

*Paul Hastings*

# Project Financing of the LNG Supply Chain

*Presentation to the Japan Institute for Overseas Investment  
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- ▶ Brief Overview of Project Finance and the LNG Supply Chain
  - ▶ LNG Supply Chain Structuring Options
  - ▶ Identification and Allocation of Risk in the LNG Supply Chain
  - ▶ Common Issues in the Project Financing of the LNG Supply Chain
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## Definition of “Project Finance” –

**Lending** to a single purpose company for the acquisition and/or construction of a revenue generating asset

**Repayment** of the loan is solely from the revenues generated by the operation of the asset

**Security** for the loan is comprised of all the assets of the single purpose company

**Recourse** to the sponsors is limited or non-existent

## Benefits of “Project Finance” –

Limited Equity  
Compared to Project  
Returns

Risk Sharing &  
Diversification

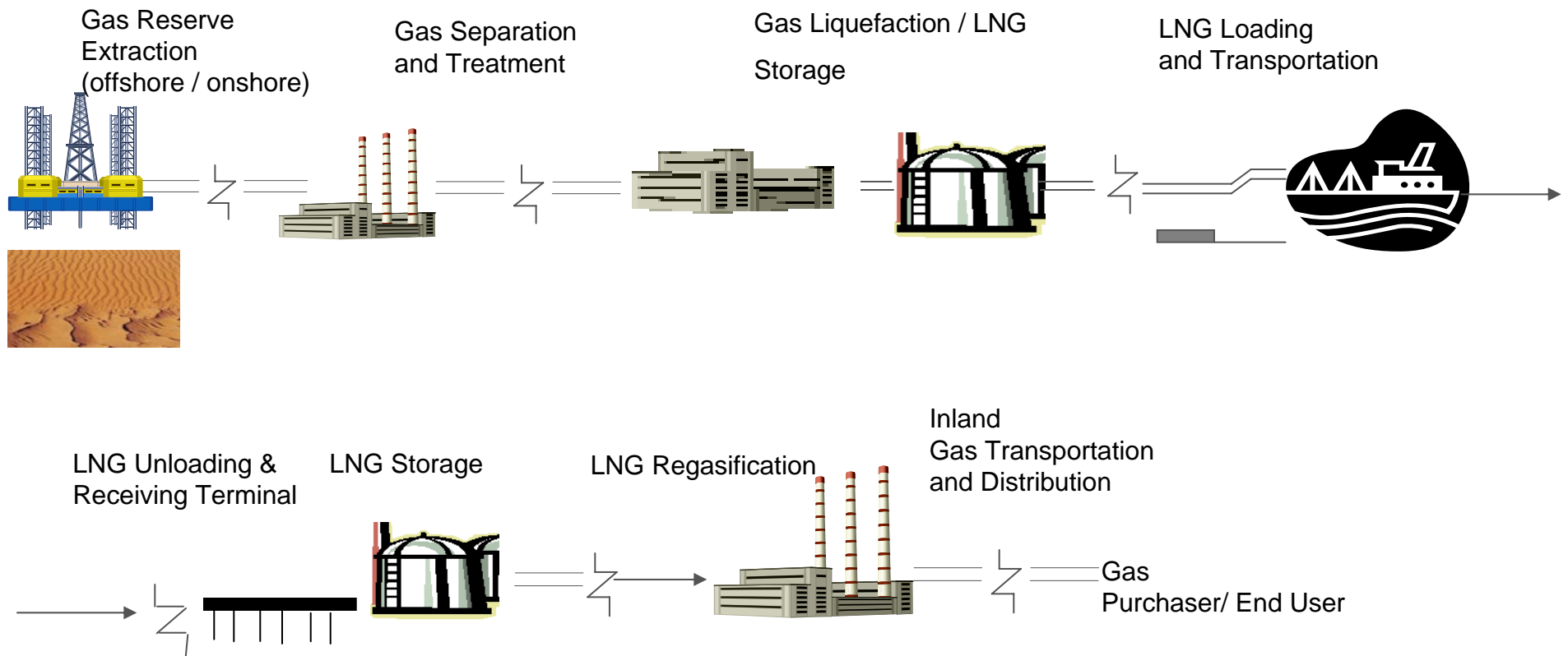
Off-Balance Sheet

Access to Long-Term  
Financing

Political Risk Mitigation

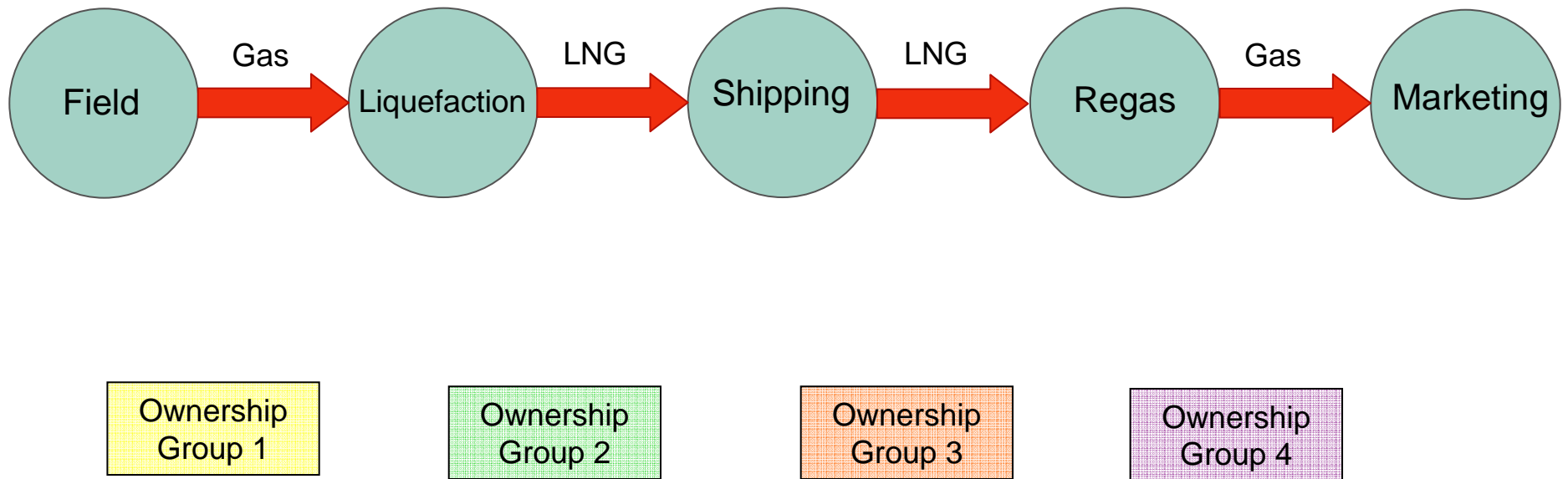
# LNG Supply Chain

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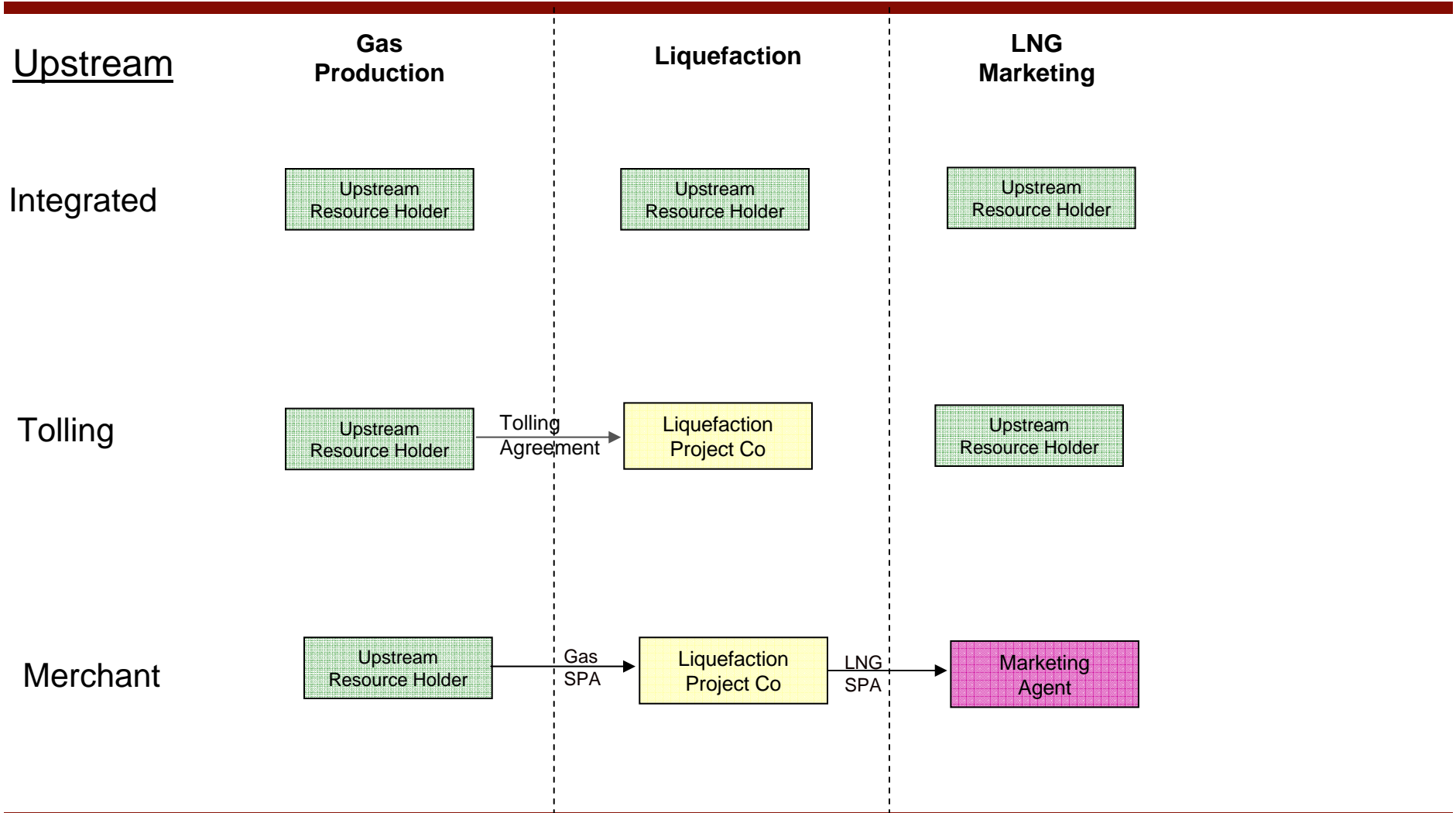
# LNG Supply Chain Structuring Options

