LNG Project Finance Structures

Risk Management Challenges and Techniques

LNG IQPC – Contract Risk Management LNG

23rd May 2005

TAYLOR-DEJONGH

Competitive Position Mid Year - 2004

Global By Value

Rank	Firm
1	**Taylor-DeJongh**
2	PWC
3	KPMG
4	Macquarie Bank
5	UBS Investment Bank

Oil and Gas By Value

Rank	Firm
1	SG
2	**Taylor-DeJongh**
3	ABN AMRO
4	Macquarie Bank
5	Investec

Middle East & Africa by Number

Rank	Firm
1	**Taylor-DeJongh**
2	SG
3	ING Bank
4	BNP Paribas
5	Investec

Power by Value

Rank	Firm
1	**Taylor-DeJongh**
2	Macquarie Bank
3	Citigroup
4	BNP Paribas
5	ABN AMRO

Source: *Infrastructure Journal* League Tables, Mid Year 2004

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Taylor-DeJongh LNG Experience

Atlantic Basin

Qatargas II LNG Qatar
FA to Lenders
US$5 bn

Equatorial Guinea LNG
FA to Sponsors
US$1.7 bn

Sonatrach, **Skika Trains 4,5,6** **Algeria**
FA for Sponsors
US$250 mm

Atlantic LNG **Train 1** **Trinidad**
FA to Sponsor
US$1 bn

Jamaica LNG Jamaica
FA to Sponsor
US$600 mm

Confidential
Atlantic Basin LNG Supply
FA to Sponsor
US$1 bn

Angola LNG Angola
Acting for Project Company
US$1.5 bn

Pacific Basin

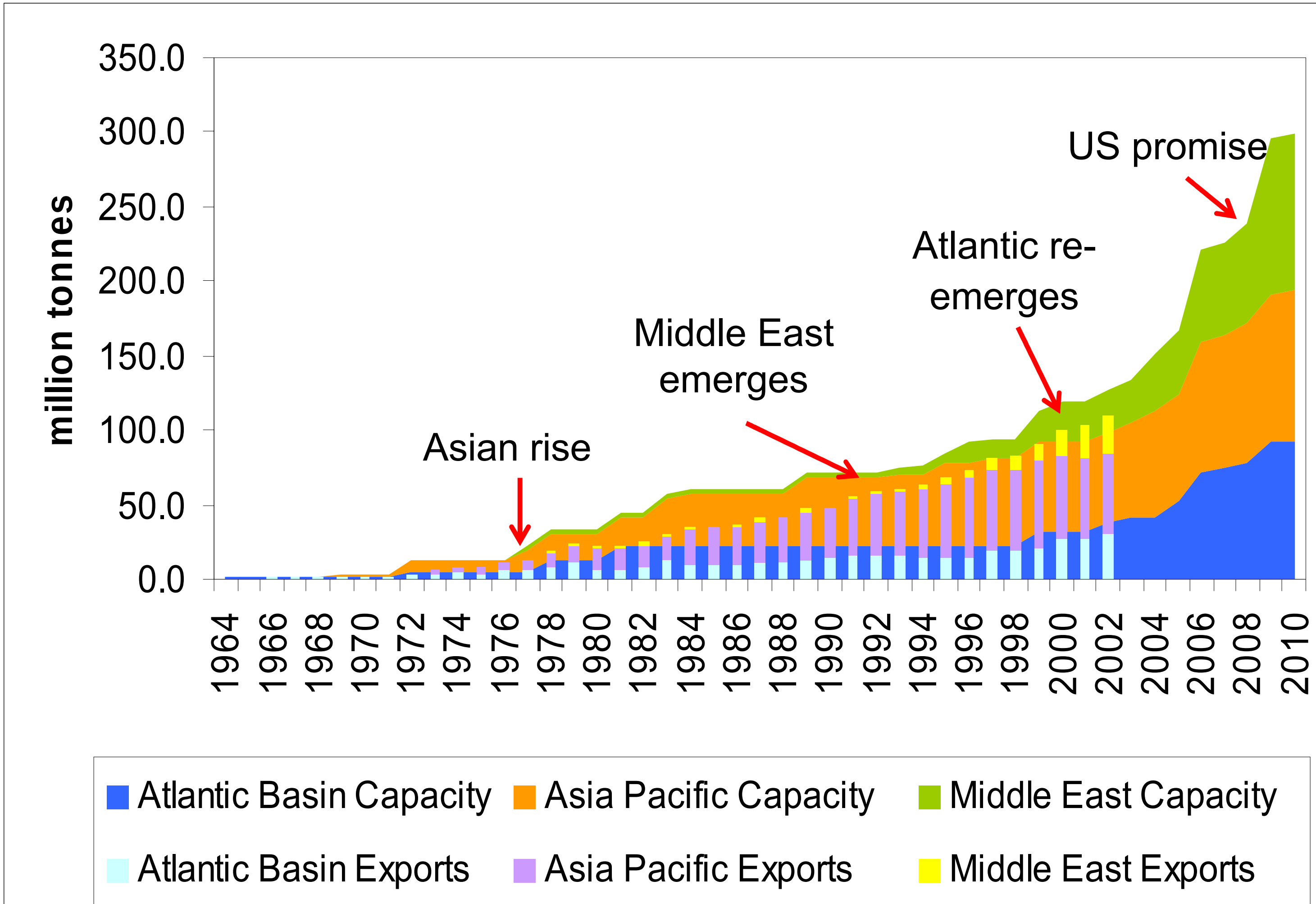
Alaska LNG and Pipeline USA
FA to State
US$12 bn

