Eastern Mediterranean gas: a case for pragmatism

Conference on
"The future of East Med gas"
AC, FES, IAAI, PRIO, Nicosia, 2016

Dr. CHARLES ELLINAS
CEO e-CNHC

Contents

Overview

- Global energy markets are undergoing structural change
- Ratification of Paris Climate Change Agreement
- Trump’s election to the US presidency
- Cyprus and East Med need to find buyers for their gas
- Gas glut in global market – low gas prices
- Cyprus and Israel are running out of export options
- Egypt is moving forward
- Lebanon is stagnant
- Turkey may be the catalyst

e-CNHC
E-C Natural Hydrocarbons Company Ltd

The East Med

Bilaterally agreed delimitation of exclusive economic zone (EEZ)
Probable EEZ boundaries according to UNCLOS
Blocks in which hydrocarbons have been found
Gas fields
Turkey
Syria
Cyprus
Lebanon
Aphrodite
Disputed area
Tamar
Leviathan
Dalit
Zohr
Israel
Mari-B
Gaza Marine
GAZA
Damietta
Idku
Egypt

Egypt

- Egypt, Zohr, major highlights in East Med in 2016
- Zohr on fast-track to produce 10 bcm/y end of 2017 and rise to 27 bcm/y by 2019
- Egypt going through rapid transformation due to:
  - President Al-Sissi has pulled all stops
  - Egyptian market hungry for gas
  - High gas prices between $4-$6 per mmBTU
- Egypt can bring onstream 60 bcm/y new gas by 2019-20
- Can resume LNG exports by 2021-22
- Impacts hopes of Cyprus and Israel to export gas to Egypt
- Risks: ability to pay debts and security

e-CNHC
E-C Natural Hydrocarbons Company Ltd

Israel and the Leviathan factor

- **Regulatory framework deal has been approved**
- **Sales to Idku may be thwarted by commercial and geopolitical challenges**
- **Question: what will Shell do with BG's assets in Egypt?**
- **Possible market: Turkey**
- **Israel-Turkey have resumed diplomatic relations**
- **May open the way for export of Israeli gas to Turkey**
- **FLNG an option**

e-CNHC
E-C Natural Hydrocarbons Company Ltd

Regional markets: Turkey

- Diplomatic activity with Russia/Israel has now produced results
- Israeli gas an alternative but Cyprus in the middle
- Energy security: Turkey re-evaluating future energy mix
- TurkStream back on track
- East Med gas may no longer be an urgent priority
- Rapprochement with Israel opens way for Leviathan gas
- But there are risks

