



25th world gas conference
"Gas: Sustaining Future Global Growth"

Impediments to Improved Market Access for LNG

CS9.2 Penetrate new markets for LNG

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Date: 6th June 2012

Venue: Kuala Lumpur



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Rapid Growth of LNG

Barriers - Technical

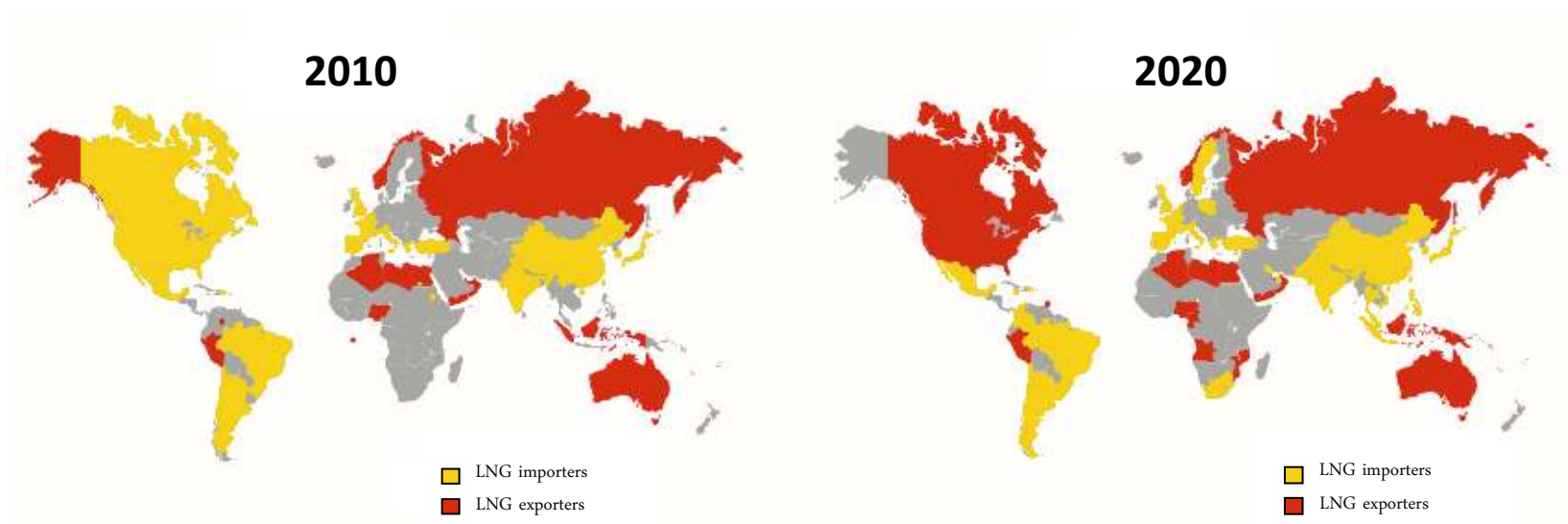
Barriers – Economic & Commercial

Regulatory & Government Issues

Recommendations



GLOBAL LNG MARKET DEVELOPMENTS



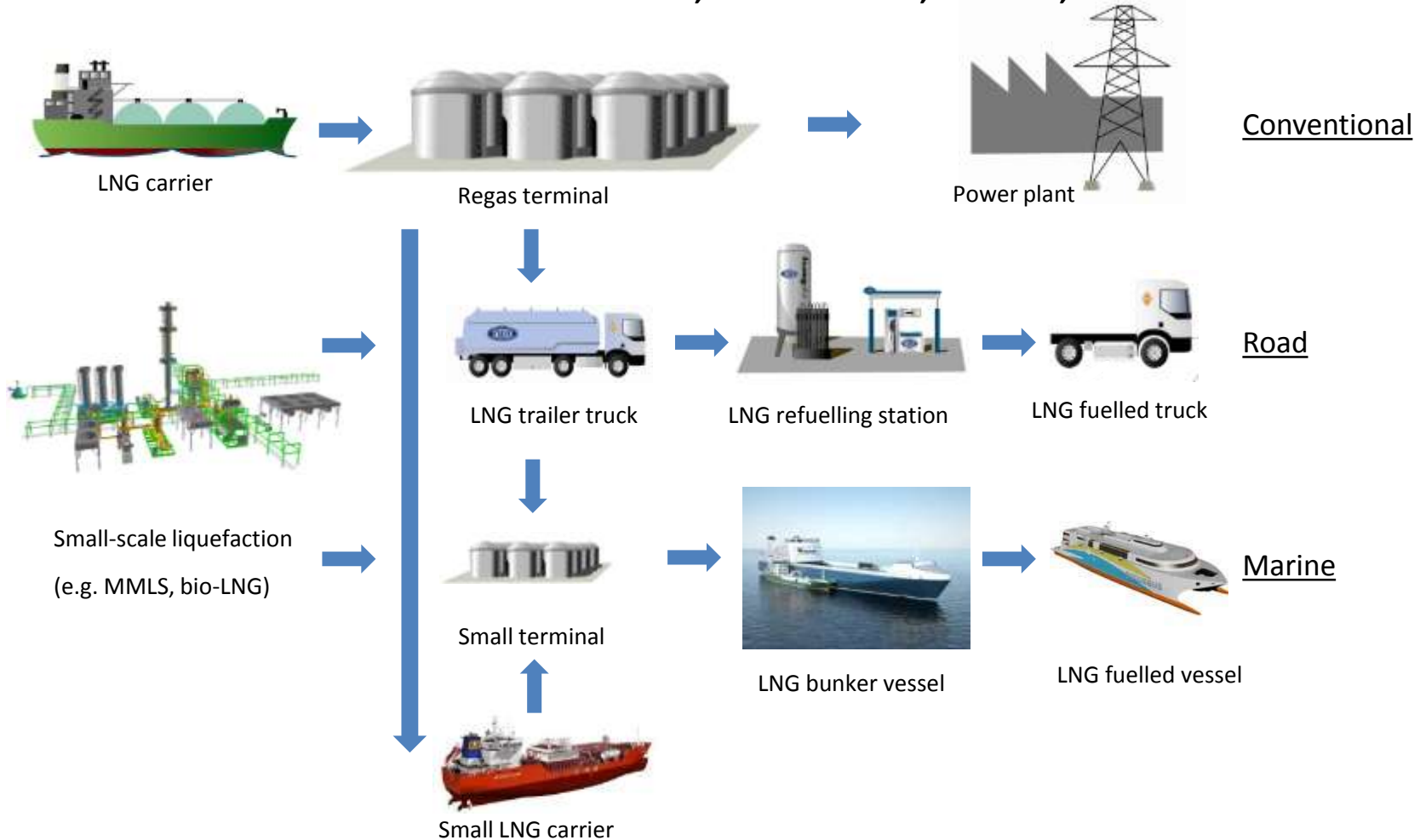
# Countries	1990	2000	2010	2020 est
Exporters	8	12	18	~25
Importers	9	11	24	~40

Source: Wood Mackenzie LNG (April 2010)

Numbers of countries importing LNG expected to almost double during the decade

LNG FOR TRANSPORT – MARINE AND ROAD

THERE ARE MORE TRANSPORT APPLICATIONS, SUCH AS RAIL, MINING, ETC.



LNG INNOVATION – LNG FOR ROAD TRANSPORT

GREEN CORRIDOR - CANADA



Shell's first large scale LNG for transport project

- Ft. McMurray - Calgary - Vancouver
- Phase 1: 0.3 mtpa LNG plant
- FID 2011

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TECHNICAL BARRIERS

There are technical challenges, but they are being addressed

- Economies of scale
 - FSRU
 - Small scale LNG MMLS
 - Improved shipping flexibility
- Investment in R&D
- LNG industry safety record