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# LNG Supply Chain Structuring Options cont'd . . .

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# LNG Supply Chain Structuring Options cont'd . . .

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## Midstream



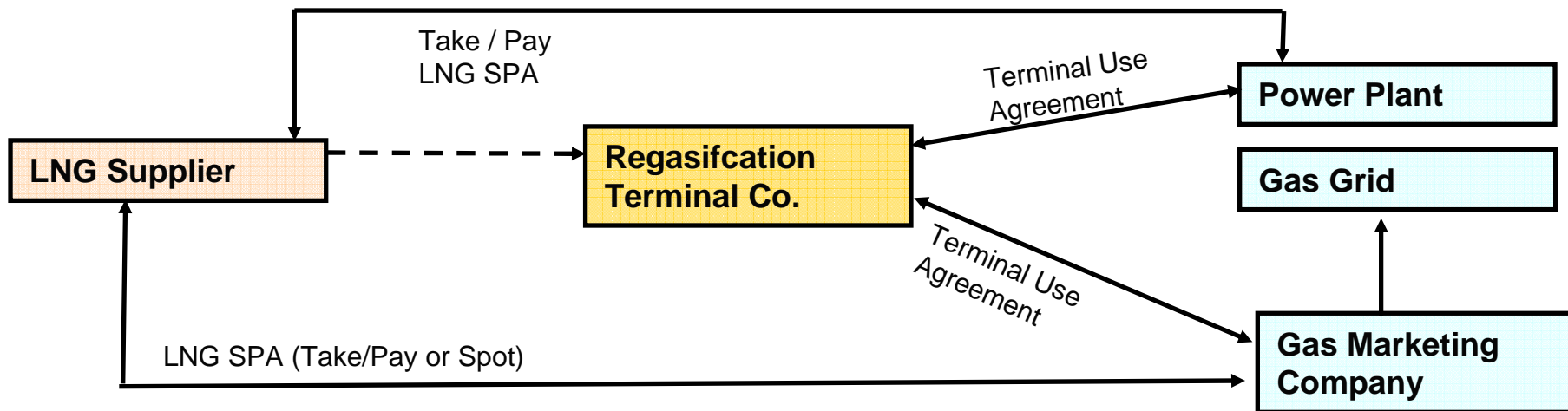
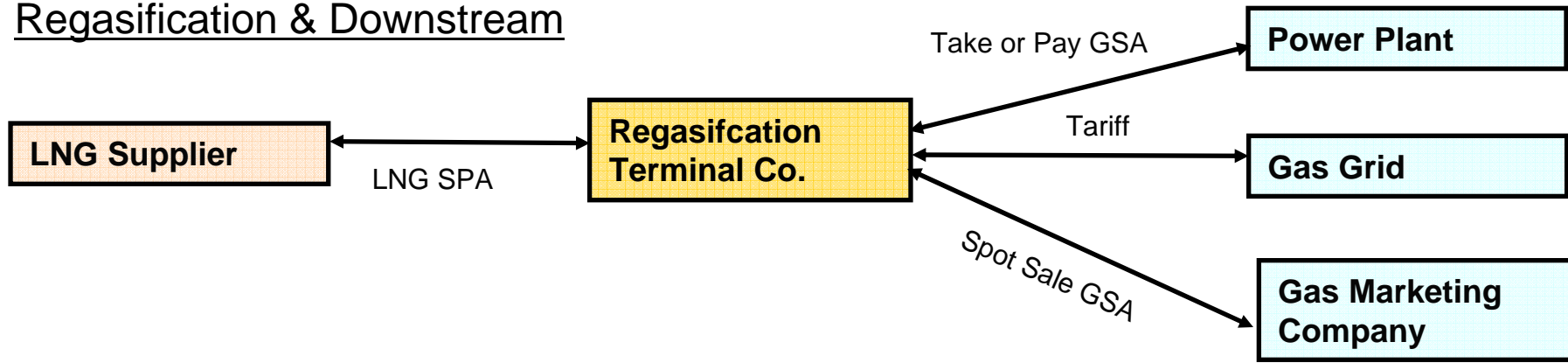
- Responsibility for LNG Transport → Ex-Ship / FOB
- The LNG Transport Contract → Dedicated / Spot
- Vessel → Newbuild / Existing
- Tax Lease Structure

