



Mari 260MW CCGT power plant

The first Thermal Independent Power Producer in Cyprus

George Chrysochos, CEO, Cyfield Group





Cyfield Group is a diversified industrial conglomerate and development group

General Information The Group's Activities

- A leading industrial conglomerate and development group
- Presence in Cyprus, Greece and Egypt
- Established in 1990
- A family Business true to its core values and mission
- A trusted group with exceptional credit score

Energy Generation

- Completed 3MW Photovoltaic park; designing another 6MW
- Started constructing a 260MW CCGT Power plant
- O&M capabilities



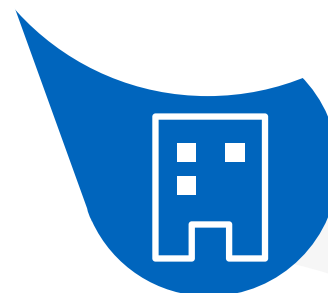
EPC contracting

- A class Contractor
- All civil engineering projects
- Energy Projects
- Detail Engineering and Design
- Cyprus, Greece, Egypt



Manufacturing and trading

- Asphalt concrete
- Quarries for aggregates
- Concrete batch plant
- Precast concrete factory



Land Development and Real Estate

- Both residential and commercial
- Greece and Cyprus
- Expertise in tall buildings





Regulatory and Market conditions are making this power plant a critical national infrastructure (1/3)

Current Market Overview

- Electricity arrived in Cyprus in 1903
- By 1952, the Electricity Authority of Cyprus (EAC) was established
- Currently, EAC is the dominant generator on the island, covering 91% of electricity generation in Cyprus
- The remaining 9% covered by independent Renewable Energy Sources (“RES”) producers
- As per EAC’s Annual report for FY16, the average generating system efficiency recorded in 2016 amounted to 36.25%

	Fuel	Maximum Capacity	Thermal Efficiency (2016 data)
Vasilikos Power Station			

3 x 130 MW Steam Units	Heavy Fuel Oil	390 MW	38.08%

1 x 38 MW Open Cycle Gas Turbine	Gas Oil	38 MW	24.33%

2 x 220 MW Combined Cycle Gas Turbine Units	Gas Oil	440 MW	46.0%
Dhekelia Power Station			

6 x 60 MW Steam Units	Heavy Fuel Oil	360 MW	29.71%

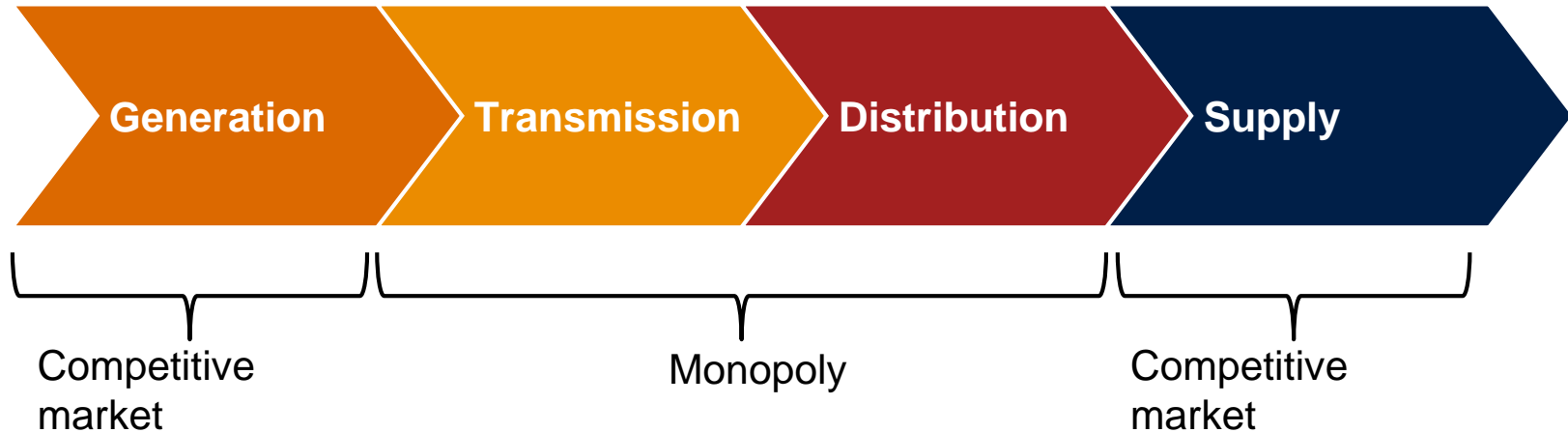
2 x 50 MW Internal Combustion Units	Light Fuel Oil	100 MW	41,58%
Moni Power Station			