Length of permitting remains a challenge



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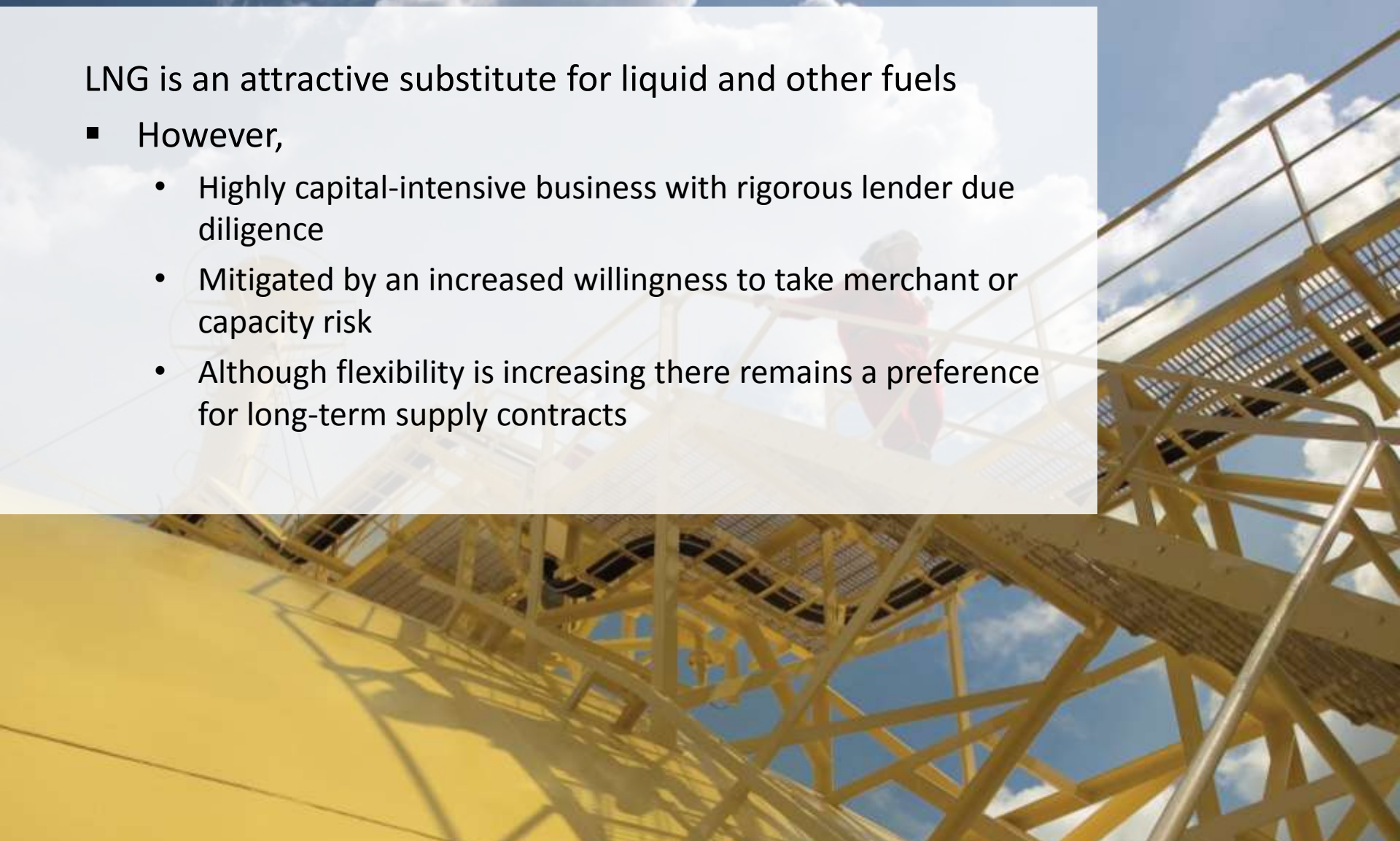
Recommendations



