



GAS & LNG at SHELL

Club of Amsterdam

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Shell NTC, Amsterdam



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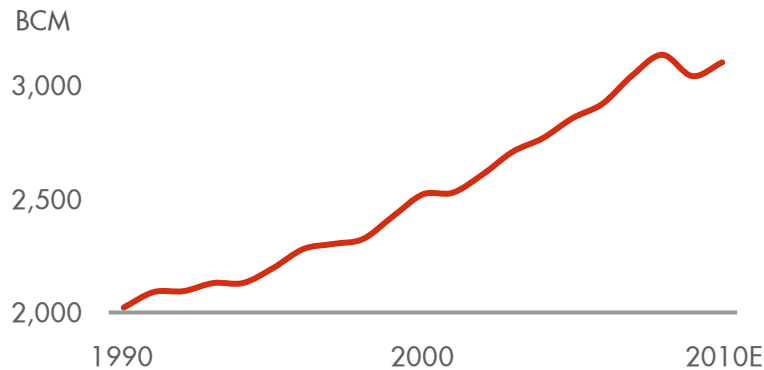
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NATURAL GAS OUTLOOK

NATURAL GAS DEMAND GROWTH



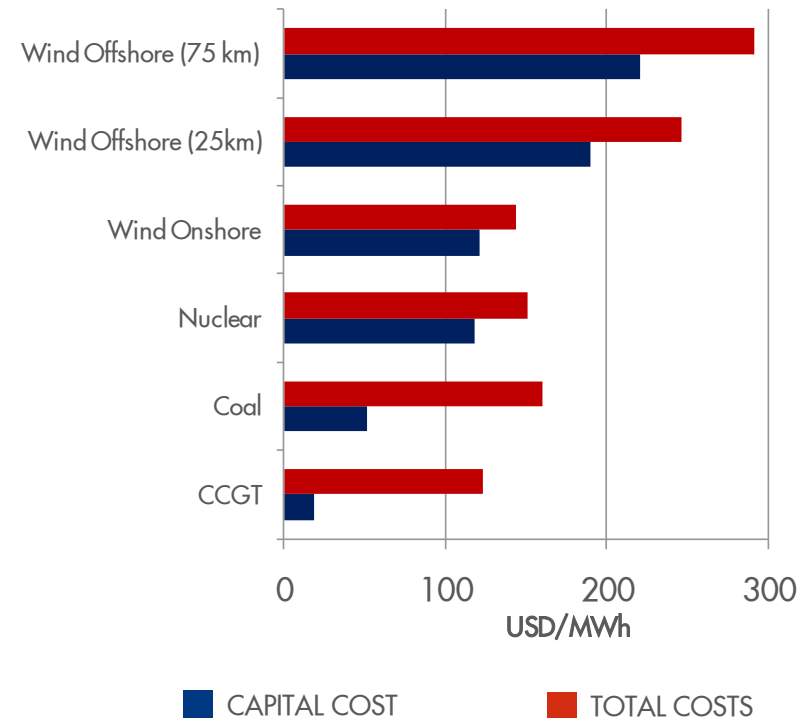
SOURCE: IEA

NATURAL GAS ADVANTAGE: EXAMPLE CCGT

- Abundant global gas resources ~250 years reserves at current production
- CCGT: gas-fired power compared to coal:
 - 40% more energy efficient
 - Emits 50-70% less CO₂
 - CCS retrofit at similar cost per MWh
 - Better complements with wind power

