



QATAR – SHELL – JAPAN DELIVERING THROUGH PARTNERSHIP

The Joint Qatari-Japanese
Energy Forum

September 2010



Andy Brown
Executive Vice President

QATAR – A GREAT PLACE TO INVEST – \$0 TO \$20BLN IN 5 YEARS

Ras Laffan

Not to scale

Al Khor

Doha

QATAR

Not to scale

Courtesy of Qatargas

Qatargas 4

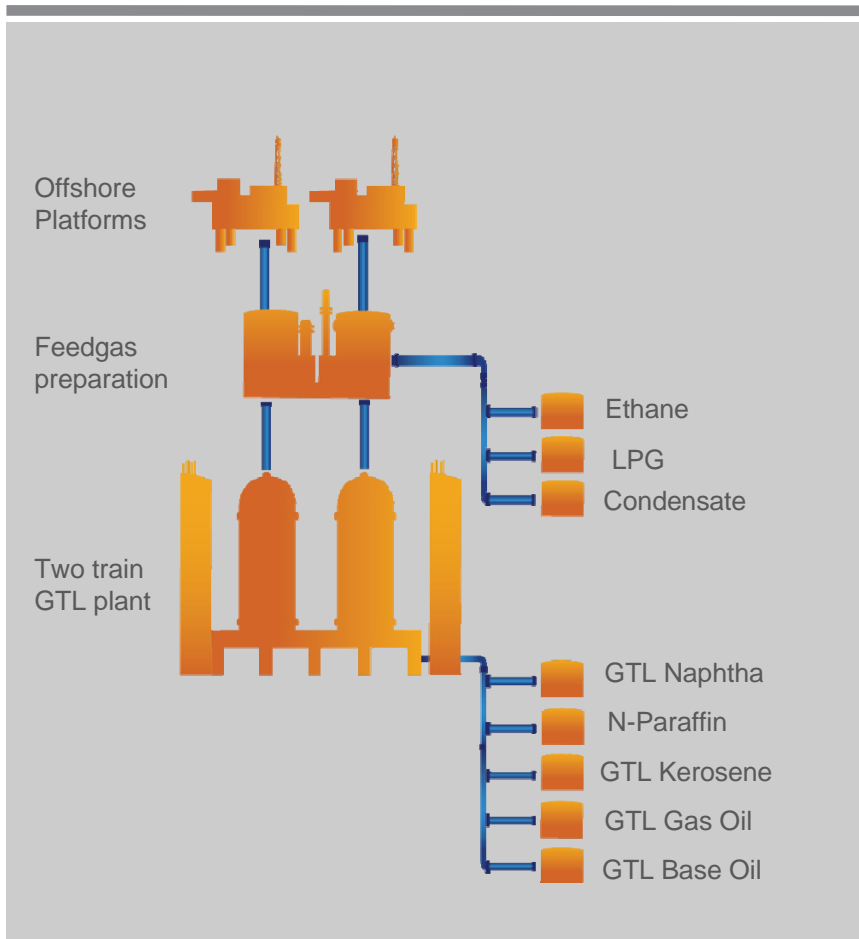
Shipping services to Nakilat

Qatar Shell Research & Technology Centre

Pearl Academy

Pearl GTL

PEARL GTL INTEGRATED GAS TO LIQUIDS PROJECT



- 1.6 Bcf/d of wet gas: 260kbbbl/d of products
 - 120 kbbbl/d NGLs/ethane
 - 140 kbbbl/d GTL products
- Major construction complete Q4 2010
- 2011 start up – 2012 full production
- ~\$18-\$19 billion development cost *
- Profit sharing contract
- 100% Shell in partnership with Qatar Petroleum