# LNG Supply Chain Structuring

## Options cont'd . . .

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### Regasification & Downstream





# *Identification and Allocation of Risk in the LNG Supply Chain*

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- ▶ Project-on-Project Risk – “Interdependency”
  
- ▶ Construction Risk
  - Delays in construction
  - Cost-Overruns
  - Performance below guaranteed parameters
  - Materials and Labor Cost and Availability
  
- ▶ Operating Risk
  - Operator performance
  - Equipment failures
  - Increased operational costs
  - Labor Availability (e.g., seafarers)

# *Identification and Allocation of Risk in the LNG Supply Chain cont'd . . .*

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- ▶ **Upstream Supply Risk**
  - Insufficient Reserves
  - Failure of Supply
  
- ▶ **Downstream Market Risk**
  - Lack of Market Demand
  - Competing Fuels
  - Downstream Buyer Credit Risk
  - Natural Gas Pricing
  - Regulatory / Legal Regime

# *Identification and Allocation of Risk in the LNG Supply Chain cont'd . . .*

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- ▶ Credit & Payment Risk
    - Risk of Non-Payment
    - LNG or Gas Offtaker Creditworthiness
    - Charterer Creditworthiness
  
  - ▶ Liquidity Risk
    - Cost-overruns
    - Invoice and cash-flow mismatches
    - Commissioning and ramp-up periods
-

# *Identification and Allocation of Risk in the LNG Supply Chain cont'd . . .*

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## ▶ Force Majeure

- “Unforeseeable” risk
- Acts of God
- Inter-dependency of force majeure clauses throughout LNG Supply Chain
- Force Majeure Clauses frequently not back-to-back

## ▶ Political Risk

- Governmental support for project
  - Permitting and Authorizations
  - Role of State in Supply, Transportation and Offtake
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# *Identification and Allocation of Risk in the LNG Supply Chain cont'd . . .*

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## ▶ Legal Risk

- Breach of contract and non-performance
- Enforceability
- Contractual ambiguity or silence
- Dispute resolution
- Developed vs. Developing Regulatory Environment

