

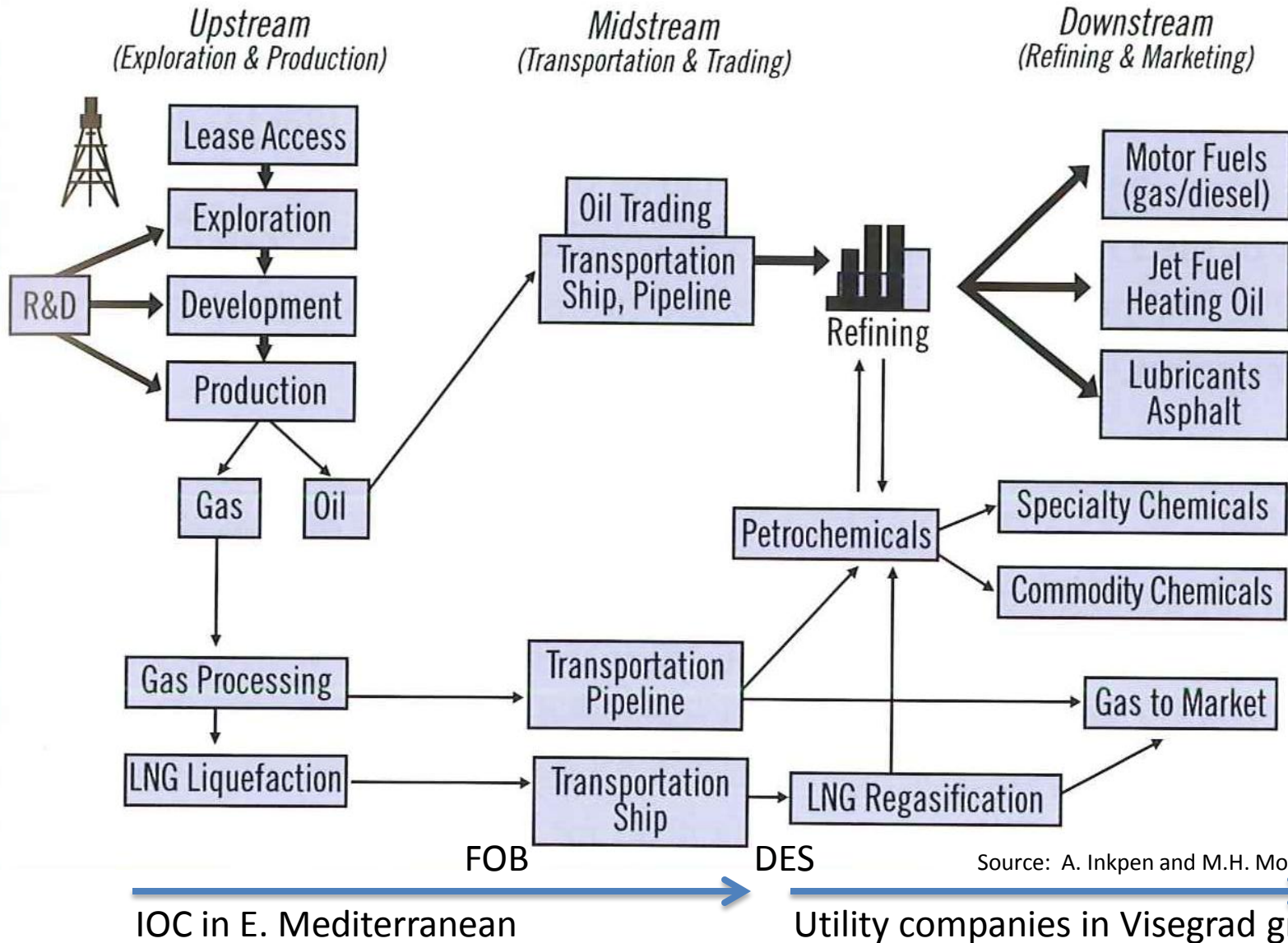
Monetization of natural gas of Eastern Mediterranean