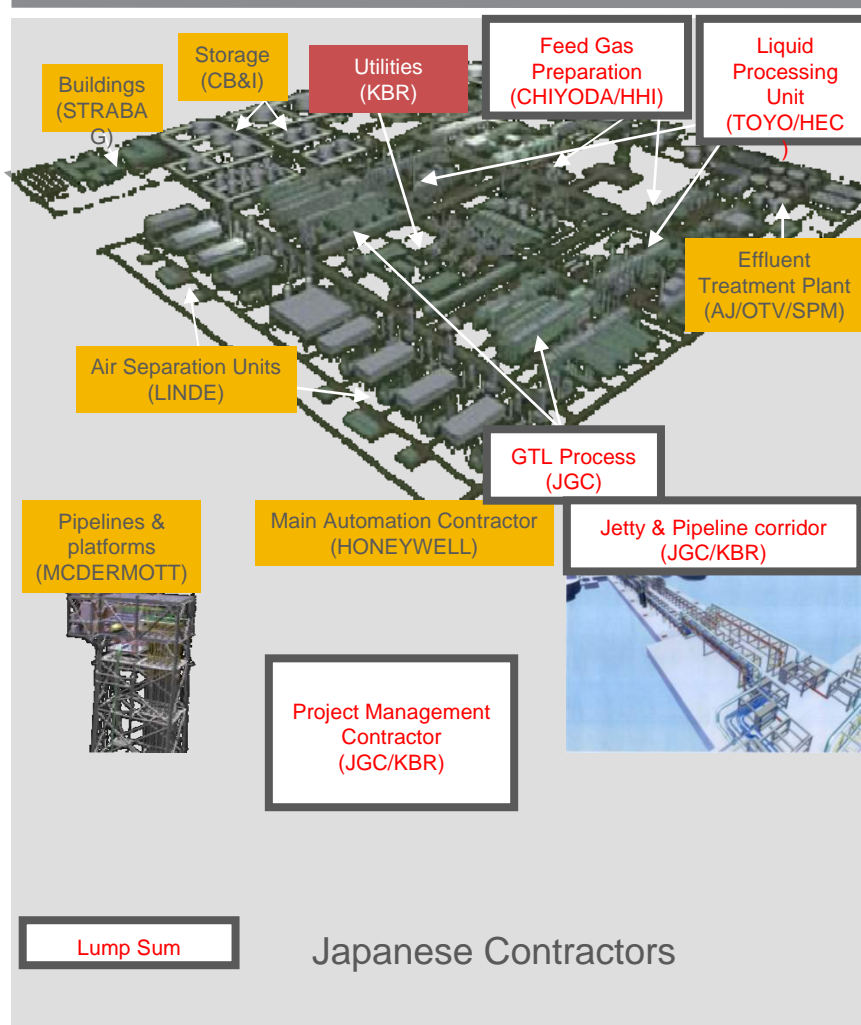
Full integration from offshore to refined products

PEARL GTL – THE WORLD'S LARGEST OIL AND GAS CONSTRUCTION SITE



PEARL GTL CONTRACT PARTNERS – JAPANESE ROLE

CONTRACTOR OVERVIEW



- 50,000 workers at peak
- Unique project scale + operating environment
- Multiple lump-sum contractors
- Shell & Project Management Contractor (PMC)
- Japanese contractors involved in >50% of



C6G – GAS TO LIQUIDS MAIN PROCESS

- GTL is constructed by JGC under an Reimbursable EPCM Contract
- GTL process plant convert natural gas and oxygen into GTL waxes, it houses 24 of the largest reactors on site, weighing 1200 tonnes each.
- Total forecasted numbers:
 - Concrete: 110,000 m³
 - Steel & Pipe: 77,000 tonnes
 - E/I cabling: 1,600km
- Spent over 1.9 million hrs in home office and 92 million hrs on site
- HSSE record of 40 million hours without an
- Lost Time Incident



C4 – FEED GAS PROCESSING (FGP)

- FGP is constructed by CHC (Chiyoda / HHI Consortium) under a Lump Sum Contract
- Total forecasted number:
 - Concrete: 101,000 m³
 - Steel & Pipe: 44,000 tonnes
 - E/I cabling: 3,300km
- Spent over 2.3 million home office hours and 49 million hrs construction
- HSSE record of 23 million manhours without an Lost Time Incident,



C5 – LIQUID PROCESSING UNIT (LPU)

- LPU is constructed by THC (Toyo/ Hyundai E&C) under a Lump Sum Contract
- LPU is the plant's refinery converting GTL wax to finished products, with one of the world's largest hydrocrackers and steam methane reformers
- Total forecasted number:
 - Concrete: 36,000 m³
 - Steel & Pipe: 36,000 tonnes
 - E/I cabling: 1,500 km
- Spent over 1.7 million home office hours and 35 million hrs construction
- HSSE record of 24 million hours without an Lost Time Incident