4 x 37.5 MW Open Cycle Gas Turbines	Gas Oil	150 MW	24,33%
Total EAC installed Capacity			
		150 MW	24,33%

Regulatory and Market conditions are making this power plant a critical national infrastructure (2/3)



The new Market regulations



- EAC has been unbundled to follow the market directives from the EU
- Transmission System Operator (also the market operator) and Distribution System Operator are in charge of the monopolistic markets
- A standard fixed fee will be charged by the DSO and TSO to all market participants to use the transmission and distribution network



Regulatory and Market conditions are making this power plant a critical national infrastructure (3/3)

The Adoption of the Net-Pool Model

Forward Market

1 Year
Bilateral agreements between generator and supplier

Day Ahead Market

-1 Day
Bidding for access to the grid the day before as per TSO projections

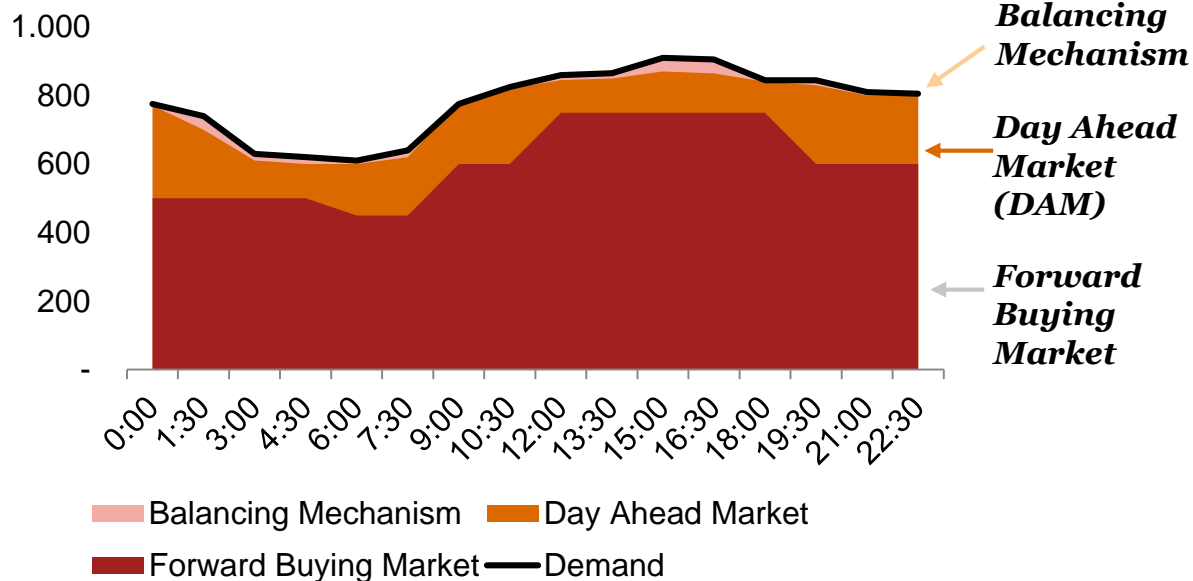
Intraday Market

Day
Allows rescheduling to minimize imbalances

Balancing Mechanism

Now
Reserve power; generation levels of the units are determined for each 30

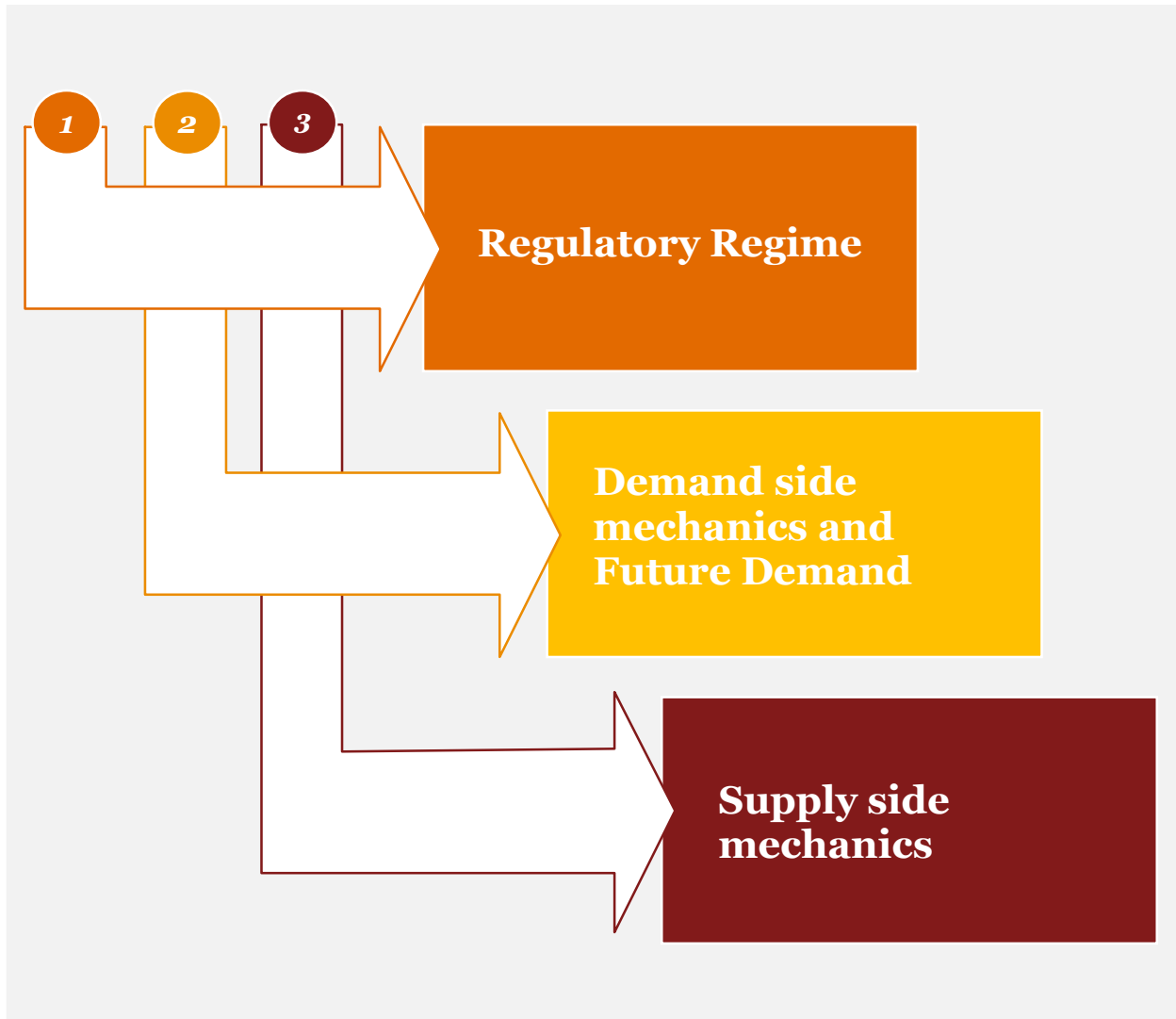
Indicative diagram of the new market model



The Net-Pool model is aiming to:

- Offer generators risk mitigation through yearly bilateral forward contracts
- Ensure that all Renewable generation is utilized
- Achieve high levels of Grid balancing
- Have reserve units