CCGT: COMBINED CYCLE GAS TURBINE

ATTRACTIVE ECONOMICS FOR ELECTRICITY PRODUCERS

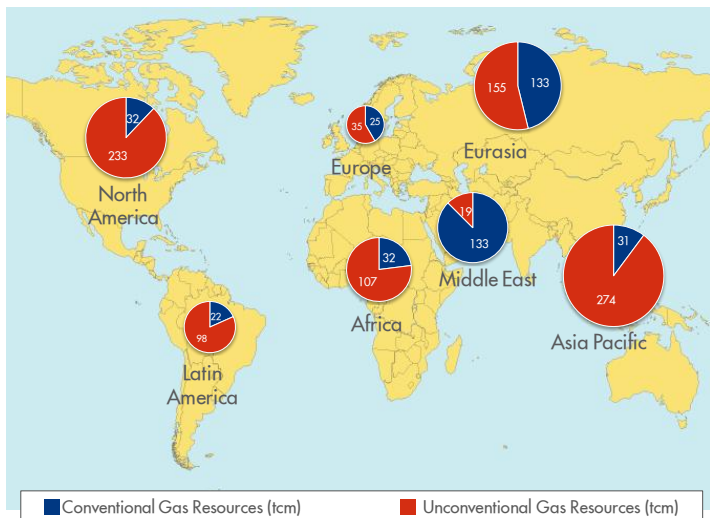


Total Cost = Capital + Fuel + Operating
Source: DECC (Mott MacDonald) June 2010

THE CASE FOR GAS

ABUNDANT

- Abundant global gas resources ~250 years reserves at current production (IEA)



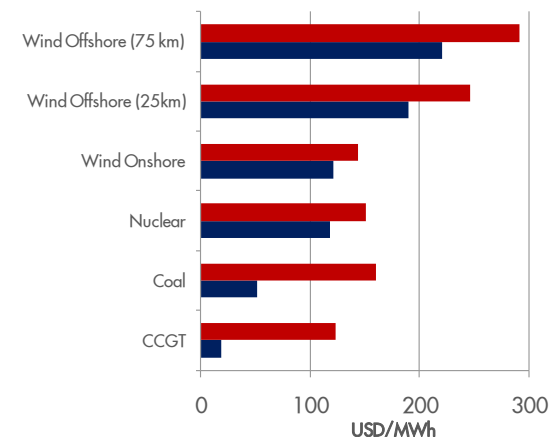
ACCEPTABLE

- CCGT: gas-fired power compared to coal:
 - 40% more energy efficient
 - Emits 50-70% less CO₂
 - CCS retrofit at similar cost per MWh
 - Better complements with wind power
- Replacing coal with gas for electricity generation is the cheapest and fastest way to meet CO₂ reduction targets