TEAMWORK AT LEADERSHIP LEVEL

ONE PROJECT – ONE TEAM

- Leadership commitments reaffirmed at regular CEO summits – five held so far
- Forging a “One Project – One Team” mindset
- CEOs reinforced their commitment to
 - Safety and welfare
 - Productivity
 - Cooperation and quality in finishing



Pearl GTL CEO Summit – June 2010

COMMITMENT CHARTERS

Pearl GTL Project
Incident & Injury Free

Our Commitments

Shell/IK Commitment

- We will ensure that all activities are planned, controlled, monitored and reported in accordance with the agreed safety and health plan.
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Contractors' commitment

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Leadership

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Commitment

(The document is heavily signed with handwritten names and signatures.)

Pearl GTL Productivity Charter

Higher productivity is to our mutual benefit. Improvement of productivity requires our mutual efforts.

Contractors will:

- Improve productivity by ensuring that all activities are planned, controlled, monitored and reported in accordance with the agreed safety and health plan.
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Pearl GTL Project
Co-operation Statement

In support of "One Project, One Team" we commit to look for and act on opportunities to co-operate, create synergies and share ideas and resources to ensure the entire Pearl GTL Project is an outstanding success for everyone.

Shell / IK Commitment:

- To share more planning data, especially resources in 2009
- Directive and supportive on interface management
- Push commissioning resources
- Establish an alignment framework (with our haul trucks) First First
- Promote Best Practice / Cross Verification (and go on site to share)
- Identify shared resources (such as inventory) the right solution
- Help create a framework (contractual / legal) where IK can co-operate with IC and provide a stronger framework for resource sharing and where necessary establish benchmark prices

Contractors' Commitment:

- To align own planning against the agreed plan
- Ensure how these resources can be gainfully utilised
- Participate in discussions around the alignment framework
- To actively participate in the practice sharing and cross verification work
- To actively respond against the agreed resource plan
- To make spare resources available to other IC's and rigging teams

One Project - One Team

(The document is heavily signed with handwritten names and signatures.)

IMPROVING WELFARE IN PARTNERSHIP WITH QP BUILDING A COMMUNITY – DELIVERING PERFORMANCE



Focus on Safety & Welfare

Pearl Village – 40,000 workers

Training Centre – 200,000 courses

Recreation, culture, well being

World class safety – 77 mln hrs LTI free



PEARL GTL PRODUCTS OVERVIEW

PRODUCT SLATE

NGLs + Ethane	Ethane (~30kboe/d)
	LPG (~30kbbbl/d)
	Condensate (~60 kbbbl/d)
GTL	Naphtha and Normal Paraffin (~35 kbbbl/d)
	Kerosene (~25 kbbbl/d)
	Gasoil (~50 kbbbl/d)
	Base Oil (~30 kbbbl/d)