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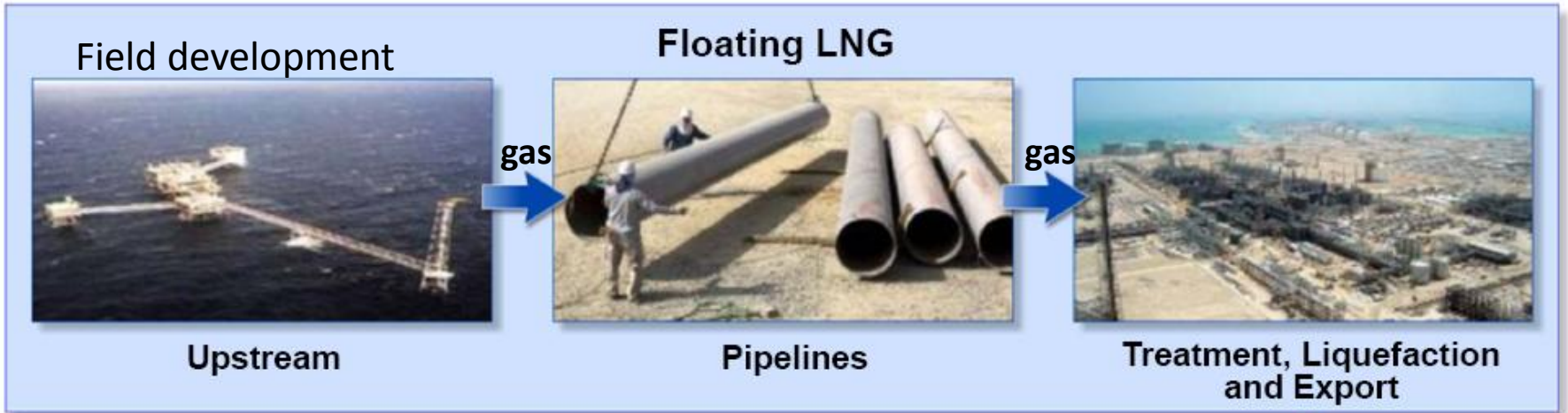
Introduction

- Gas value chain
- Gas monetization option and criteria
- LNG market
- Visegrad group (market) and East Mediterranean (supplier)

Oil & gas value chain



Source: A. Inkpen and M.H. Moffet (2011)



Gas monetization

- Options

- Gas export through pipelines
- Onshore LNG
- Floating LNG (FLNG)
- Petrochemicals (ammonia, GTL, etc)

- Criteria

- Selling price/ net-back margin
- Cost
- Bankability/investibility
- Technical visibility
- Size/ scalability
- Time to market
- Return to local economy

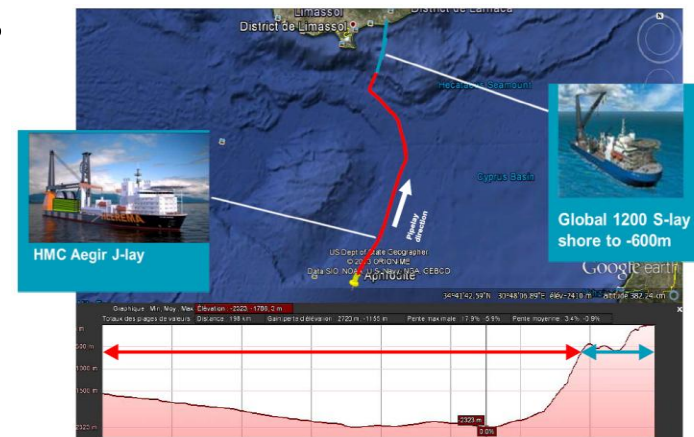
- Geopolitical risk, security
- Regulatory obstacles
- Environmental obstacles

