

Cyprus & the Eastern Mediterranean as a Sustainable Energy Hub

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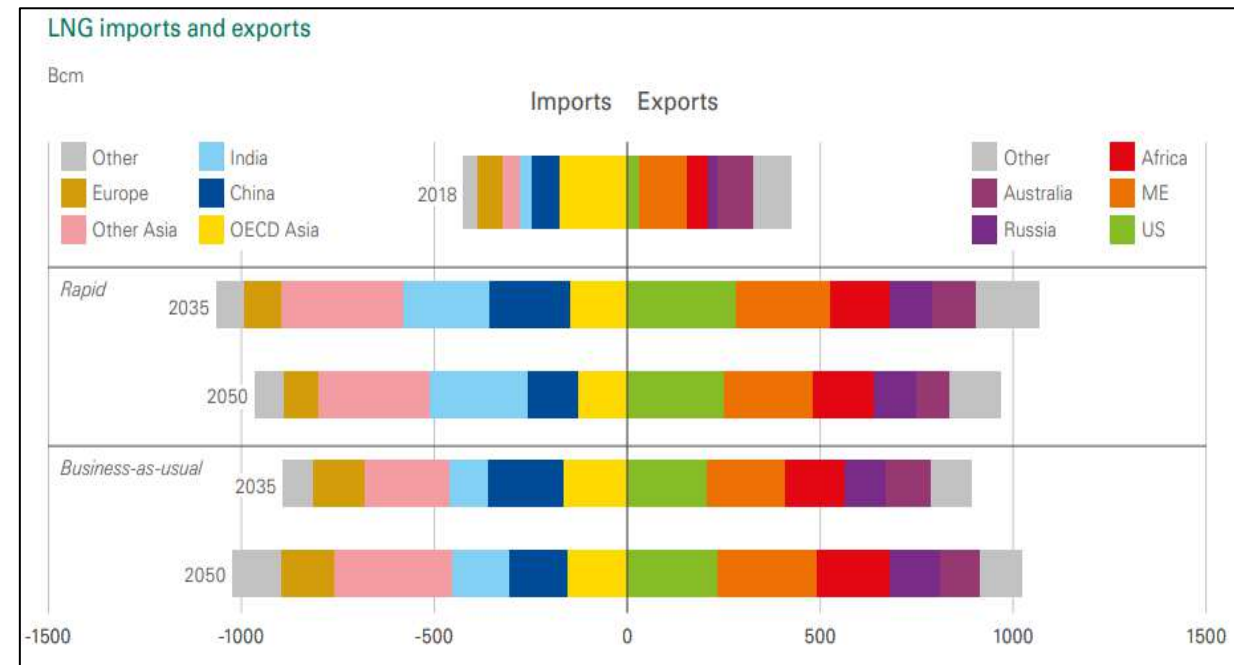
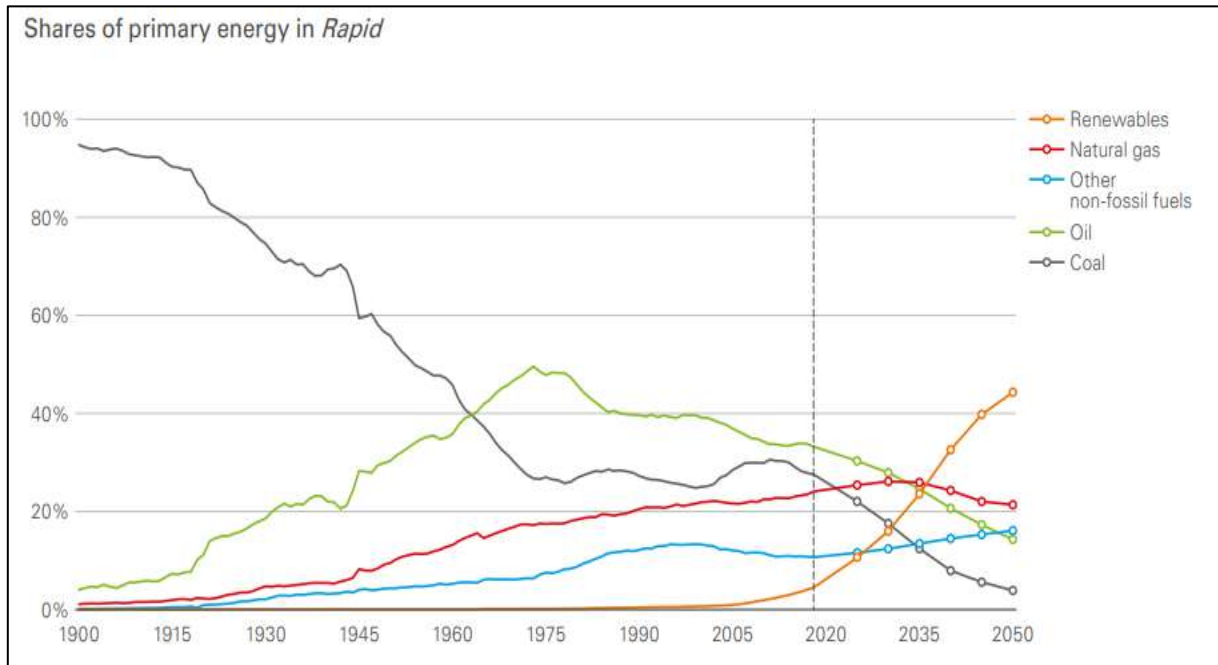
Local / Global Energy Challenges