END PRODUCTS

Chemicals and detergent feedstock
Jet Fuel
Diesel
Finished Lubricants

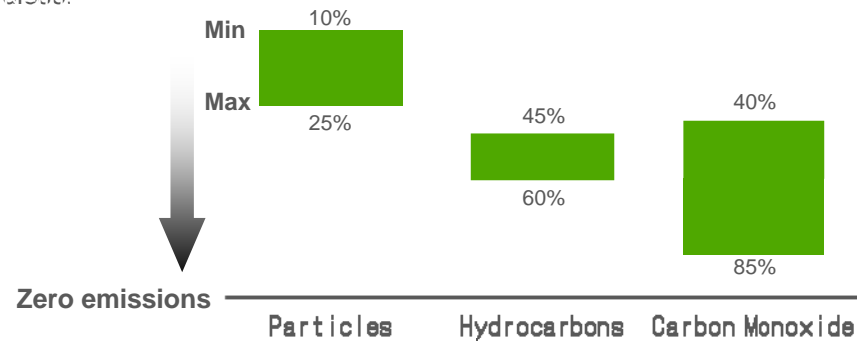
MARKET



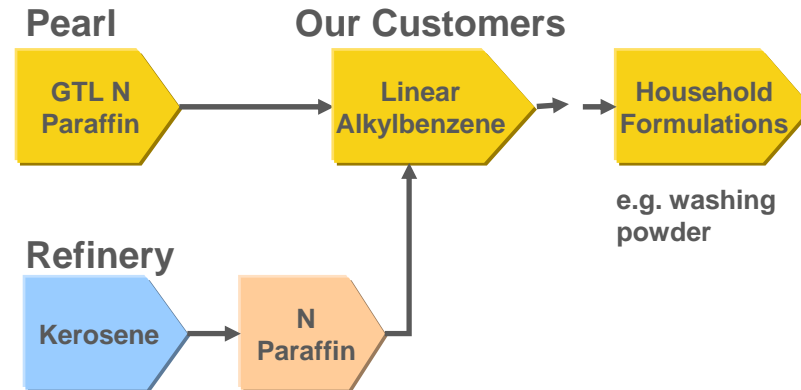
GTL PRODUCTS ADVANTAGE

CLEANER BURNING + SMOKELESS GTL FUELS

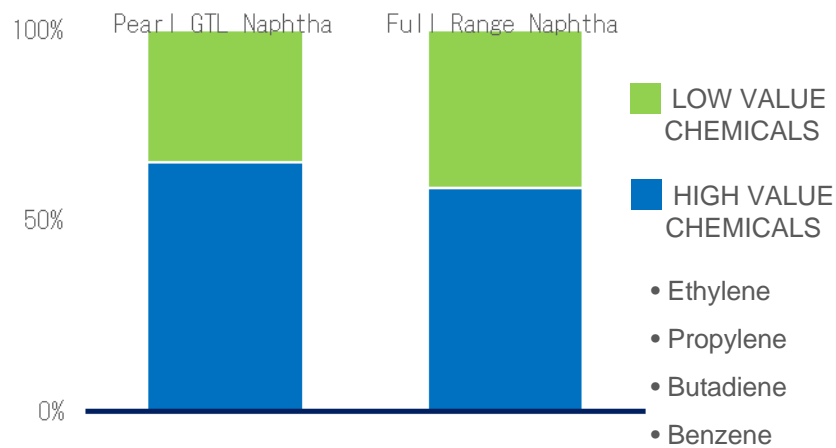
Emissions improvement range for light duty diesel engines vs. refinery diesel!



GTL N-PARAFFIN: A COST EFFECTIVE FEEDSTOCK



HIGHER VALUE NAPHTHA FEEDSTOCK



- GTL Fuels Cleaner Burning
- GTL N-Paraffin cost effective detergent feedstock generates premium over Kerosene
- GTL Naphtha is a higher value feedstock for chemical manufacturing

IN MARKET PARTNERSHIP - SYNTHETIC FUEL IN TOKYO

(MOU signed between TMG, Toyota-Hino, Showa Shell & Shell on Nov 2008)



- Successful field demonstration of GTL with Hybrid buses used for public transportation services (Toei Buses) in 2009
- Local emissions benefits
- Particulate trap stress reduction
- Noise benefits on transition between electric and engine
- Semi-optimised engine
- Ease of refuelling, lower odour and better touch

Currently expanding the use of Synthetic Fuel* in other Toei Buses with conventional engine (July 2010).

*Synthetic Fuel is a blend of GTL & HVO fuels.