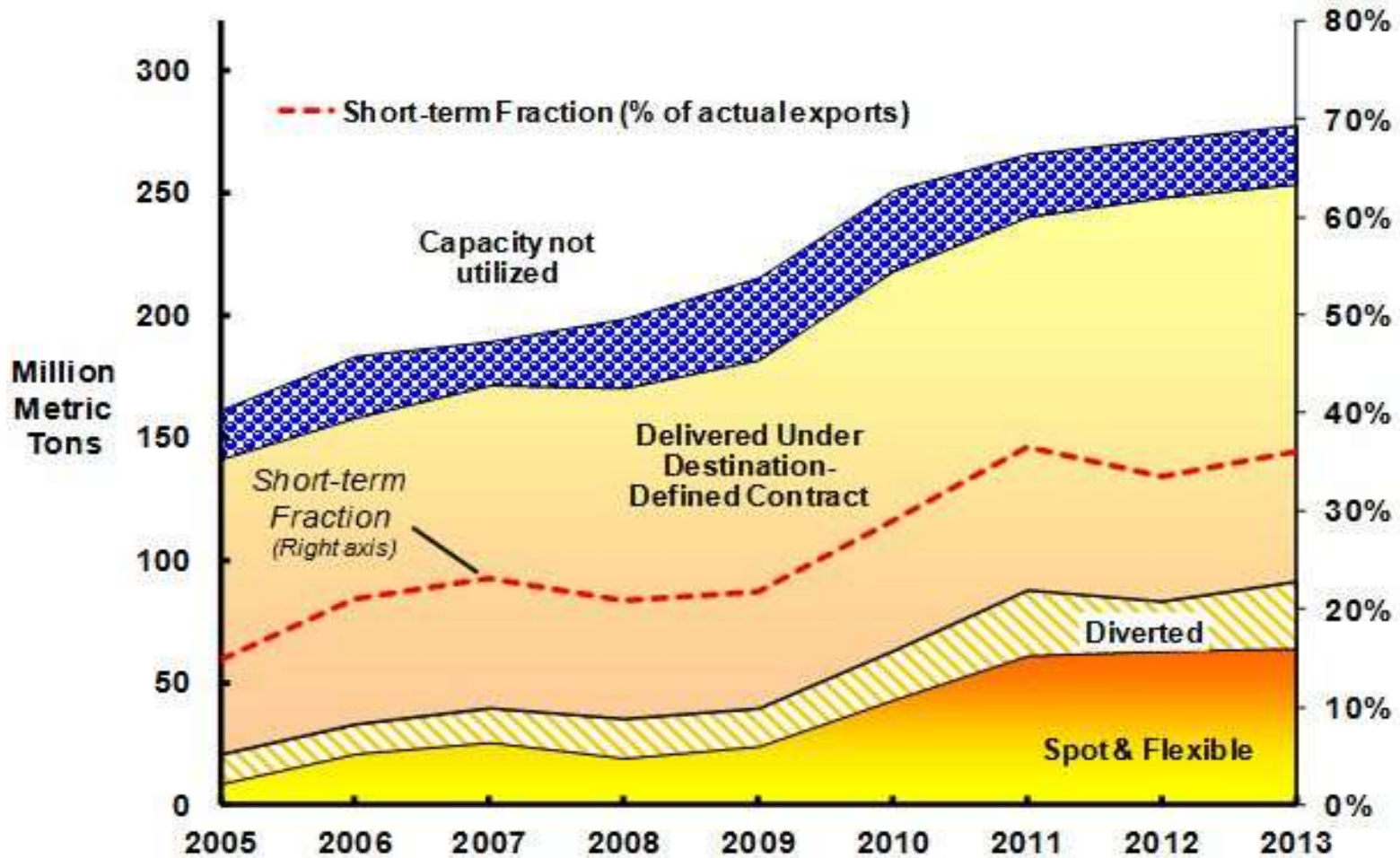
Economic & Commercial Barriers

LNG is an attractive substitute for liquid and other fuels

- However,
 - Highly capital-intensive business with rigorous lender due diligence
 - Mitigated by an increased willingness to take merchant or capacity risk
 - Although flexibility is increasing there remains a preference for long-term supply contracts



LNG TRADE BY TYPE



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Innovation and speed of delivery needs to be enhanced

- New and inexperienced markets prefer international tenders to ensure transparency and cost competitiveness
 - Defining tenders adequately requires experience and effort
 - Recent experience shows that tenders often lead to protracted and expensive processes with multiple iterations and results that are too different to be compared, ultimately ending in a stall
- Arduous permitting processes that delay or halt projects
- Legislation and guidelines that are not keeping pace with the constant evolution of the LNG industry
- Pricing regimes which are often distorted or heavily subsidised, thereby disadvantaging LNG

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RECOMMENDATIONS

- Empowered local decision makers in a “trusted professional” working relationship with key development partner
 - Partner is chosen in a transparent process
 - Partner has track record of business principles, experience in LNG development, and willingness to share commercial risk equitably
- Partnership elements
 - Joint decision making
 - Adopt commercial solutions that reduce the complexity of the supply chain
 - Tender elements of the project such as EPC contract, equipment, etc.
 - Address capital intensity and utilisation risks through an appropriate allocation of risk and reward

RECOMMENDATIONS

- Regulators have a major role to play in proactively advocating for legislation that
 - Reflects the impending shift in energy usage
 - Allows market forces to operate
 - Allows LNG to compete on a level playing field with other fuels