Vasilicos LNG plant

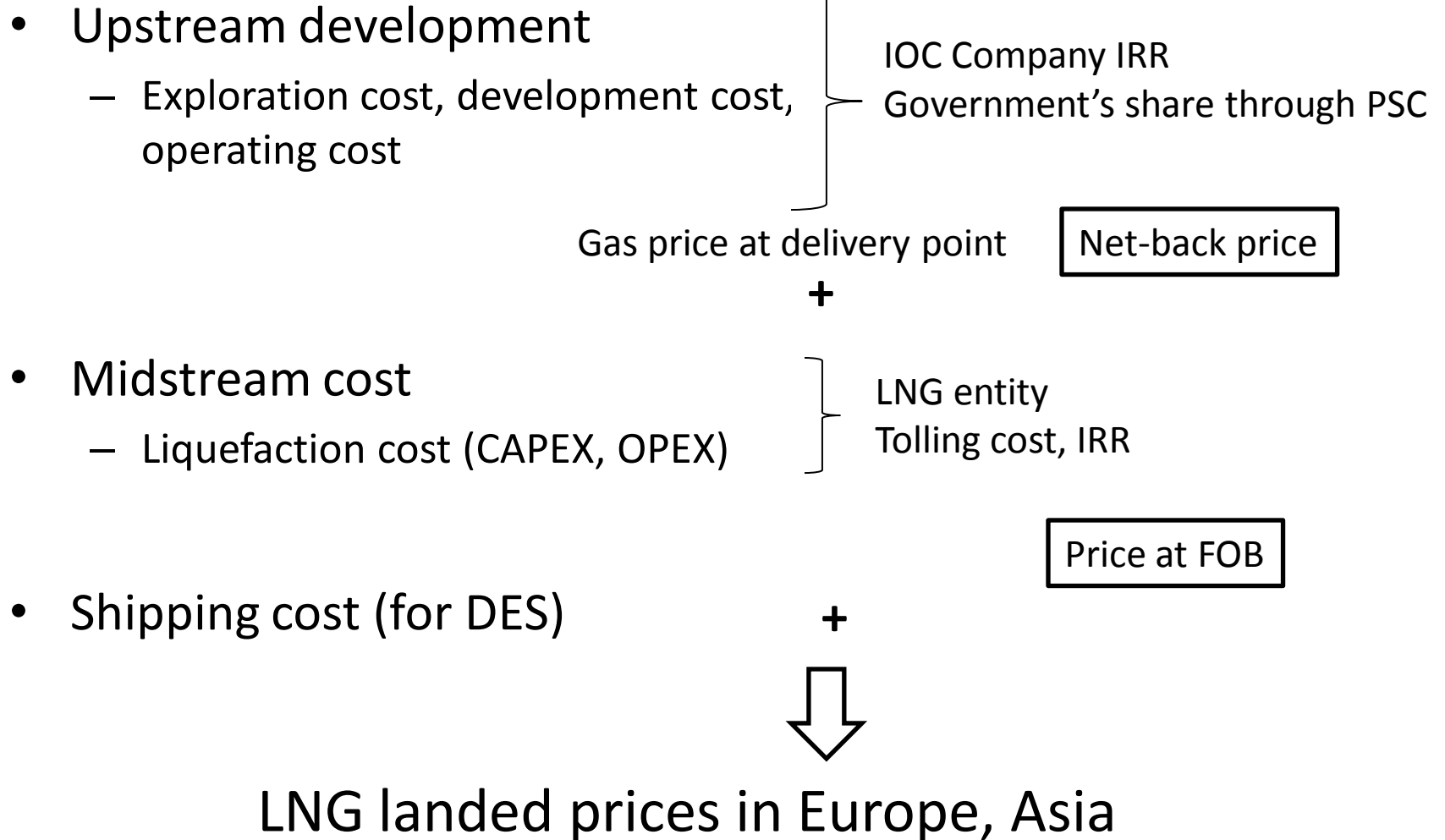
- Cyprus is in the right location. Vasilicos is a proper site with expandable capabilities
 - can accommodate (3 bcf/d or 3X5 MMTPA)
- Project Structure
 - Tolling structure
 - The government will secure competitive participation and access to newcomers gas holders
- Project financing
 - \$ 9-10 billion for 2 trains, 20-30% shareholders finance, 80-70% project financing
 - Sale contracts on strong commercial basis signed before FID
- Timing
 - Project Agreement by 2014, FID 2015, construction 2016-2019, exports 2020
 - Upstream (offshore), midstream (LNG, shipping, regasification) projects all aligned