e-CNHC
E-C Natural Hydrocarbons Company Ltd

Cyprus

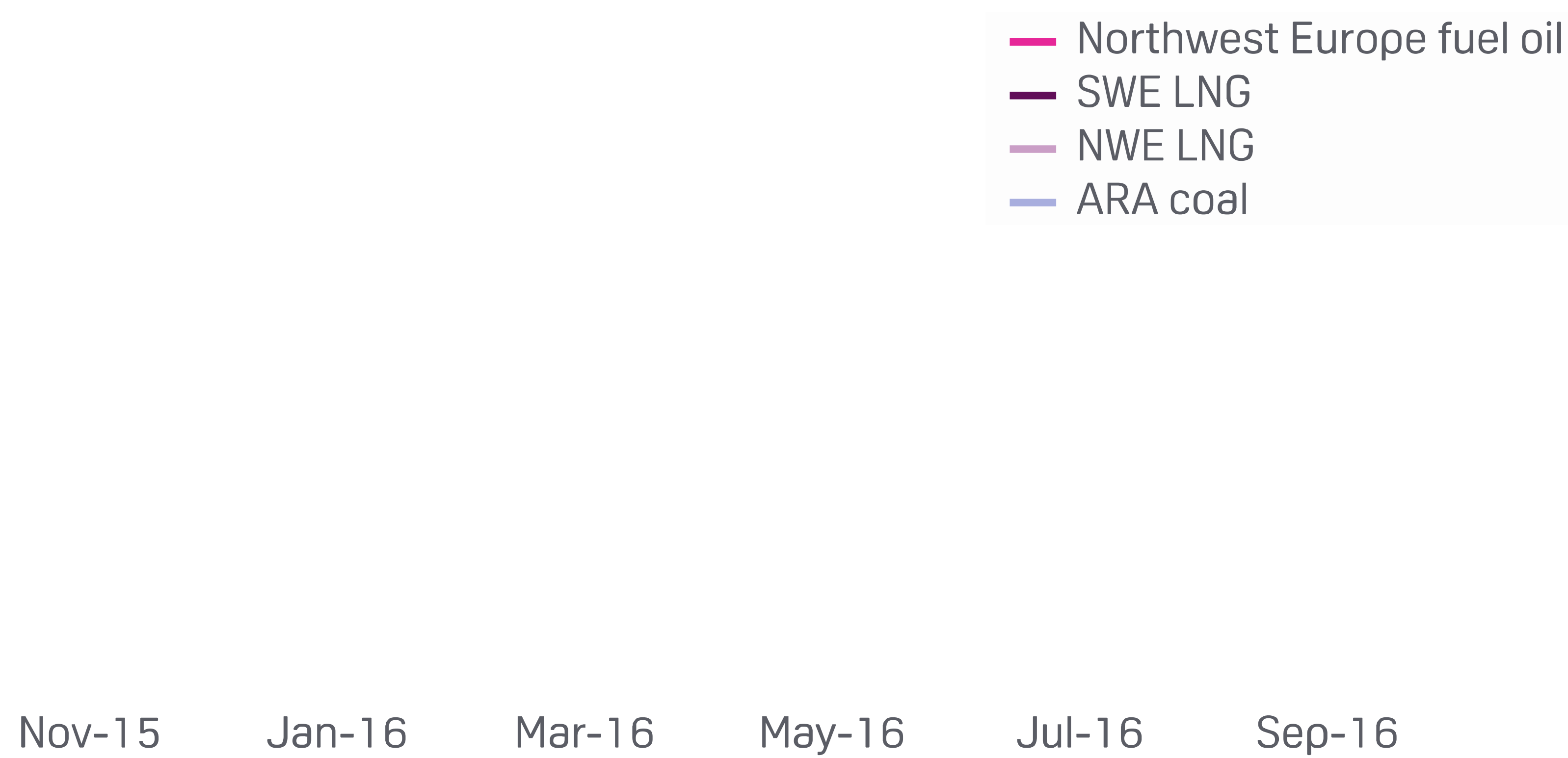
- Priority Cyprob negotiations
- Third offshore licensing round success – blocks 6, 8 and 10
- Total to drill in block 11 April 2017
- Gas exports to Egypt commercially challenged
- Aphrodite gas exports stalled
- This leaves Turkey

Gas in Europe

- Gas demand in Europe at best stagnant – down 20% from peak 10 years ago
- It may have peaked already
- Key reasons are cheap coal and subsidized renewables
- No prospect of these factors being reversed anytime soon
- Russian gas supplies increasing due to low price, $4/mmBTU
- US LNG trying to get in but with limited success
- Costly to develop gas-fields dependent on exports to Europe may remain stranded

e-CNHC
E-C Natural Hydrocarbons Company Ltd

European gas and coal prices



e-CNHC
E-C Natural Hydrocarbons Company Ltc

How to get East Med gas to Europe

Five main options

- **Get it to Egypt, liquefy it and export it to Europe as LNG**
- **Get it to Turkey and from there to Europe through the Southern Gas corridor**
- **Pipeline from Israel to Cyprus to Greece to Europe**
- **FCNG**
- **FLNG**

FLNG a possible longer term option for exports to Europe and Asia

Concluding remarks

- There are opportunities for the region to export its gas, but not at any price and at any time!
- The East Med region is volatile. Developing and exporting its gas is a challenge, especially in the prevailing low demand - low price environment
- Of the regional options, export to Turkey is commercially the most viable.
- In the longer term, FLNG may become a serious option for gas exports to Europe and the Asian markets.
- East Med gas dynamics are changing rapidly and global markets and prices are undergoing a long-term structural shift. The region needs to plan with realism and pragmatism.

e-CNHC
E-C Natural Hydrocarbons Company Ltd