- Global Energy Challenges
 - Growing Population
 - Rising Energy Demand
 - Improving Energy Mix
 - Energy Price Fluctuations
 - Mitigating Climate Change
 - Improving Air Quality



The Outlook For Natural Gas

- Demand to remain strong even in a rapid energy transition
 - Increase over next 15 years
 - More resilient than oil and coal as an energy source
- Significant Growth in LNG Demand
 - Chiefly driven by Asian Markets
- Transition will take time
 - Energy security
 - Infrastructure investments



Source: BP Energy Outlook, 2020

Cyprus EEZ – Activity Snapshot

- Activities in 9 blocks
- 8 Exploration Licenses
- 1 Exploitation License
- 8 Exploration/Appraisal Wells
- 3 Discoveries



Licensing Round	Block	Operator	Partners	Status		
1 st	12	Chevron	Shell, Delek	Exploration	Discovery	Development
2 nd	2,3 & 9	ENI	Total, KOGAS	Exploration	Discovery	Development
	11	Total	ENI	Exploration	Discovery	Development
3 rd	6	ENI	Total	Exploration	Discovery	Development
	8	ENI	Total	Exploration	Discovery	Development
	10	Exxon	QP	Exploration	Discovery	Development
Rest.	7	Total	ENI	Exploration	Discovery	Development

Aphrodite Field Monetisation



➤ Challenge:

- ✓ Low Price Environment
- ✓ Field isolated from Infrastructure

➤ Destination: Egypt

- ✓ Supply & Demand
- ✓ Availability of Infrastructure

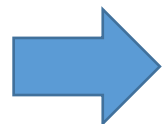
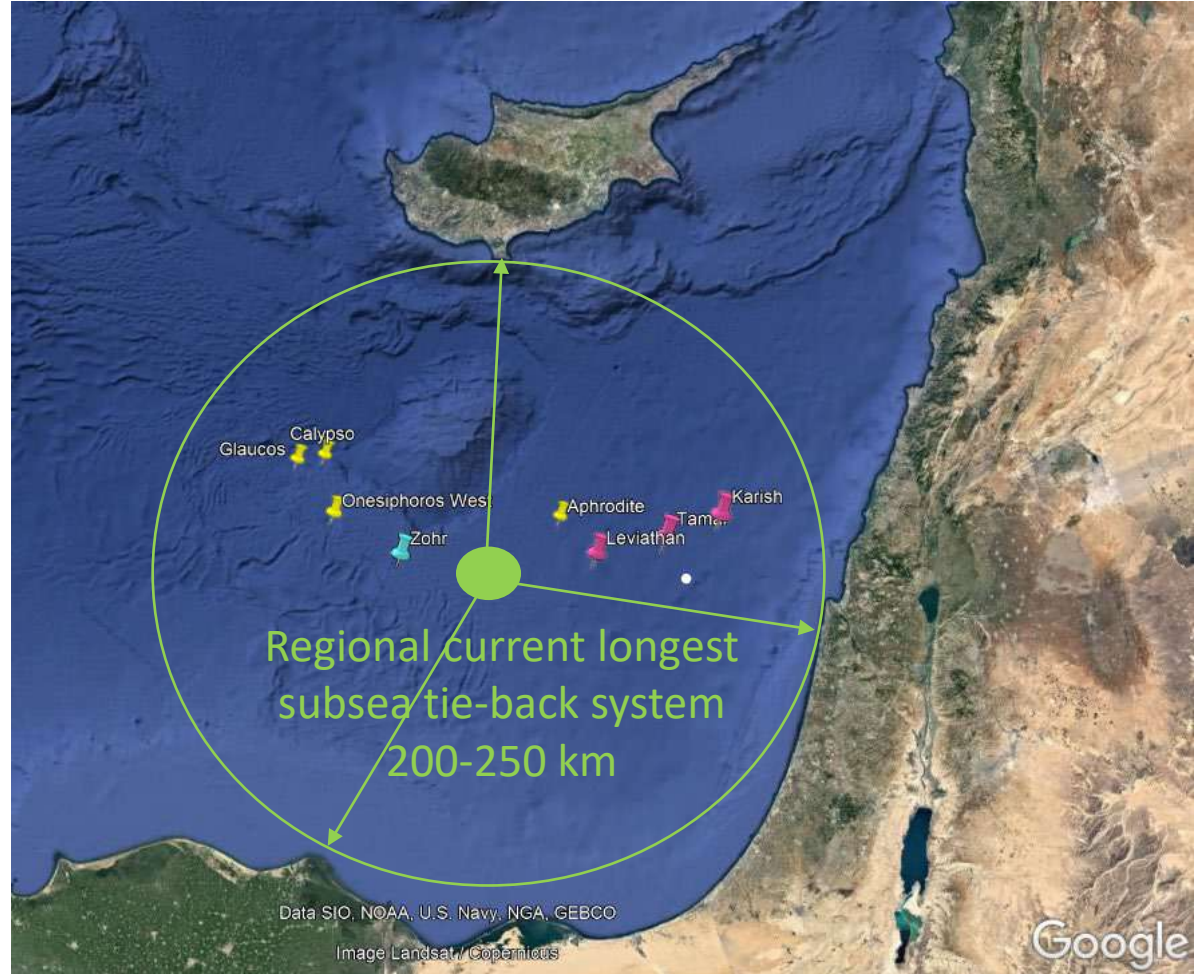
➤ Solution:

- ✓ Synergies across the value chain
- ✓ Robust technical solution



Developing 'isolated' gas fields

- Gas requires transport to end market
 - More challenging than oil development
- Discoveries in deepwater
 - All wells drilled in Cyprus EEZ ~ 1500 -2000 m WD
- Isolated from infrastructure
- Topography
 - Eratosthenes seamount
 - Cyprus Arc
 - Deepwater Channels



It is a matter of time for technology to overcome technical challenges

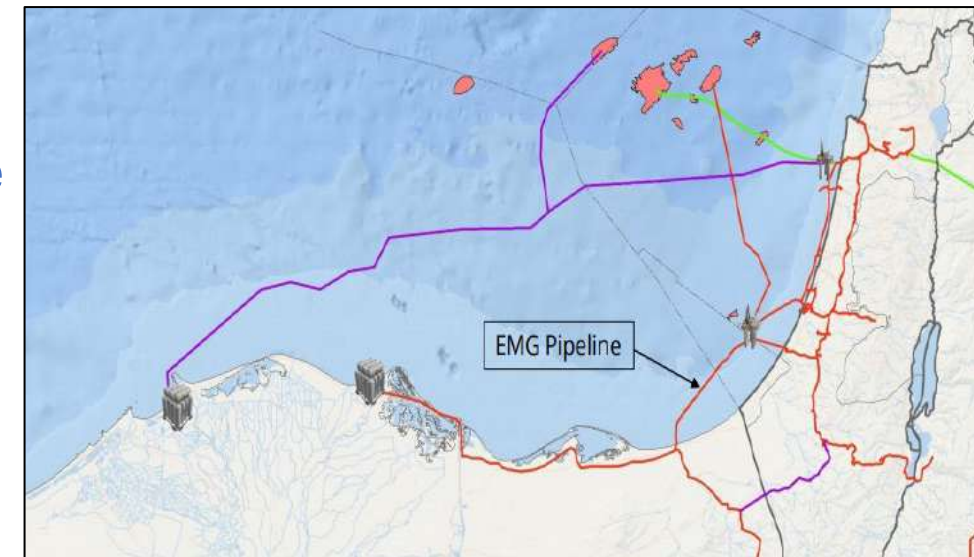
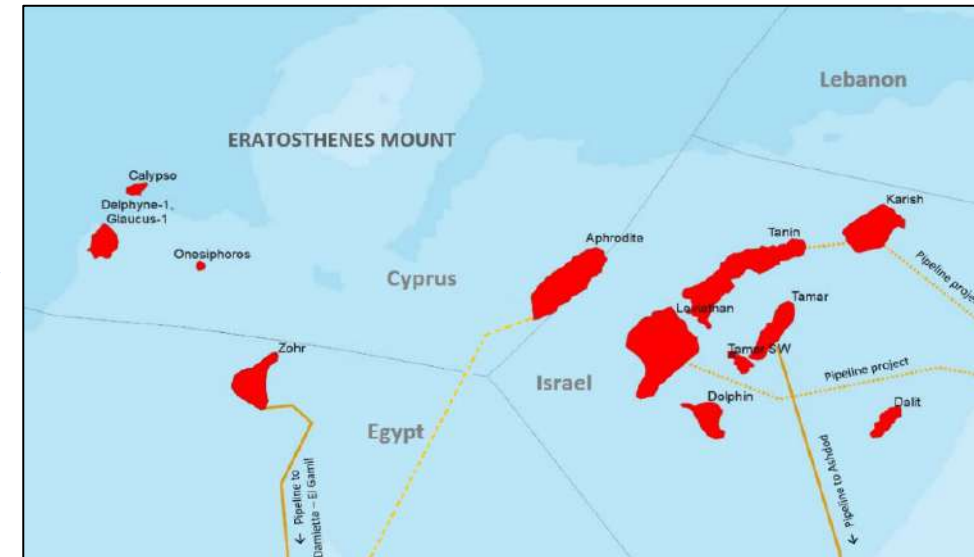
Seek Economies of Scale