RasGas LNG **Train 3** **Qatar**
FA to Sponsors
US$1.4 bn

Qatargas Upstream LNG Qatar
FA to Lenders
US$600 mm

- $25.05 billion in total LNG advisory experience

Rapid Development of LNG



Source: Gas Strategies

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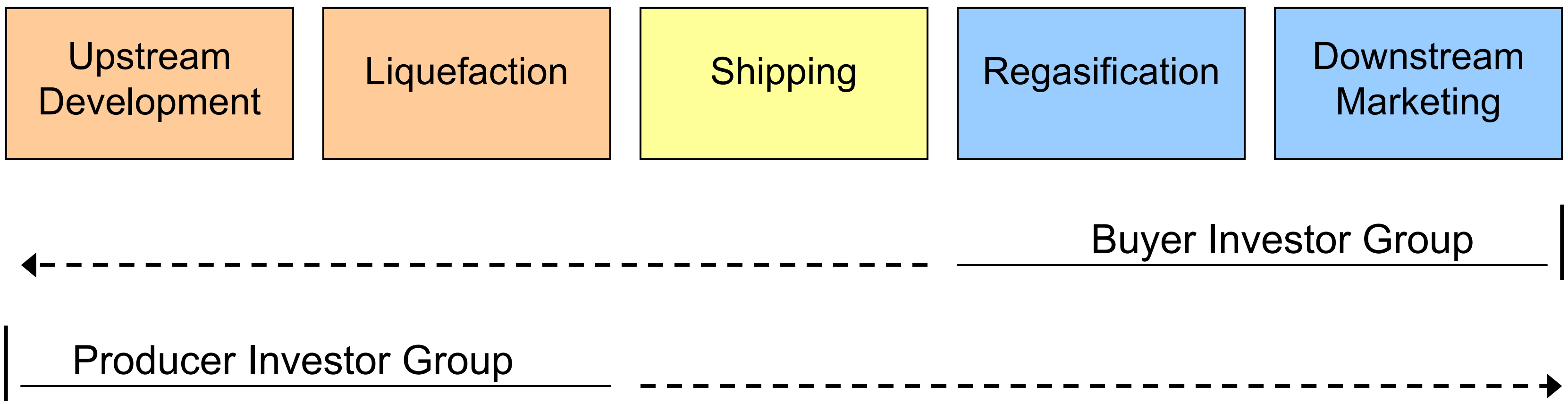
Traditional Project Structure

Upstream Development	Liquefaction	Shipping	Regasification	Downstream Marketing

Producer Investor Group	Buyer Investor Group

- Dedicated supply source
- Limited credit risk for investors as buyers traditionally credit-worthy utilities
- Limited price risk for liquefaction plant investors due to floor price clauses and indexing
- Guaranteed Revenue stream at floor price due to take-or-pay clause
- “Cost, Insurance, and Freight” placed insurance cost/risk on sellers, but willing to pay due to guaranteed buyers
- Back-to-back liability clauses minimized residual risk at the terminal

Evolving Finance Structures



- Buyers investing upstream on a limited basis; producers investing downstream.
- Tenor of contracts have become much shorter.
- Negotiating points: price indexing; floor price; destination flexibility; take-or-pay; CIF vs. FOB.