There are three supporting factors for the construction of this power plant



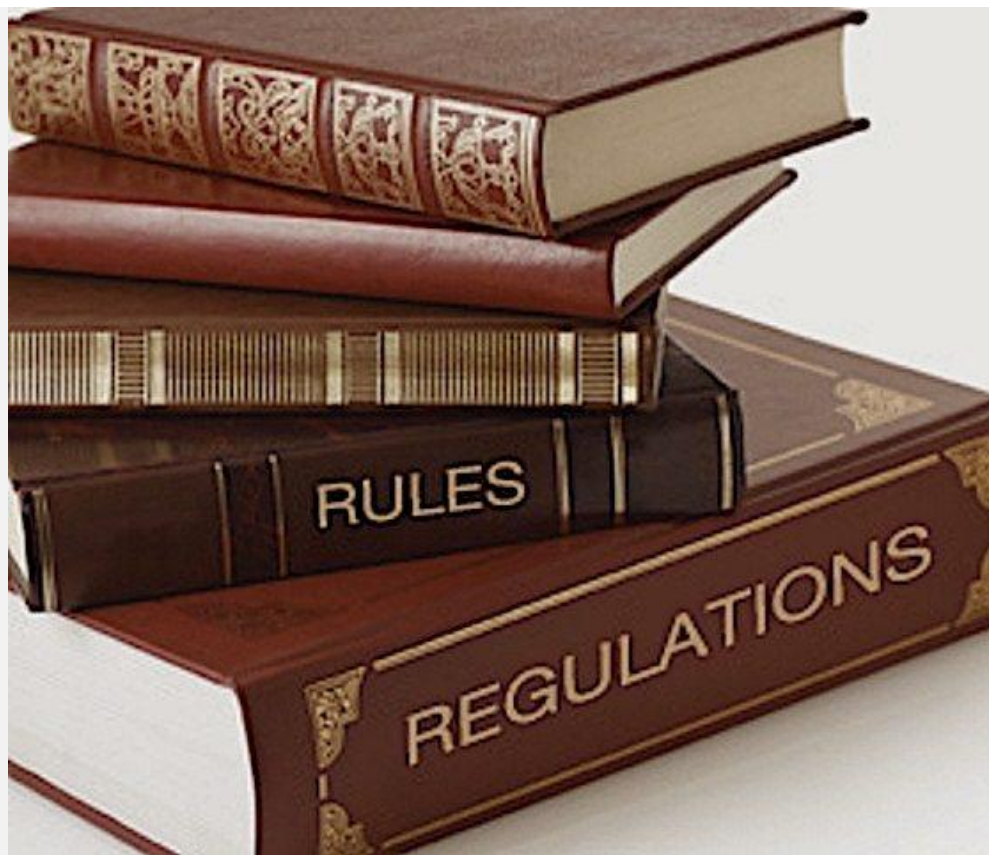


1 Regulation has recently changed and adapted to promote private investments in the electricity sector

Regulatory Regime

The regulatory regime supports the private initiatives:

- The EU Directive aims to promote competition in the supply and generation of electricity
- CERA itself fosters competition in the market
- In the attempt to promote competition in the market, CERA and the TSO will impose 20% of the total consumption to be covered through the DAM