CCS: Carbon Capture & Storage

AFFORDABLE

- CCGT cheapest to build
- Similar operating cost to coal and nuclear

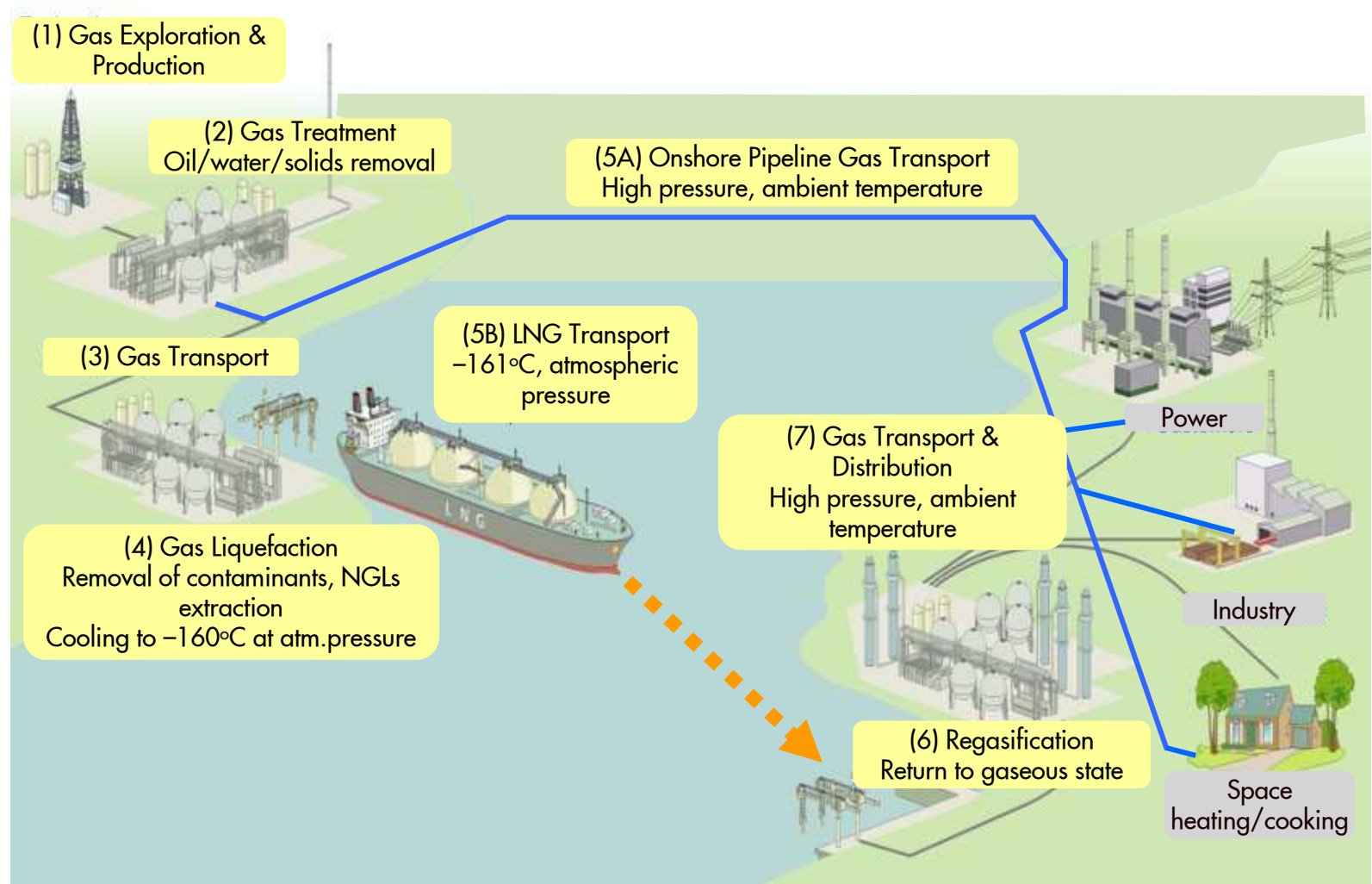


CCGT: Combined Cycle Gas Turbine
Total Cost = Capital + Fuel + Operating

Source: DECC (Mott MacDonald) June 2010

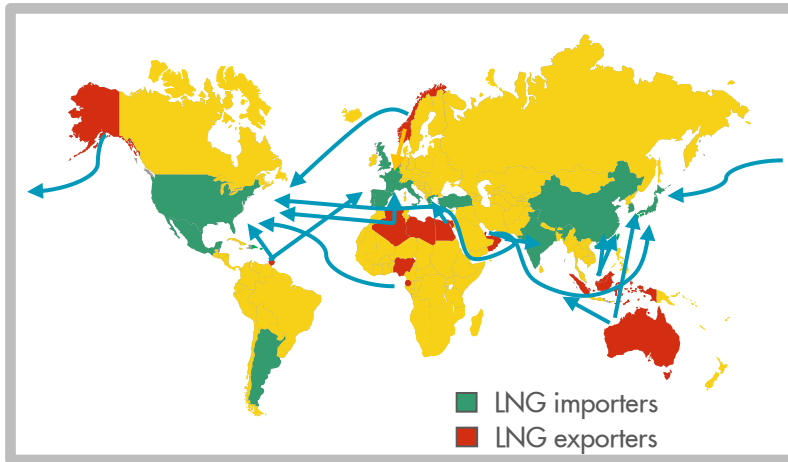
NATURAL GAS: A DESTINATION FUEL

THE NATURAL GAS VALUE CHAIN

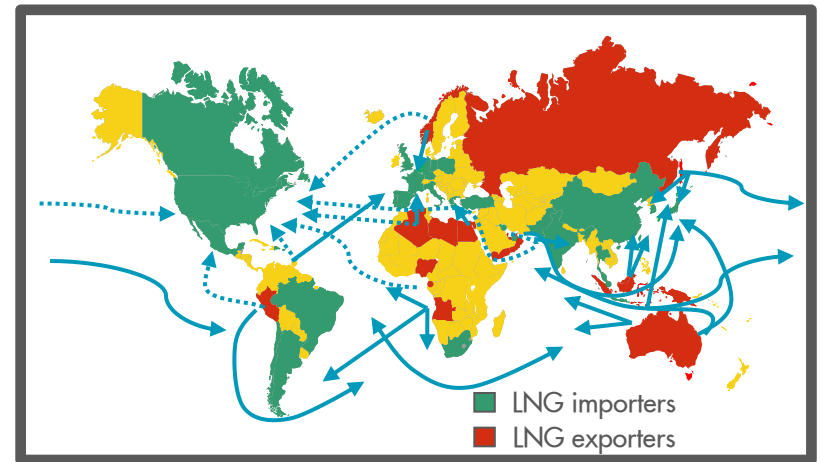


GLOBAL LNG MARKET DEVELOPMENTS

2008



2015



	2008	2015 est.	% increase
# LNG importing countries	19	~30-35	75%
# LNG exporters countries	15	~20	25%
LNG demand (mtpa)	170	~280	65%

WHAT IS LNG?

WORLD LNG PRODUCTION IN 2009= ~181 MILLION TONNES

Production



Natural Gas production and separation from oil & water (when present)

Liquefaction



Natural Gas cooled to liquid state at -160°C and atm. Pressure (volume reduced 600 fold)

Shipping



LNG transported over long distances in purpose built tankers

Regasification



LNG returned to gas state and injected into the transport pipeline network for distribution & sales