Upstream Issues

Exploration, Production, and Transport to Liquefaction Plant	NOCs

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Liquefaction	IOCs and NOCs

- Completion risk shared by liquefaction investors?
- Are corporate balance sheets sufficient to cover costs?
- NOCs focusing on expansions while listed companies focusing more on greenfield projects.
- How can political risk be minimized in developing countries?

Downstream Issues

Regasification

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Marketing

- Corporate guarantees?
- Is there over-supply risk?
- Buyers are asking for more destination flexibility
  – Shift in price risk to sellers?
  – Arbitrage opportunities for buyers?
- CIF vs. FOB – who's taking on more risk?
- Regulations/Permitting
  – Environmental concerns
  – NIMBY
  – U.S. – Omnibus Energy Bill passes?

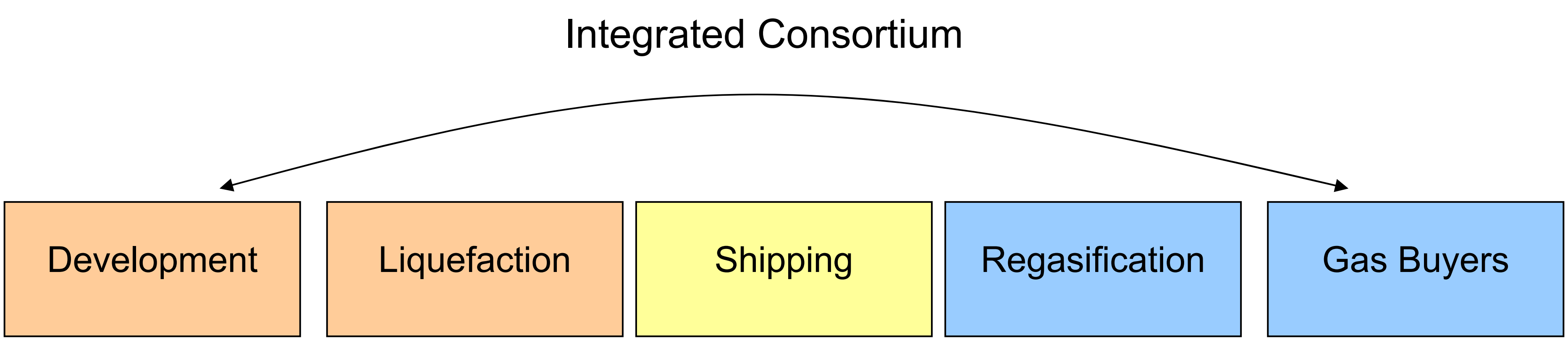
LNG Project Structures

- Integrated Model
- Tolling Model (Upstream)
- Merchant Model (Downstream)

LNG Project Structures (1)

- How could an LNG project be structured?

