



NATURAL GAS PUBLIC COMPANY (DEFA)

CYPRUS LNG PROJECT: A GATEWAY FOR REGIONAL COOPERATION

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Eastern Mediterranean
Energy Leadership Summit** **October 1 - 2, 2019 - Athens**



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Connecting Europe Facility

The Cyprus LNG Import Terminal Project

- Acquisition of FSRU
- Construction of the jetty for FSRU berthing and mooring equipment
- Construction of the jetty borne gas pipeline and Loading Arms
- Construction of onshore gas pipeline
- Construction of shore side above ground installation (AGI) pressure reduction and metering station (PRMS)
- Construction of pipeline storage array as a Natural Gas buffer solution



LNG Import Project - Tender Process Developments

- Proposals Submission Deadline was for 12 July 2019
- Major companies active both in Europe and internationally participated in the tender process
- 3 Consortia submitted proposals:
 - Consortium of JV China Petroleum Pipeline Engineering Co Ltd, AKTOR S.A. and METRON S.A., with Hudong-Zhonghua Shipbuilding Co. Ltd and Wilhelmsen Ship Management Limited
 - Consortium Samsung C&T, Posco E&C, Mitsui O.S.K. Lines, Osaka Gas
 - European Consortium (DAMCO Energy S.A., ENAGAS Services Solution S.L.U., GasLog LNG Services Ltd., SNAM Spa, TERNA S.A.)

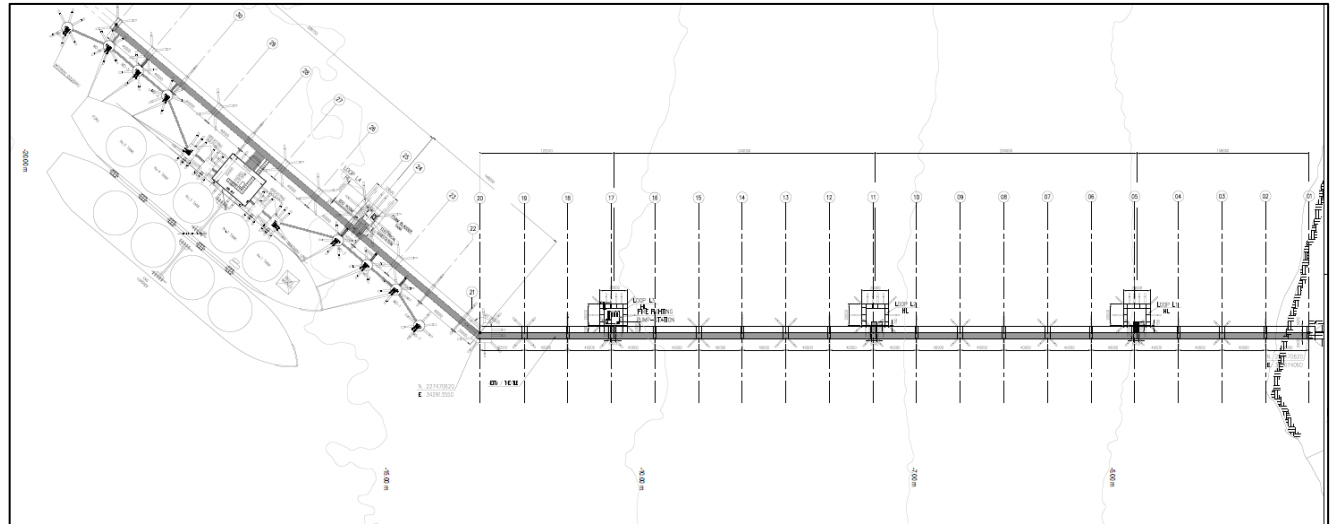
Winning Consortium (Aug 2019)



- **JV**
 - **CPPE – China Petroleum Pipeline Engineering Co Ltd**
 - **AKTOR S.A.**
 - **METRON S.A.**
- **Hudong-Zhonghua Shipbuilding Co. Ltd.**
- **Wilhelmsen Ship Management Ltd**

Winning Proposal – Technical Description

- LNG Import Terminal with Jetty Construction on piles, an FSRU based on conversion of the “GALEA” LNGC (currently owned by Shell Tankers (Singapore) Private Ltd) and jetty and onshore pipe works with onshore gas facilities



Winning Proposal – Technical Description

- Conversion Works at HUDONG Shipyard in China. Will be classed as both LNGC and FSRU
- Vessel Description and Conversion Works:
 - Year and Place of Build: 2002, NSMW – Mitsubishi Heavy Industries
 - Classification Society Lloyds Register
 - Containment System: Moss Rosenberg (spherical tanks)
 - 5 Tanks with overall LNG storage capacity of 136,141 m³ (at normal filling level)
 - Dimensions: Overall Length 290m, Breadth moulded 46m, Depth moulded 25.5m
 - Propulsion: Steam, Dual Fuel



LNG Import Project – Current Stage and Outlook

- Current stage: Process and Contracts finalisation
- Aiming at signing in October-early November 2019
- Contractor has 24 months for completion of works

First Natural Gas for Power Generation before the end of 2021

LNG Supply Procurement Process

- **2 Stage Process:** EoI (prequalification) & RfP
- Participants asked to express interest in supplying LNG through **SPA and/or MSAs**
- SPA **short to mid term** duration (3-5 years)
- Cyprus' LNG Demand will be allotted between SPA and MSAs
 - SPA will cover **base load Quantities**
 - MSAs will be used for **supplementary cargos**
- RfP stage expected for early 2020 and following the award of the LNG Import Terminal Tender to include info impacting the procurement process
 - FSRU Storage Capacity
 - Commencement of Operations Date