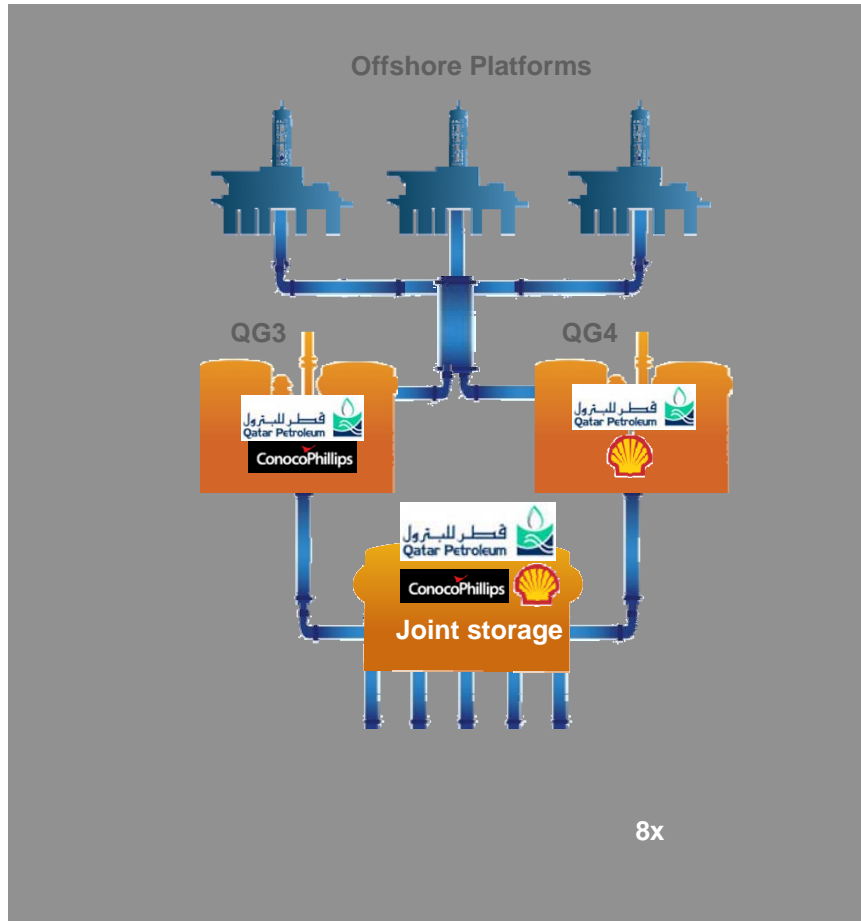


TOYOTA Royal Dutch Shell Plc



**TOKYO
METROPOLITAN
GOVERNMENT**

QATARGAS 4



1.4 Bcf/day Wet gas : ~280 kboe/d

- 7.8 mtpa LNG
- ~70 kbb/d NGLs/Ethane

Construction complete Q4 2010

2011 ramp-up

~\$2 billion development cost*

Tax & royalty contract

30% Shell, 70% Qatar Petroleum

Full integration from offshore to LNG offtake

WORKING IN PARTNERSHIP WITH QATARGAS



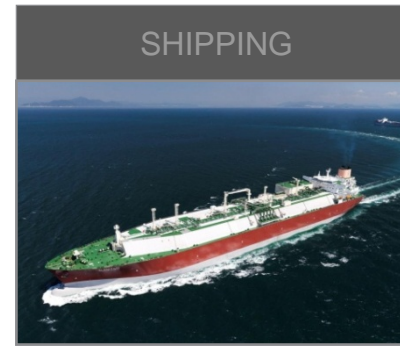
Joint Asset Development Team

- 40 Shell secondees supplementing Qatargas capabilities



Helping Qatargas Operating Company

- COO Operations
- Maintenance Manager
- Engineering Manager
- Terminal Manager
- > 30 secondees



Nakilat

- Qatar Gas Transport company
- 25 LNG Tankers under Shell operational management
- 1200 Officers and crew recruited and trained