➤ Joint field developments

- Discoveries are in close proximity to each other
- Several shared characteristics (water depths, reservoir types, distance to market)
- Design facilities for expandability

➤ Shared Regional Infrastructure

- Cross-border cooperation
 - Already taking place to an extent (Aphrodite FDP, Leviathan gas sales to Egypt)
- The East Med Gas Forum (EMGF) has an important role to play
 - Supported by Gas Industry Advisory Committee which CHC & DEFA are members of



Enabling Gas Developments Sustainably



- Capturing emissions to utilize and store in environmentally acceptable manner
- Reduce carbon footprint with electrification with renewables



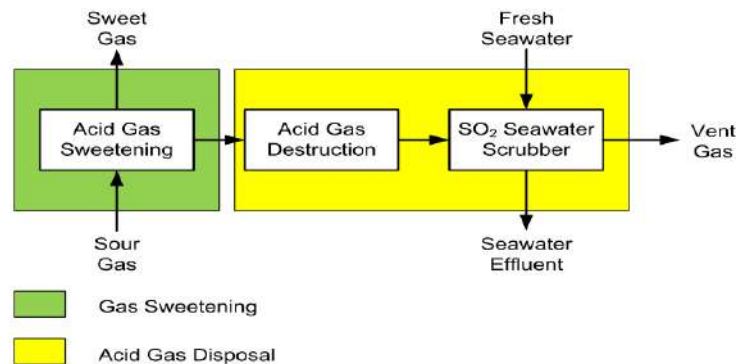
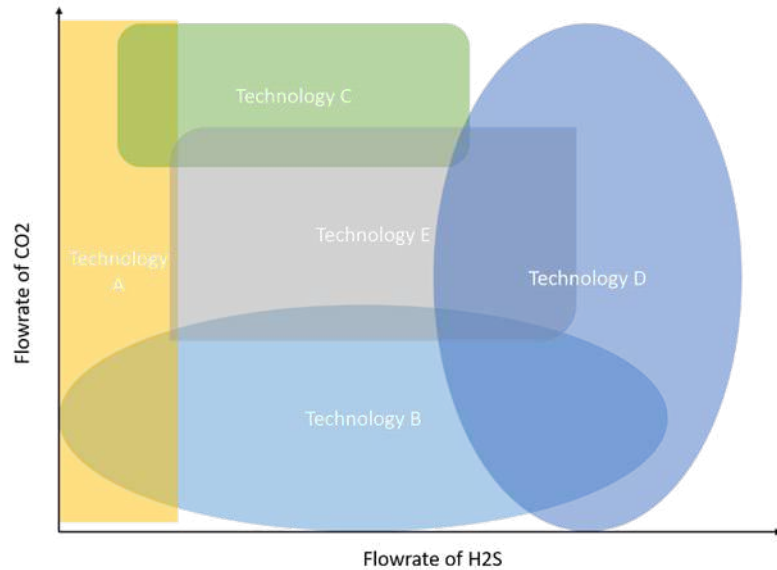
- Investigating FLNG optimization
- Tuning current technology for deep water applications such as all subsea, unmanned floaters.