Source Technip



Competitive prices

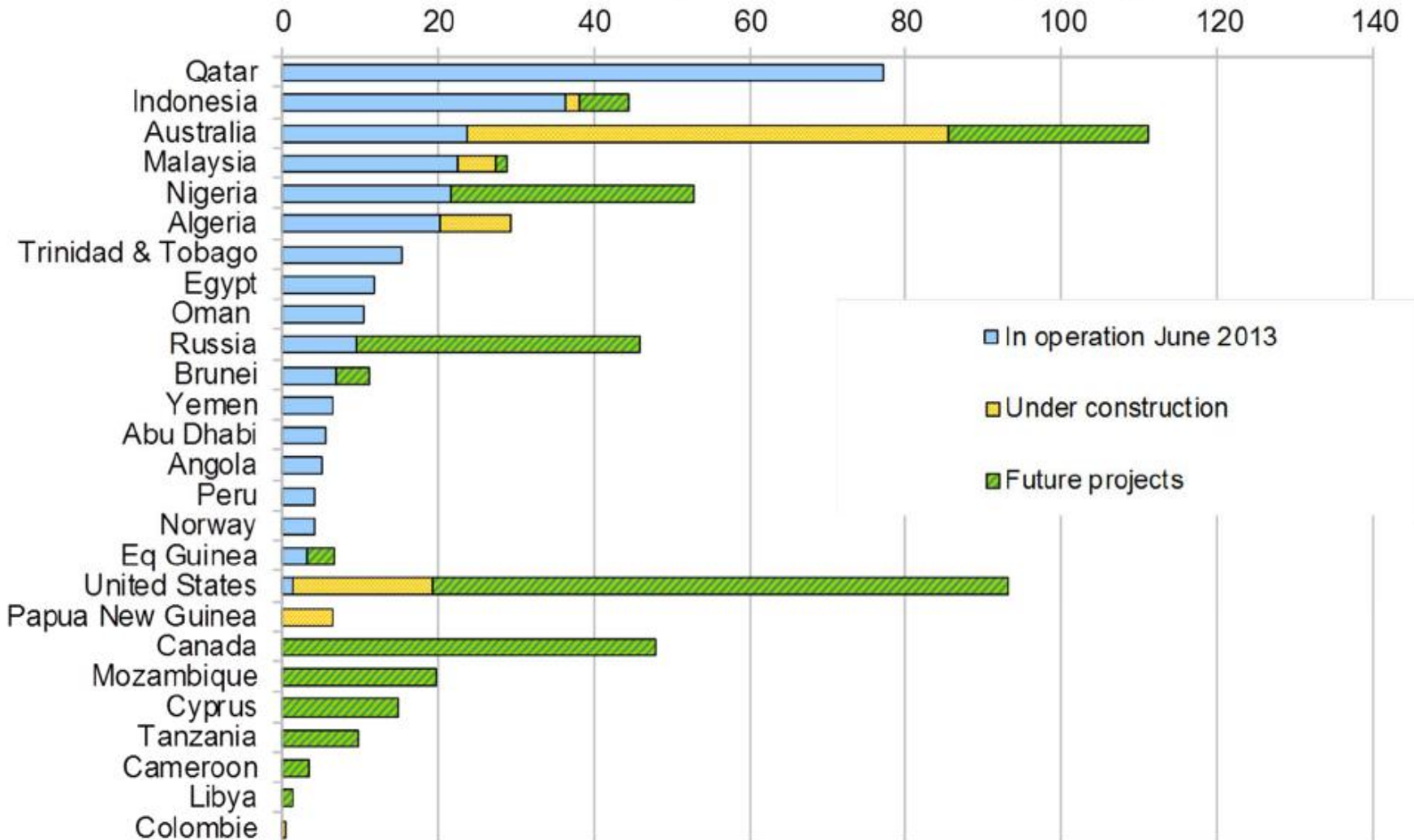


World LNG Estimated November 2013 Landed Prices



Future LNG projects