SPA Delivery

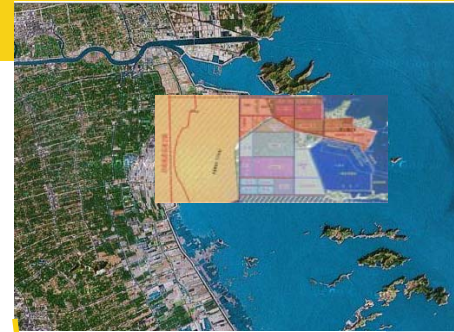
- Dubai
- China
- Further opportunities

Pictures by courtesy of Qatargas

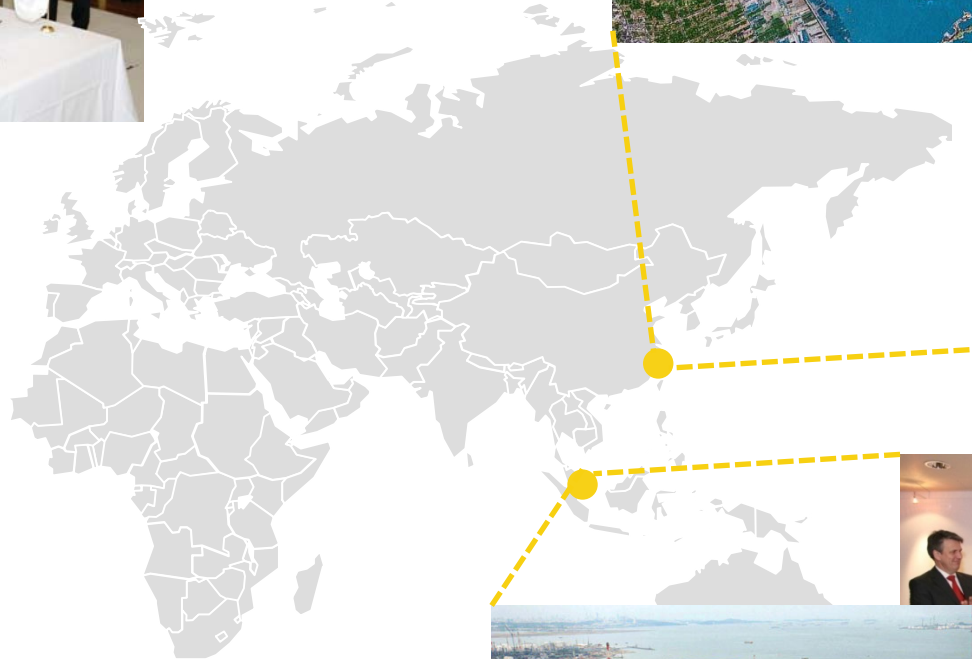
QATAR (QPI) & SHELL TAKING THE PARTNERSHIP GLOBALLY...



MOU signing,
June 2007



Proposed
complex, China



Nov 2009

SHELL IN QATAR - A STRONG & LASTING PARTNERSHIP WITH QP



Pearl GTL - DPSA signing – Jul 2004



Pearl GTL – Stone Laying – Feb 2007



Minister in London – May 2010



QSRTC Inauguration – Apr 2009



QP/Shell Petrochemical JV – Nov 2009



H.E. Abdulla bin Hamad Al-Attiyah & delegation – Visit to The Hague – Jun 2009



May 2010 - House of Lords

May 2010 - Block D - Signing



Abdulla Salatt Rig Visit – Jun 2009



First commercial flight on GTL fuel – Oct 2009



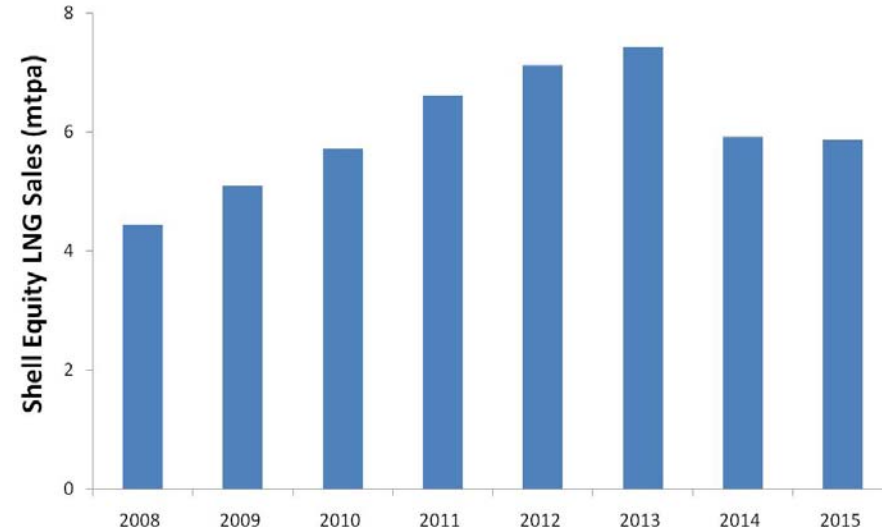
Pearl GTL - Start of Commissioning – Oct 2009

SHELL PARTNERSHIP IN GLOBAL LNG – JAPAN

SHELL GLOBAL LNG PORTFOLIO



SHELL EQUITY LNG SALES: JAPAN

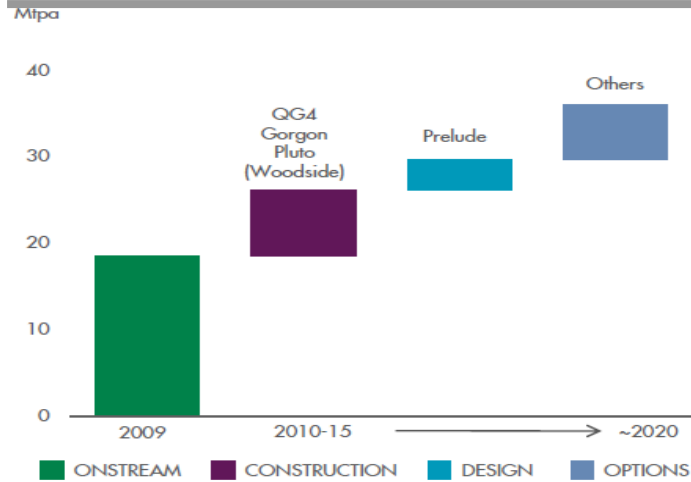


Source: Woodmac (Long term sales only)