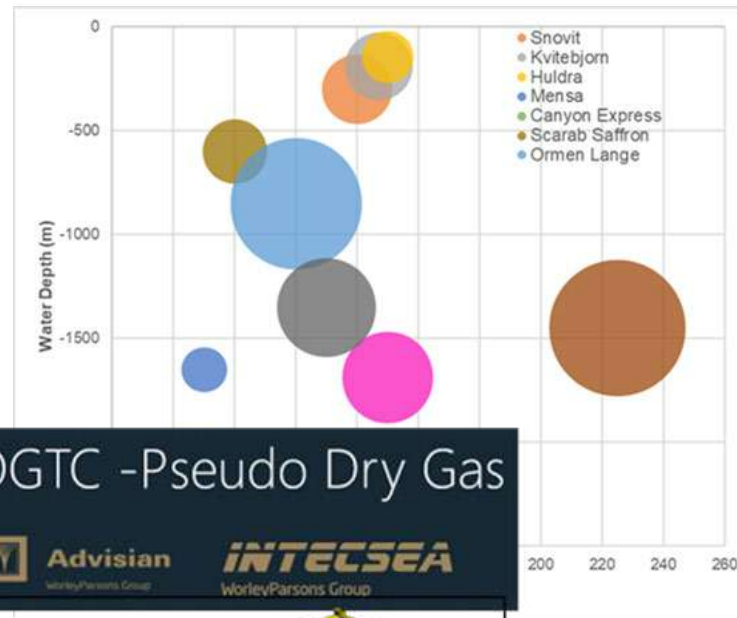
- Supporting the energy transition efforts
- Investigating in concepts related to blue H₂ production and transportation and usage.

CHC – Applied Research and Technology

➤ Capturing H₂S molecules & dispose in environmentally acceptable manner.



➤ Separating gas and liquids subsea pushing for longer tiebacks.

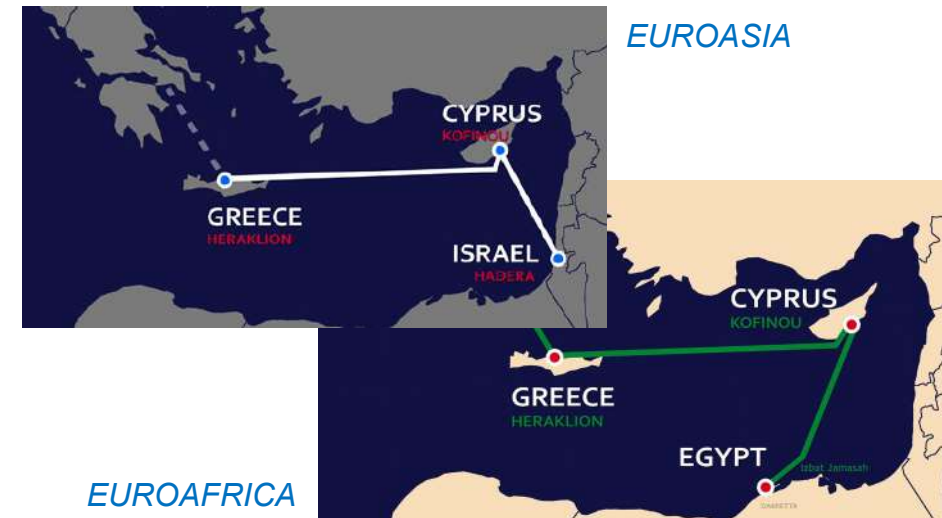


➤ Marine transportation of compressed CH₄, CO₂ and H₂.



Cyprus' role in European Energy Strategy

- Cyprus part of North-South interconnection regional group
- 2 gas projects currently on PCI list
 - Cyprus Gas2EU – Development of gas infrastructure in Cyprus
 - EastMed Pipeline – transport of East Med gas reserves to mainland Europe
- Additionally, these PCI's are linked to the EUROASIA Interconnector PCI
 - Electrical connection between Greece, Cyprus and Israel
 - Take advantage of both gas-fired and RES power generation in Israel & Cyprus



Key Messages

- Outlook for natural gas is that demand will remain strong and significant growth in LNG demand
- Exploration, Appraisal and Exploitation activities ongoing
- Challenge of developing 'isolated' deepwater gas fields
 - Economies of scale
 - Leveraging technology
- Climate Change and Energy Transition
 - Capturing Emissions and emphasis on Decarbonisation
 - Looking into future energy mix
- Cyprus Role in European Energy Strategy
- Commitment to Regional Collaboration





Thank you

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