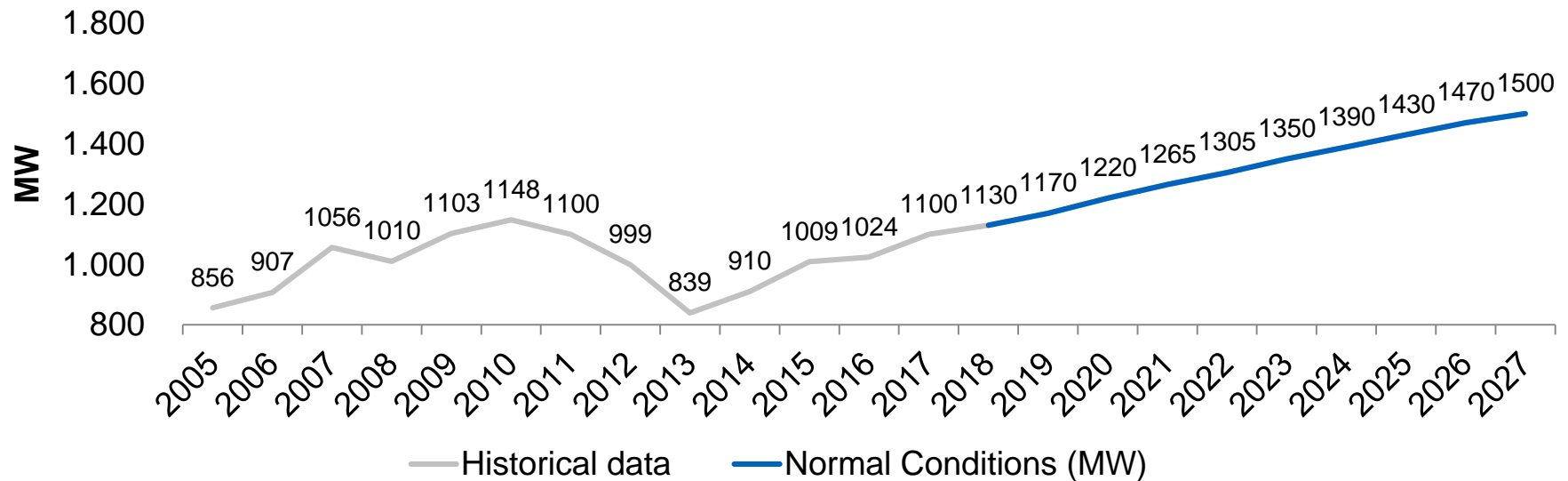


2 Economic growth is coupled with rising demand in electricity

Demand side mechanics and Future Demand

- Cyprus forecasts are expected to reach 1.500 MW maximum annual energy generation by 2027
- EAC is not sufficient to cover the future demand for electricity (today's max active capacity at ~1,200MW)
- RES is currently at 9% of generated capacity

Long Term Forecast of Annual Maximum Generation 2018-2027 (MW)



3 There is a significant supply shortage and technology gap that requires at least one thermal plant

Supply side mechanics

- Mari Power plant will have a much higher efficiency compared to 48% for EAC's combined cycle machines and 36% overall efficiency
 - Cost per MWh for Diesel is €93,41 while the cost per MWh for Heavy Fuel Oil (HFO) is €88,60 (2017 published accounts)
- RES currently occupies 9% of the generated capacity, while the target for 2020 is 16% and for 2030 30% - assuming storage
- Dhekelia Power Station in Larnaca, constructed in 1953, will be decommissioned in 2024, wiping out 360MW of HFO run steam turbines





The Mari Power plant will significantly reduce the Carbon footprint of the country

The environmental limits are getting tougher to meet

- EAC's HFO units will have operational restrictions starting in 2020 of 500 hours per year
- The environmental limits of 2020 are below 50 ppm for NOx and SOx
- High efficiency means that the plant will emit half the CO2 emissions compared to today's average
- CO2 tariffs are expected to reach 40 euros per ton in 2030
- Natural Gas is a much cleaner fuel than any liquid fuel
- More Gas turbines means more Grid Flexibility therefore greater influx of renewables