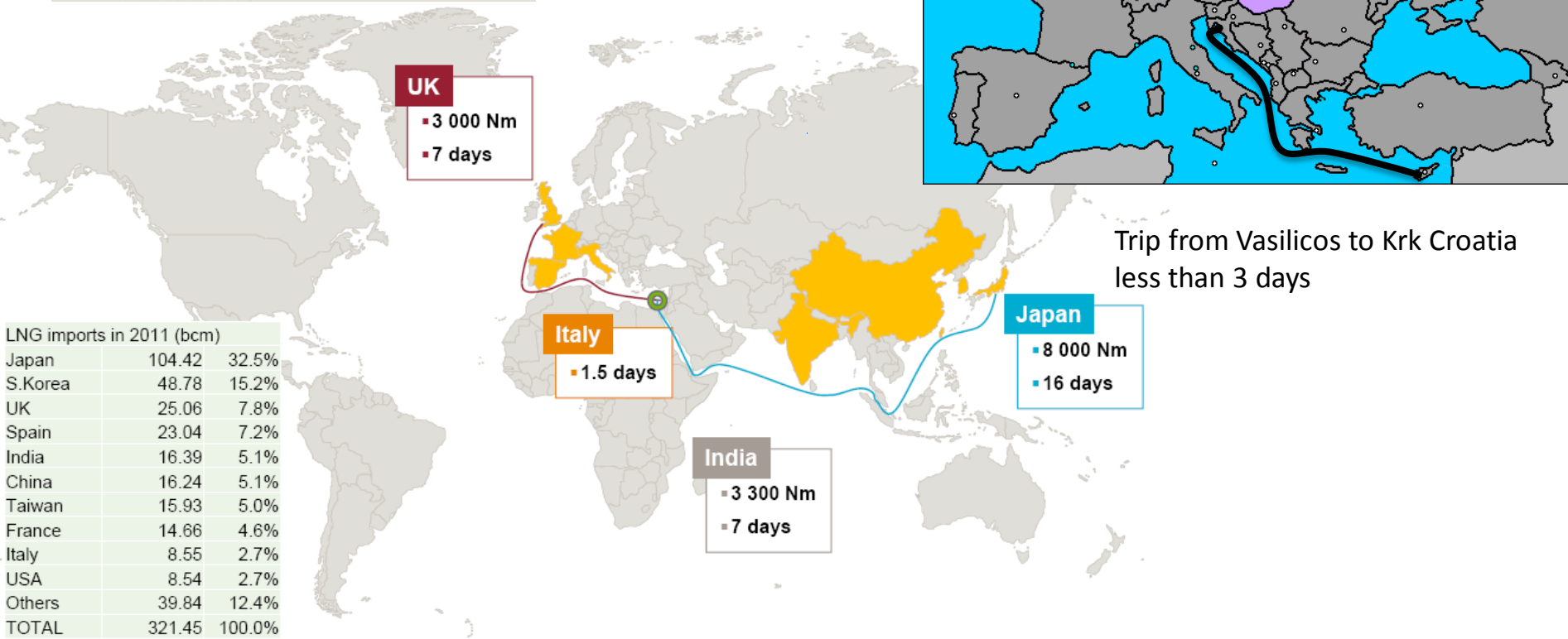
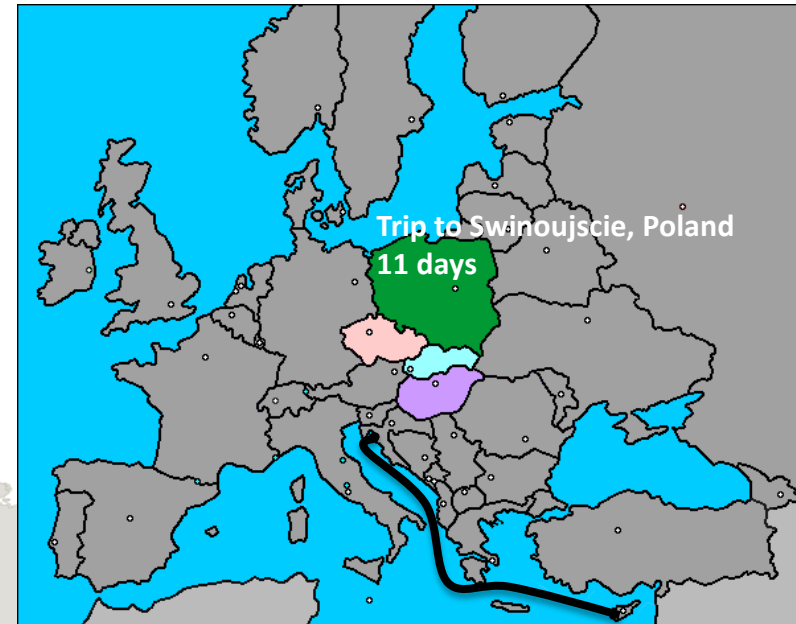
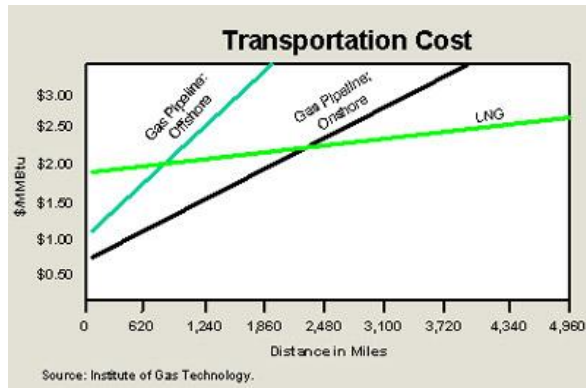
Estimated World liquefaction capacity (Mt/y)



