED VASILIKOS 3 X 5 MTPA LNG TRAINS + BLACK PRODUCTS + WHITE PRODUCTS

Source: Wallace P. (2011) Gaz De France
LNG SHIP & FSRU
Demand Will Drive LNG Growth

From 303 mtpa (~40 Bcf/d) in 2015 to 511 mtpa (~68 Bcf/d) in 2030 – 3.5% CAGR
~ 14 mtpa average growth (~three 4.5 mtpa trains)

Source: Facts Global Energy
Traditional vs. Full-Floating LNG Chain

FLNG

FRSU

LNG Producing Region

Transportation

Consuming Region

FLNG or FPSO

Transportation

FSRU

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COMPRESSED NATURAL GAS (CNG)

Source: Stenning (2012).

Produced by The MIT Energy Initiative, Massachusetts Institute of Technology
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Pipeline to Europe? Geopolitical Debate

The priority is to build a liquefied natural gas (LNG) terminal, but a pipeline could have advantages for Europe.
Pipeline to Turkey? Geopolitical Debate

The numbers are there. Israel's current gas reserves total 25-37 trillion cubic feet. Cyprus, still in the early exploration phase, claims it has 60 tcf. The U.S. Geological Survey said in 2010 the Levant Basin, which covers Israel, Cyprus, Syria, Lebanon and the Gaza Strip, contains an estimated 123 tcf.

The Republic of Cyprus reportedly rules out allowing a pipeline to Turkey through its exclusive economic zone until there's been a settlement to the Cyprus Problem.

According to some analyst’s Israel's not likely to agree to a costly LNG plant on Cyprus if there's no pipeline to Turkey. It wants a firm answer by early 2014.

Cyprus Shipping Ranks No 3 in EU in the 10 top in the World
THANK YOU FOR YOUR ATTENTION

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Please visit www.cyoilgas.org for information and updates