Cost effective alternative to pipeline for distance > ~3000 km

INTEGRATED NATURAL GAS LEADERSHIP

EXPLORATION & PRODUCTION



**One of the
World's
largest gas
producers**

LIQUEFACTION



**Largest LNG
supplier**

LNG SHIPPING



**Largest ship
operator**

REGAS, PIPELINES, STORAGE



**Strategic
positions...
active
portfolio
management**

MARKETING & TRADING



**Global
positions &
capabilities**

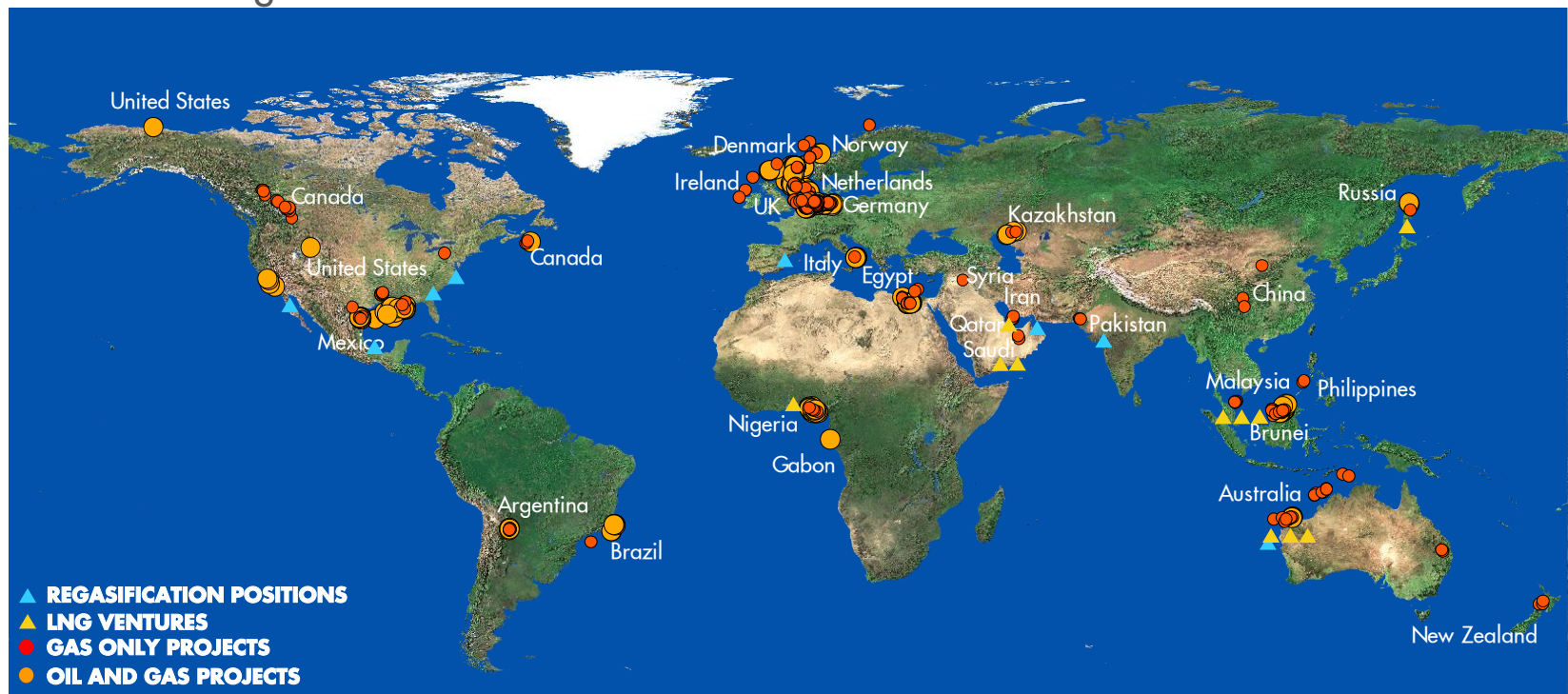
TECHNOLOGY



**Leader in
LNG and gas
conversion
technologies**

SHELL'S GLOBAL UPSTREAM GAS PORTFOLIO

- One of the worlds largest oil and gas producers*
- Largest equity LNG Supplier*
- Global access to strategic markets
- Profitable growth