Future prices of Natural Gas

- N. America (USA)
 - future prices in the range of \$4-5/mmbtu
- Asia
 - contracts \$14-15 /mmbtu (14% of oil price \$100/bbl)
 - spot prices \$15-20 /mmbtu
 - New Contracts \$HHB (1+15%)+ Liquefaction + transportation cost= \$12/mmbtu
- Europe
 - contracts \$10-12 /mmbtu (Visegrad group?)
 - spot prices \$9-10 /mmbtu (lower)

East Med is located between main LNG Markets



LNG imports in 2011 (bcm)

Country	Volume (bcm)	Percentage (%)
Japan	104.42	32.5%
S.Korea	48.78	15.2%
UK	25.06	7.8%
Spain	23.04	7.2%
India	16.39	5.1%
China	16.24	5.1%
Taiwan	15.93	5.0%
France	14.66	4.6%
Italy	8.55	2.7%
USA	8.54	2.7%
Others	39.84	12.4%
TOTAL	321.45	100.0%

Sources: Cedigas, Technip

Visegrad group (market) and East Mediterranean (supplier)

- Dependence on Russia gas
 - Poland 70%, Czech Republic 70%, Hungary 80%, Slovakia 100%
 - Gas prices are 20-25% higher than in Western Europe
- Many Eastern European EU member states face energy security challenges
 - To diversify supplies and reduce risk
- Alternative
 - Import LNG from US but requires licenses for export which may take several years for non FTAs
 - LNG from East Mediterranean
- Challenges
 - will require regasification terminals
 - at Krk-Croatia and connecting N-S pipeline
 - Japanese and Korean prices remain 35-50% above average EU prices for LNG
- Opportunity
 - existing prices + short distance to E. Mediterranean gas