LNG Supply Procurement Process

- 25 Eols Received: Participants to expressed interest in supplying LNG through SPA and/or MSAs
 - Gunvor International B.V. Amsterdam
 - Naturgy LNG Marketing Limited
 - Centrica LNG Company Limited
 - Endesa Energia S.A.
 - Cheniere Marketing International LLP
 - Equinor ASA
 - Novatek Gas & Power Asia Pte Ltd
 - Shell International Trading Middle East Ltd
 - Enel Global Trading
 - Eni Trading & Shipping S.p.A.
 - Total Gas & Power Asia Private Ltd
 - Osaka Gas Kabushiki Gaisha
 - Powerglobe LLC
 - Repsol LNG Holding S.A.
 - Petronas LNG Ltd
 - BP Gas Marketing Limited
 - Vitol SA
 - B.B. Energy (ASIA) Pte Ltd
 - Mytilineos S.A.
 - Uniper Global Commodities SE
 - Marubeni Corporation
 - SONATRACH and Public Gas Corporation (DEPA) S.A.
 - Eni SpA (Gas & LNG Marketing and Power)
 - Glencore Energy UK Ltd
 - Mitsui & Co. Ltd

DEFA Driven Projects/Initiatives

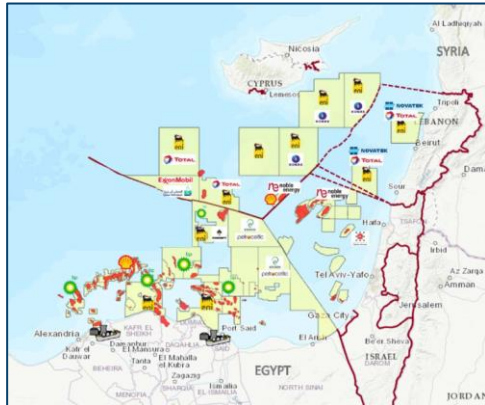
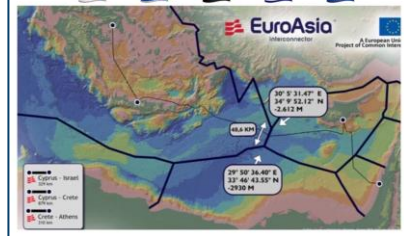
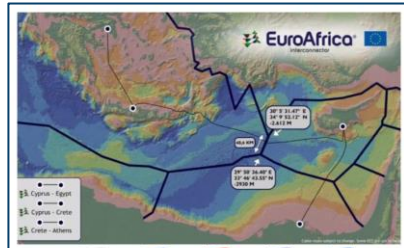
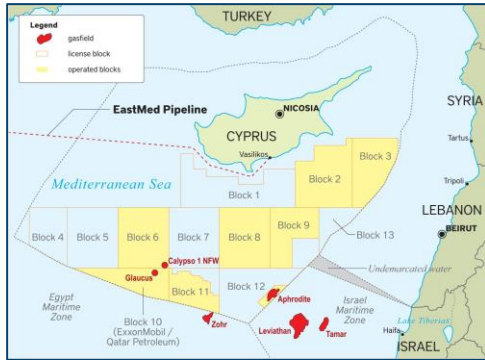
- **Owner's Engineer Tender**
 - To be announced in the coming weeks
- **Open Season Process**
 - Determination of Major End Users, NG Quantities per buyer and Spatial Allocation
 - 3 current licensed IPPs
- **NG Pipeline Network Development**
 - Preliminary Design and Feasibility Study Completed
 - Phase A' – Power Generation supply and development of backbone transmission network
- **Other NG Consuming Markets**
 - Bunkering
 - Industry
 - Road Transport

Cyprus LNG Project

A Gateway for Regional Cooperation

- DEFA Actively Participates in MEDGIO initiative
 - An active platform of the Med TSOs for knowledge transfer and cooperation
 - East Med is a highly active region
- CYnergy Project – DEFA Cy/DEPA Gr Explore Complementary Patterns in NG Supply, Storage, Trade, and Distribution
- DEFA is also in close collaboration with DESFA (Gr TSO), exploring potential ways of collaboration
- LNG Bunkering – BlueHUBS Project: an EU co-funded Project aiming at establishing the supply chains for the distribution of natural gas to port users in the forms of LNG. DEFA is considering a proposal for participation (together with DEPA and other private entities)

Hydrocarbons Related Projects



- ### Infrastructure Projects
- Natural Gas (NG) Pipeline from Vasilikos to Dhekelia Power Station
 - Cyprus Hydrocarbons Company - Monetization of Aphrodite
 - KODAP (Cyprus Organisation for Storage and Management of Oil Stocks)
 - Construction of Tank Farm
 - Multiple Companies move from Larnaca to Vasilikos
 - Liquid Hydrocarbons Storage
 - LPG Facilities and Storage
 - Onshore Hydrocarbons Port Facilities at Vasilikos (Cyprus Ports Authority)
 - Vasilikos Port Expansion (Cyprus Ports Authority)
 - East Med Pipeline

- ### Interconnection Projects
- EuroAsia Interconnector
 - EuroAfrica Interconnector

- ### Drilling and Exploration
- ENI/KOGAS
 - TOTAL/ENI
 - EXXONMOBIL/QP

- ### Power Generation Projects
- EAC Expansion Projects
 - Power Energy Cyprus (PEC)
 - Lysarea Energia Ltd
 - Cyprus Power Thermal Ltd

- ### Petrochemical Projects
- Methanol
 - Ammonia

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