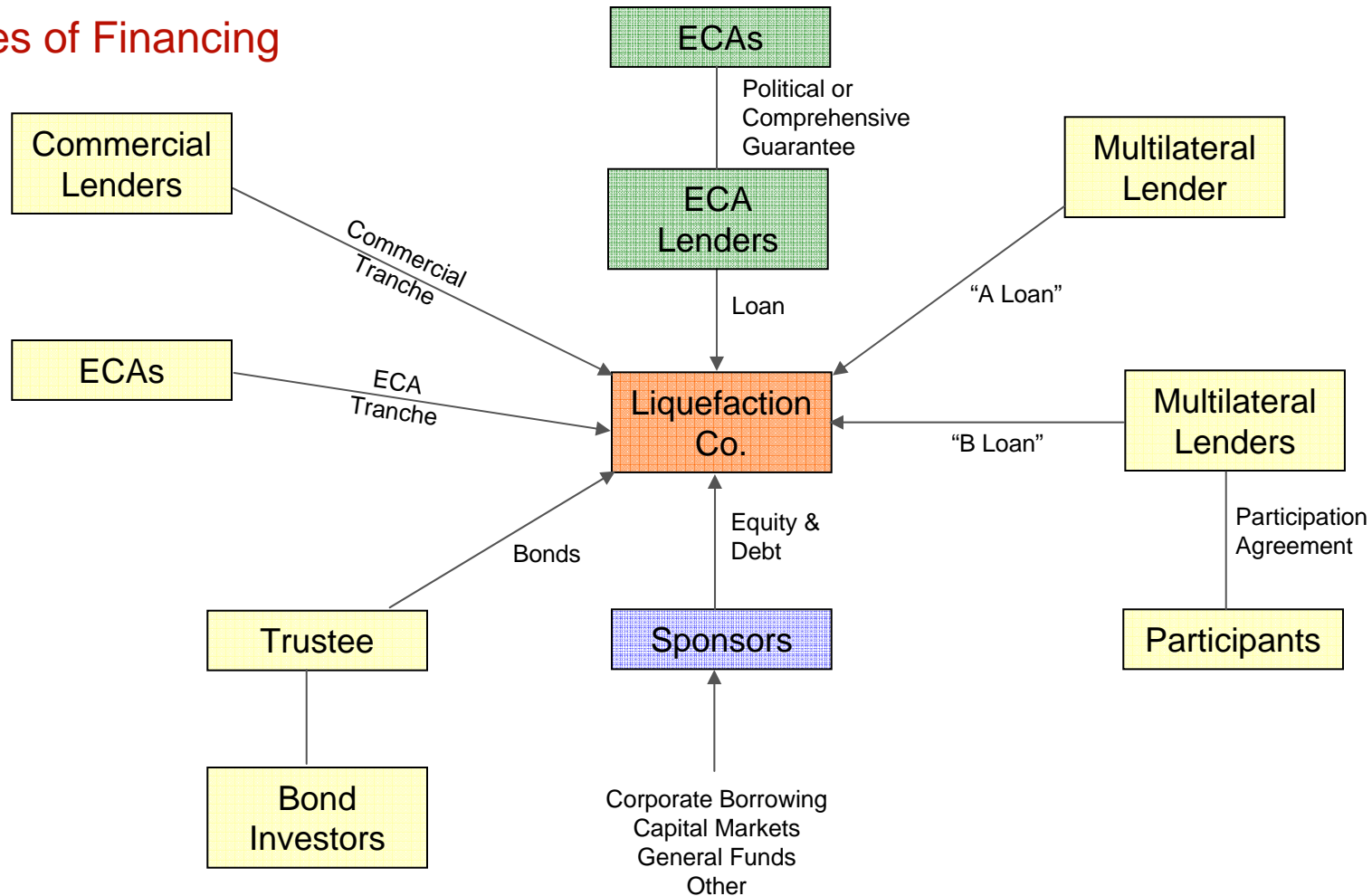
## ▶ General Economic Risk

- LNG and Gas Demand and Supply
- LNG Vessel Demand and Supply

# Upstream Development & Liquefaction

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## Sources of Financing



- ▶ Issues Particular to Financing Upstream Development & Liquefaction
  - Offtaker Credit Risk and Downstream Credit Risk
  - Nature of Resource Rights
  - Construction Terms

# *Upstream Development & Liquefaction cont'd . . .*

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- ▶ Issues Particular to Financing Upstream Development & Liquefaction
  - LNG Offtake Agreement
    - Offtaker Credit Quality
    - Term of LNG Offtake Agreement
    - LNG Quantity
    - Take-or-Pay Amount
    - Pricing (Maximum, Minimum and Volatility Dampening)
    - Price Revision Mechanisms
    - Upward / Downward Flexibility
    - Destination Flexibility
    - Other LNG Offtake Agreements as Revenue Support for Debt



- ▶ Issues Particular to Financing Upstream Development & Liquefaction
  - **Feedstock Supply**
    - Term of production sharing contract / license
    - Proven reserves
    - Costs of field development
    - Field development plan
    - Dedication to LNG Supply Chain