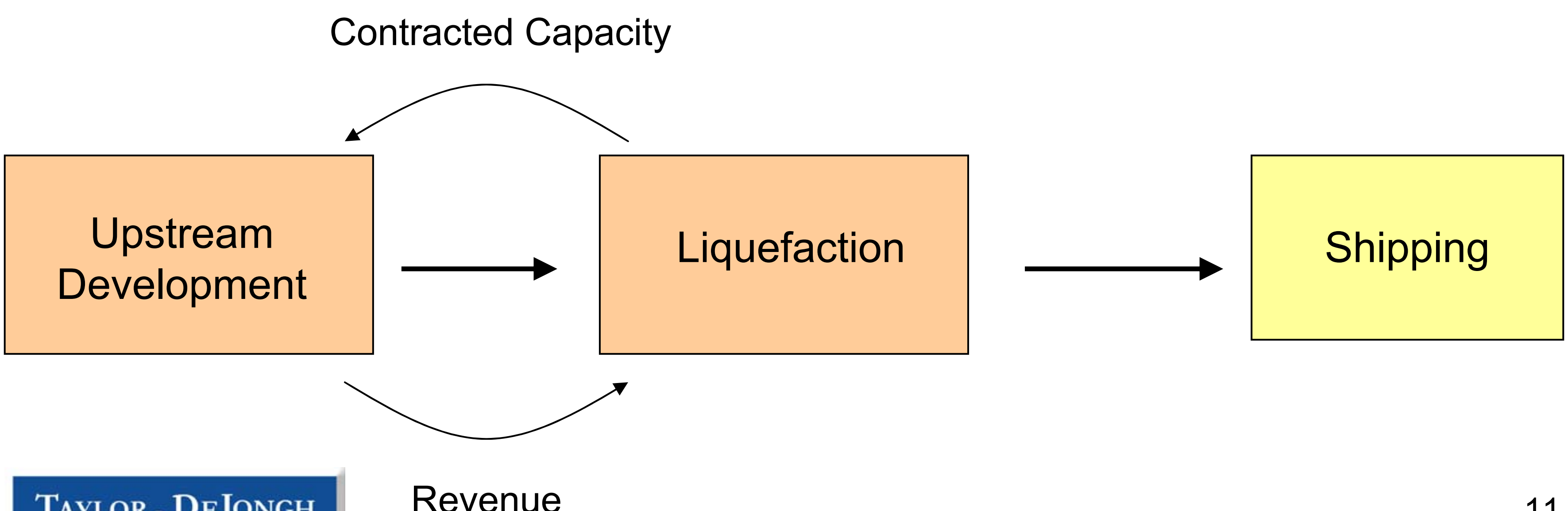
Integrated Model
•Links components: upstream and downstream. •Impractical for smaller companies due to needed size of investment. •Risks are internalized.



LNG Project Structures (2)

Tolling Model (Upstream)

- Contract between NG producer and liquefaction plant developer, whereby producers pay for capacity.
- Well suited for regions in which there are multiple NG development projects that are not tied directly to liquefaction plants.
- Tenure and scope of capacity contract will determine which participant is taking the most risk.