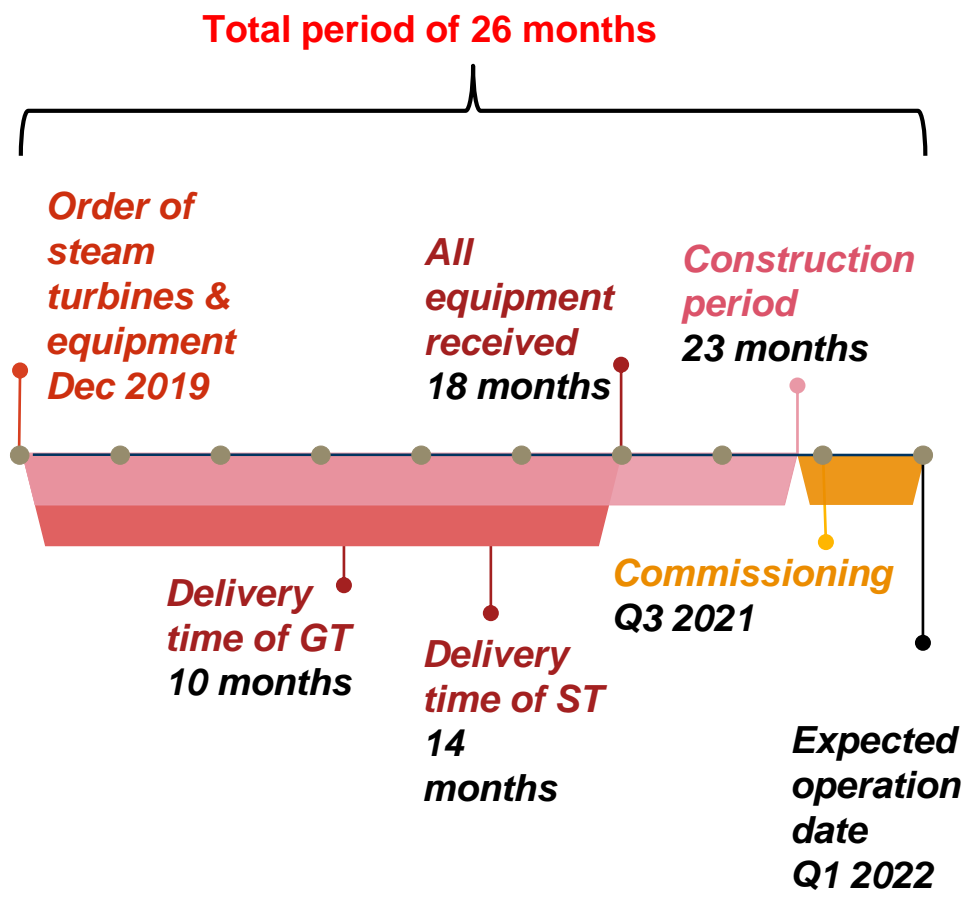


The project has already started and it's due completion early 2022

Project information

- All the licenses are in place including environmental, planning, building and regulatory
- Financing has been agreed through a syndicate loan with Cypriot banks
- Tender documents by the Original Equipment Manufacturer (OEM) have been received and we are currently at the final stages of negotiations with the preferred bidder
- Construction of the Balance of Plant and the civil works are underway
- Fencing and earthworks for the site preparation already completed
- Access to the sea under construction
- Tanks almost completed

Project timeline



This is expected to be in line with CyGas' expected timeline for LNG arrival

There is an endless potential in the market for Electric Cars

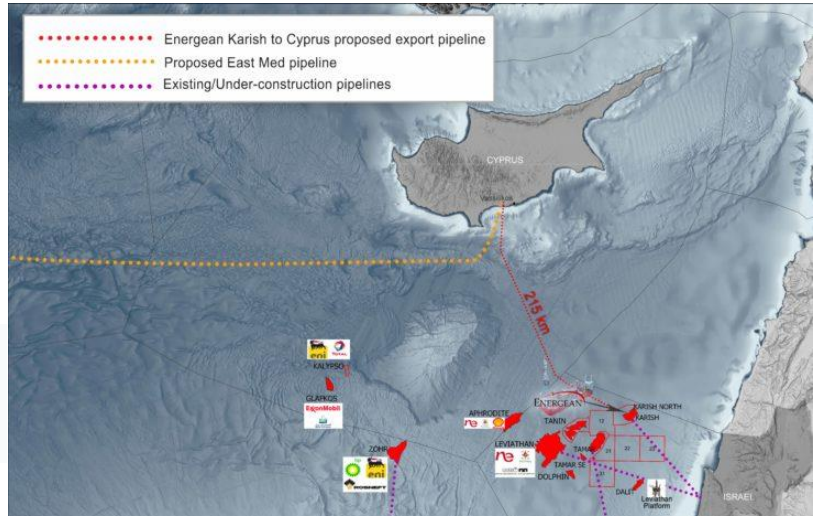
Electric Cars in Cyprus

- 150 electric cars in Cyprus only
- The EU target for transport emissions at 20% reduction from 2008 levels by 2030
- 40% of new cars and vans to be zero- or low-emission vehicles by 2030
- New 5,000-euro incentive for cars under 40,000
- 263,000 tonnes CO2 for 2017
- **Electric cars will double the consumption of electricity in Cyprus**



We welcome new entrants in the Natural Gas import and Supply

Is it really a battle of the two?



- The two solutions are **complementary**
- We should not be creating another Government monopoly
- Price of Gas can be less than 7 EUR/MMBTU
- Natural Gas is vital to the true liberalization of the electricity market and a competitive economy

Foundation Stone ceremony was performed with the president



Construction is well underway



Our Project Location



Our Project Location

