POLICYMAKERS PICK NATURAL GAS

**G20 - LEADERS’ COMMUNIQUE PLEDGES TO PROMOTE NATURAL GAS**

In recognition that natural gas is a ‘less emission-intensive fossil fuel’, G20 leaders commit to enhance collaboration on solutions that promote natural gas extraction, transportation, and processing. Stressed importance of diversification of energy sources and routes.

**International Maritime Organization - LNG WILL REDUCE MARITIME EMISSIONS**

170+ members agreed sulphur limit in shipping fuel of 0.5% from 2020. LNG as a fuel contains virtually zero sulphur vs. 3.5% specification for global marine fuel today.

**Chinese Government - FIVE-YEAR PLAN TARGETS 45 BCM OF INCREMENTAL GAS CONSUMPTION BY 2020**

China has suspended more than 100 coal-fired plants either approved or under construction.

**Government of India - MOVING TO A GAS BASED ECONOMY**

“We have given priority to move towards a gas based economy. Effort must be made to increase natural gas production while also creating import infrastructure to meet the growing domestic demand.” - Prime Minister Modi

**European Union - GAS PLAYS CRITICAL ROLE IN ENERGY SECURITY**

EU LNG Strategy acknowledged critical role of gas in support of energy security, increasing competitiveness and greenhouse gas emissions targets.

**COP22 - COAL-FIRED GENERATION PHASE OUT**

France and Canada joined Austria, Belgium, Britain, Denmark and Portugal in committing to close coal-fired generation by the end of the next decade.
WHAT IT TAKES TO WIN MARKET

>160 MTPA of LNG demand growth in Asia by 2030

- SHORTER SHIPPING DISTANCES
- LOWER AMBIENT TEMPERATURES BOOSTS PROCESS EFFICIENCY
- POLITICAL RISK DIVERSIFICATION
- NO CANAL RISK
- NO HURRICANE RISK
CRITICAL SUCCESS FACTORS FOR CANADA

INNOVATION
Delivers Low Cost
Competitive - e.g. Price Evolution
New Types of Financeable Contracts
e.g. Flexible Term

STRATEGIC PARTNERSHIPS ALONG THE SUPPLY CHAIN
First Nations
Government
Customers
BUILDING BLOCKS FOR LOW COST LNG

PIPETLINE QUALITY GAS
MINIMAL gas pre-treatment PROCESS
LOW LEVEL OF CONTAMINANTS i.e. Inerts < 4%, Sulphur and water content low
NO NATURAL GAS LIQUID PRODUCTION AT FACILITY i.e. no fractionation systems, storage and offloading

BENIGN ENVIRONMENTAL CONDITIONS
TEMPERATE CLIMATE improving liquefaction efficiency
NO WINTERIZATION requirements
SHELTERED WATERS with small waves
WIND STRENGTH MODERATE

AT-SHORE JETTY MOORED
NO TURRET
NO ONBOARD accommodation or helipad
EASY ACCESS for operations and maintenance
Plant operations, maintenance and sparing philosophy similar to onshore facility

LNG CARRIER BASED BARGE DESIGN
Modified LNG Carrier DESIGN
SINGLE ROW of LNG tanks
Marine specifications, codes and standards

CONSTRUCTION IN ASIA
MINIMIZE onshore construction in BC
DEDICATED fabrication yards with high skilled low cost labour
Excellent INFRASTRUCTURE and Vendor support
COMPLETE system pre-commissioning and utility commissioning at yard

COST OF GAS PRODUCTION IN CANADA
ECONOMIES OF SCALE
LARGE CAPACITY At-Shore LNG Facilities ~5-6 MTPA

Steelhead LNG At-Shore LNG™ facility
HUU-AY-AHT FIRST NATIONS & STEELHEAD LNG
PROGRESSIVE CO-MANAGEMENT RELATIONSHIP
SUMMARY

MARKET ACCESS VIA INNOVATIVE LONG TERM CONTRACTS

ENVIRONMENTAL AND COMMUNITY LEADERSHIP

PARTNERSHIPS

LOW-COST WINS