* Amongst International Oil Companies

SHELL'S GLOBAL LNG PORTFOLIO

ACCESS TO KEY STRATEGIC MARKETS



BAJA



SPAIN



DUBAI



HAZIRA



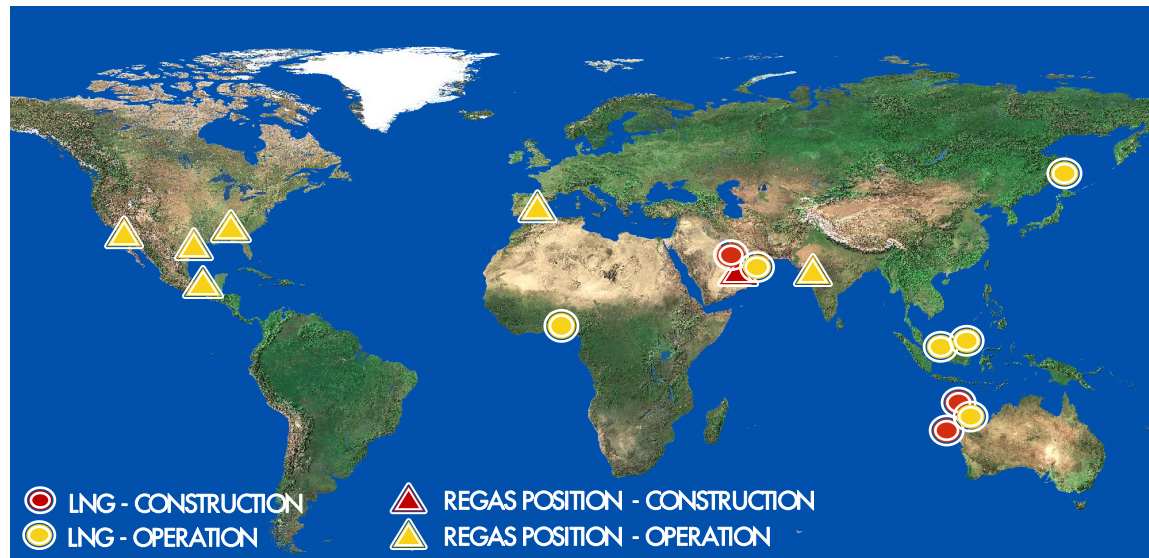
ALTAMIRA



COVE POINT



ELBA ISLAND



SAKHALIN II



BRUNEI LNG



MALAYSIA LNG



NORTH WEST SHELF



QATARGAS 4



NIGERIA LNG



OMAN LNG



QALHAT*



GORGON LNG

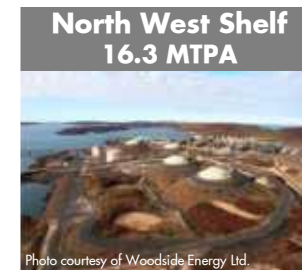
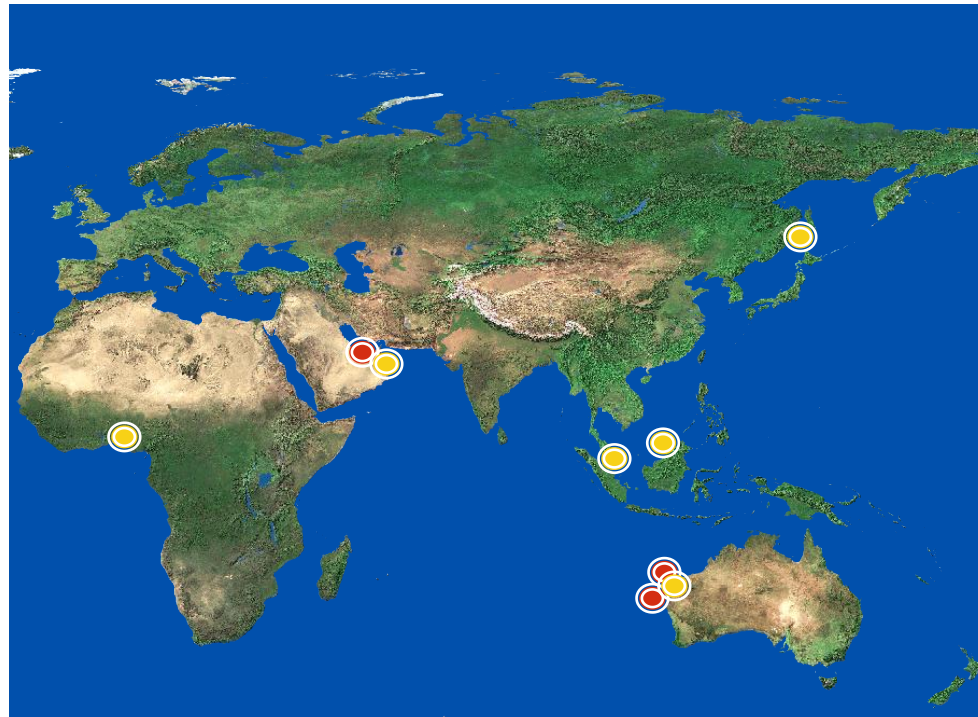


PLUTO (WOODSIDE)*

* Indirect interest

SHELL'S GLOBAL LNG SUPPLY PORTFOLIO

SIX PROJECTS IN OPERATION & THREE NEW PROJECTS UNDER CONSTRUCTION



● LNG - OPERATION

● LNG - CONSTRUCTION

* Indirect Interest