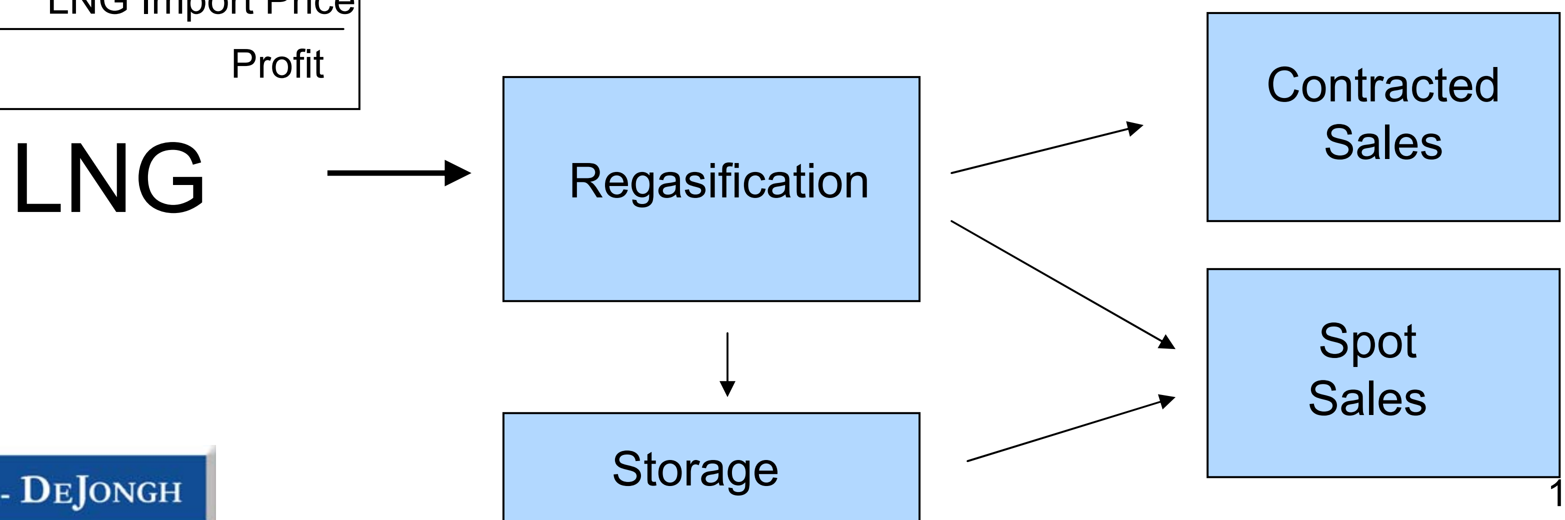


LNG Project Structures (3)

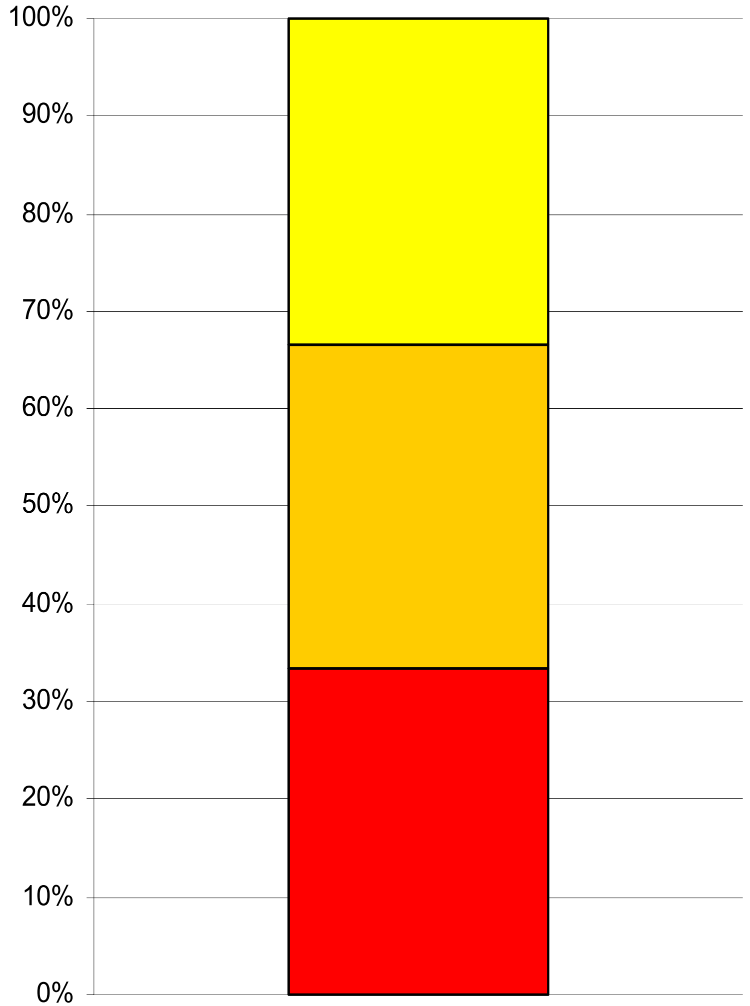
Merchant Model (Downstream)

- Terminal developers capture profit through LNG/NG price differential.
- Price volatility implies large risks.
- Greater needed equity investment.
- Requires storage capacity.
- Higher marketing, sales costs.

Downstream Sales Price
— LNG Import Price
Profit



Project Risk Profile



Political Risk

•Developing Country requires more integration.

Technical Risk

•Lenders unwilling to accept tech risk.

•Focus on remedies.

Commercial Risk

•LOI’s/HoAs vs. GSPAs

•Price risk?