HIGHLIGHTS: JAPAN

- Shell equity LNG accounts for 8 to 9% of the current Japanese imports

SHELL EQUITY LNG GROWTH



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GAS AFFORDABILITY ATTRACTIVE ECONOMICS FOR ELECTRICITY PRODUCERS

Gas plants more energy efficient than coal plants

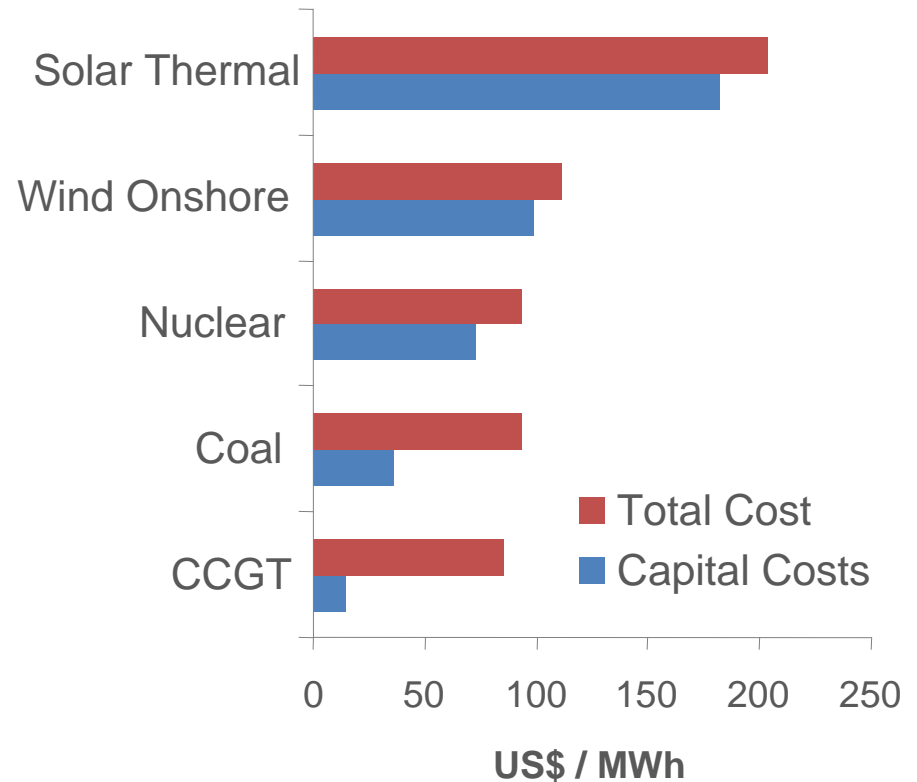
- 55-60% vs. 34-42%

Gas has much lower capital costs per MW installed:

- 50% of coal
- 20% of nuclear
- 15% of wind

key for cash-strapped economies!