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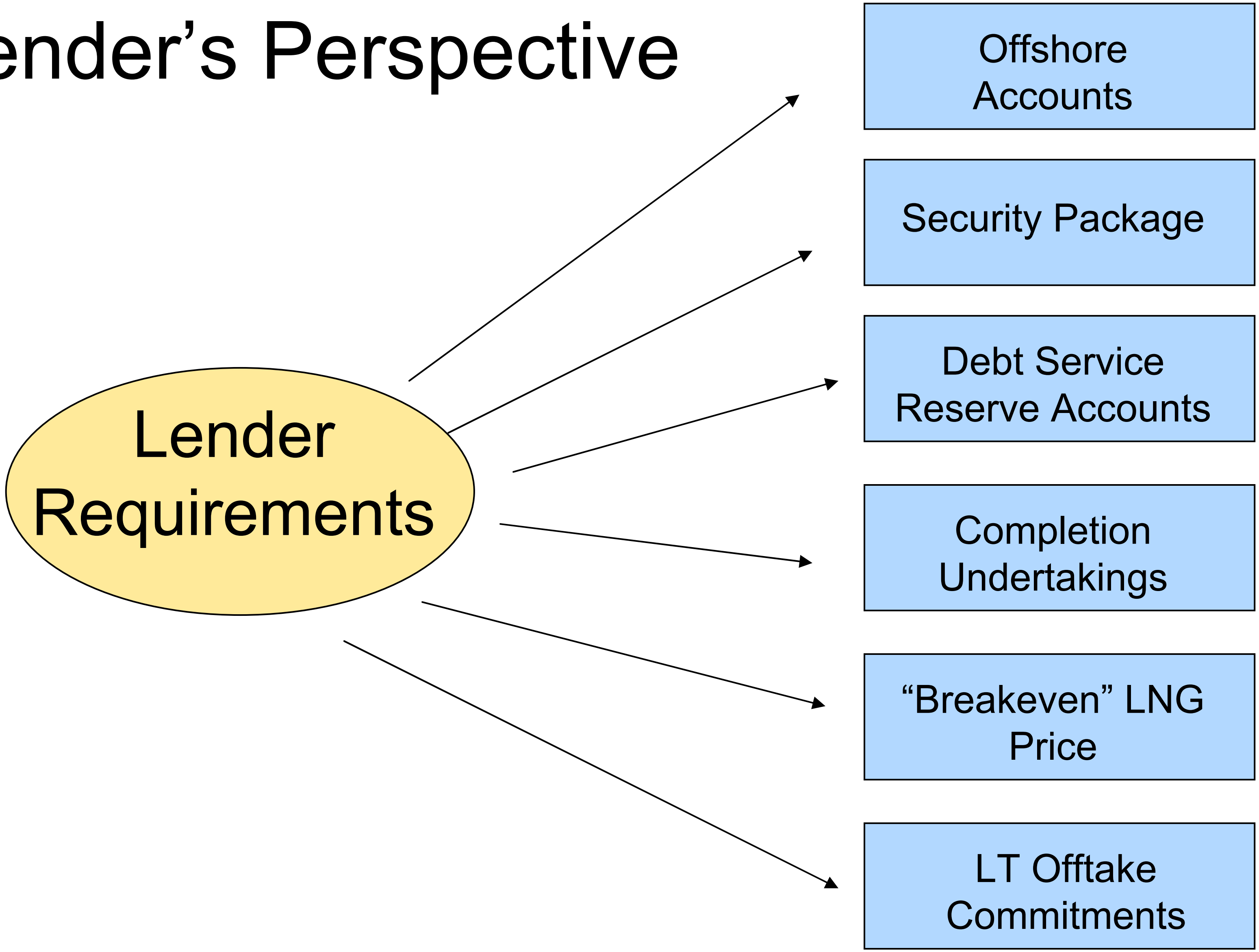
Lender's Perspective



CONTACT INFORMATION

Washington DC

Terry Newendorp
Chairman & CEO

David Ghighi
Director

1101 17th Street, NW
Suite 1220
Washington, DC
20036
United States of America

T 1 202 775 0899
F 1 202 775 1668

London

David Suratgar
Chairman of the Advisory Board

Guy Ranawake
Director

4 Millbank
London
SW1P 3JA
United Kingdom

T 44 (0)20 7233 4000
F 44 (0)20 7340 2188

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