Total cost for gas is the cheapest



Price Assumptions:
Gas - \$8/MMBtu
Coal: \$60/t
CO₂: \$40/t

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

GAS - ENVIRONMENTAL ACCEPTABILITY

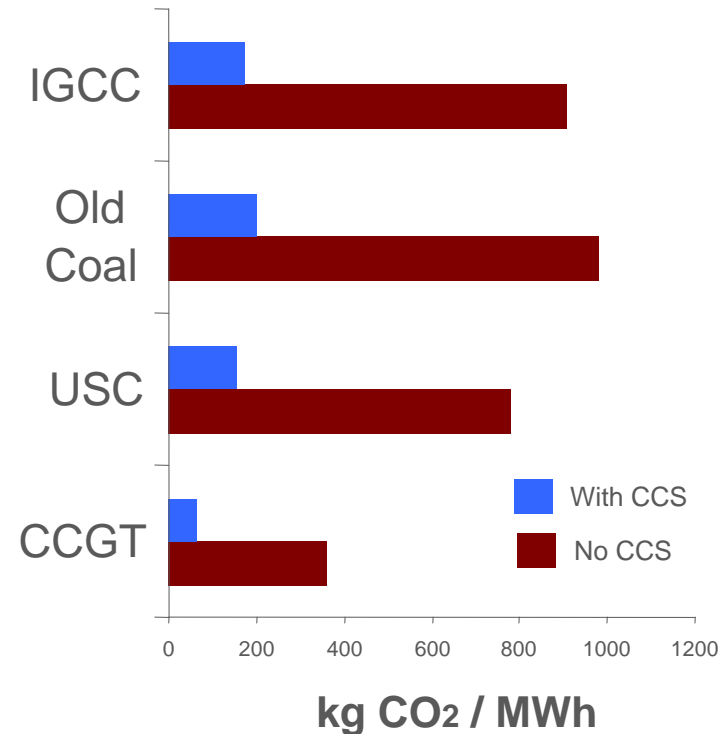
Gas is the cleanest-burning fossil fuel

Gas plants emit:

- 50% less CO₂ than a modern coal plant
- 60-70% less CO₂ than an old coal plant

There are still hundreds of old coal plants in operation today

Gas CCS cost \leq coal per MWh



IGCC: Integrated Gasification Combined Cycle

Coal

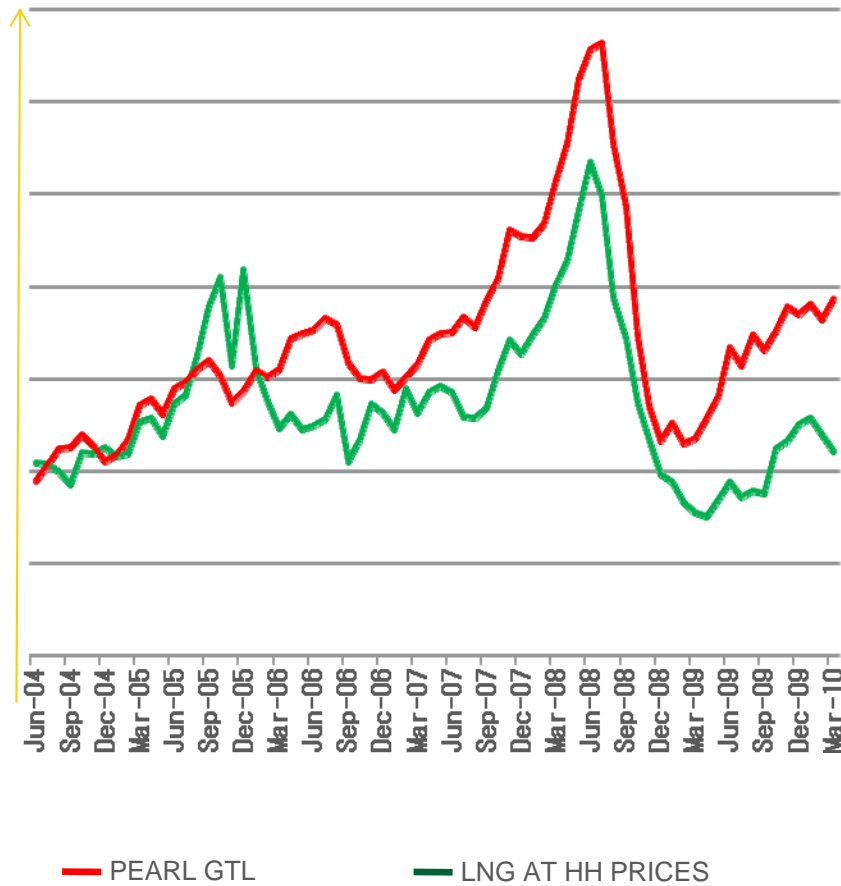
USC: Ultra Super Critical Coal

CCGT: Combined Cycle Gas Turbine

Source: Shell Internal Analysis

GTL AN ALTERNATIVE BENEFITING RESOURCE HOLDER AND CONSUMER

GTL AND LNG FINANCIAL PERFORMANCE



- Qatari Government wise decision to invest in GTL production
- GTL provides Qatar with a natural hedge to gas markets