# *Upstream Development & Liquefaction cont'd . . .*

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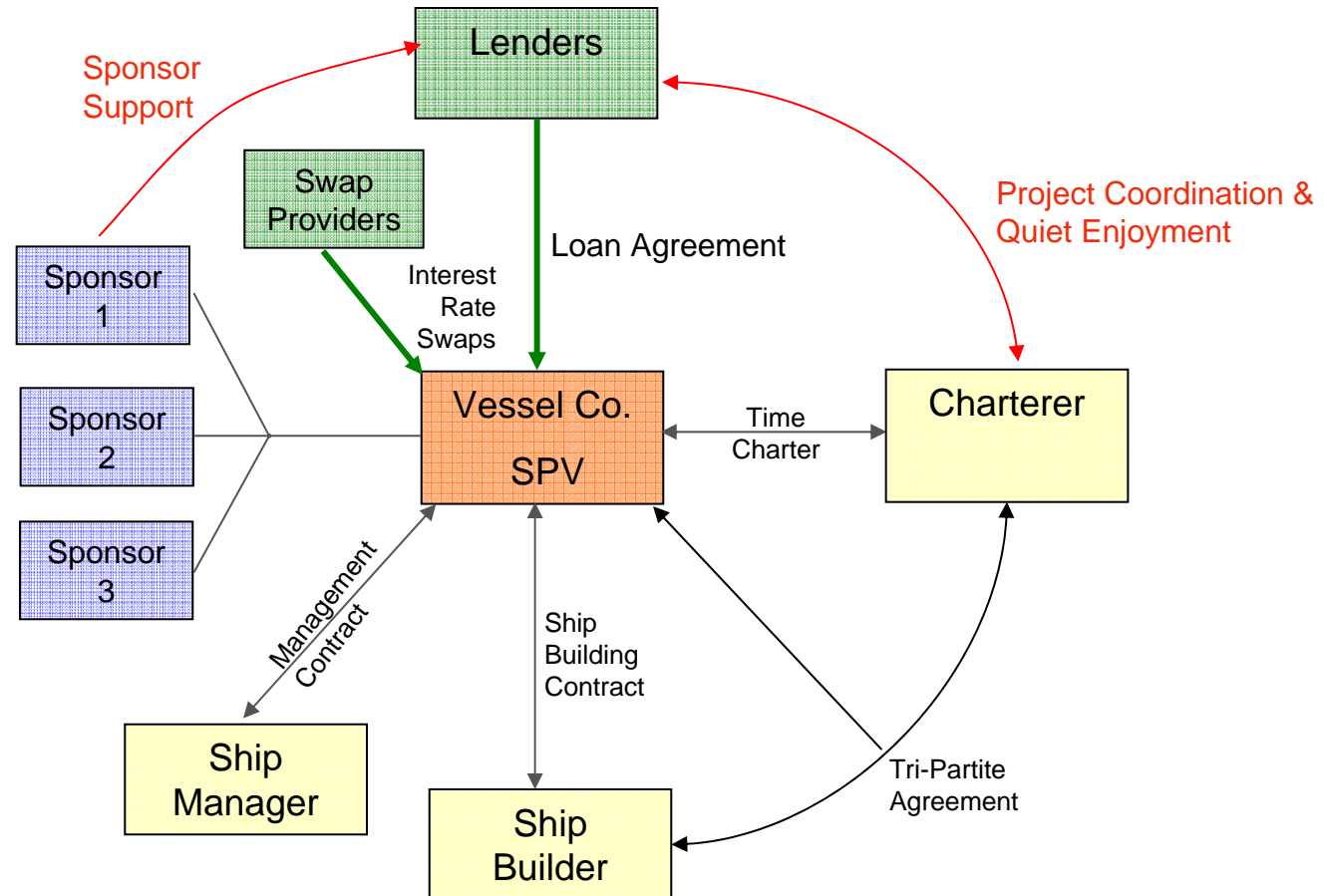
- ▶ Issues Particular to Financing Upstream Development & Liquefaction
    - Sponsor Support
    - Scope of Collateral/Security
    - Political Risk
    - Health, Safety, Environmental & Social
    - Expansion
-

# LNG Transportation

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## Security Package

- Vessel mortgage
- Share pledge
- Direct Agreements
- Assignments of Project Contracts
- Assignment of Refund Guarantee
- Assignment of Insurance
- Account Charge



- ▶ Issues Particular to Financing LNG Shipping
    - Interdependency of LNG vessels with upstream development and liquefaction as well as downstream regasification
    - Charterer credit risk
    - Charter Party Terms
    - Sponsor Support
    - Vessel redeployment
    - Vessel refinancing
    - Collateral security
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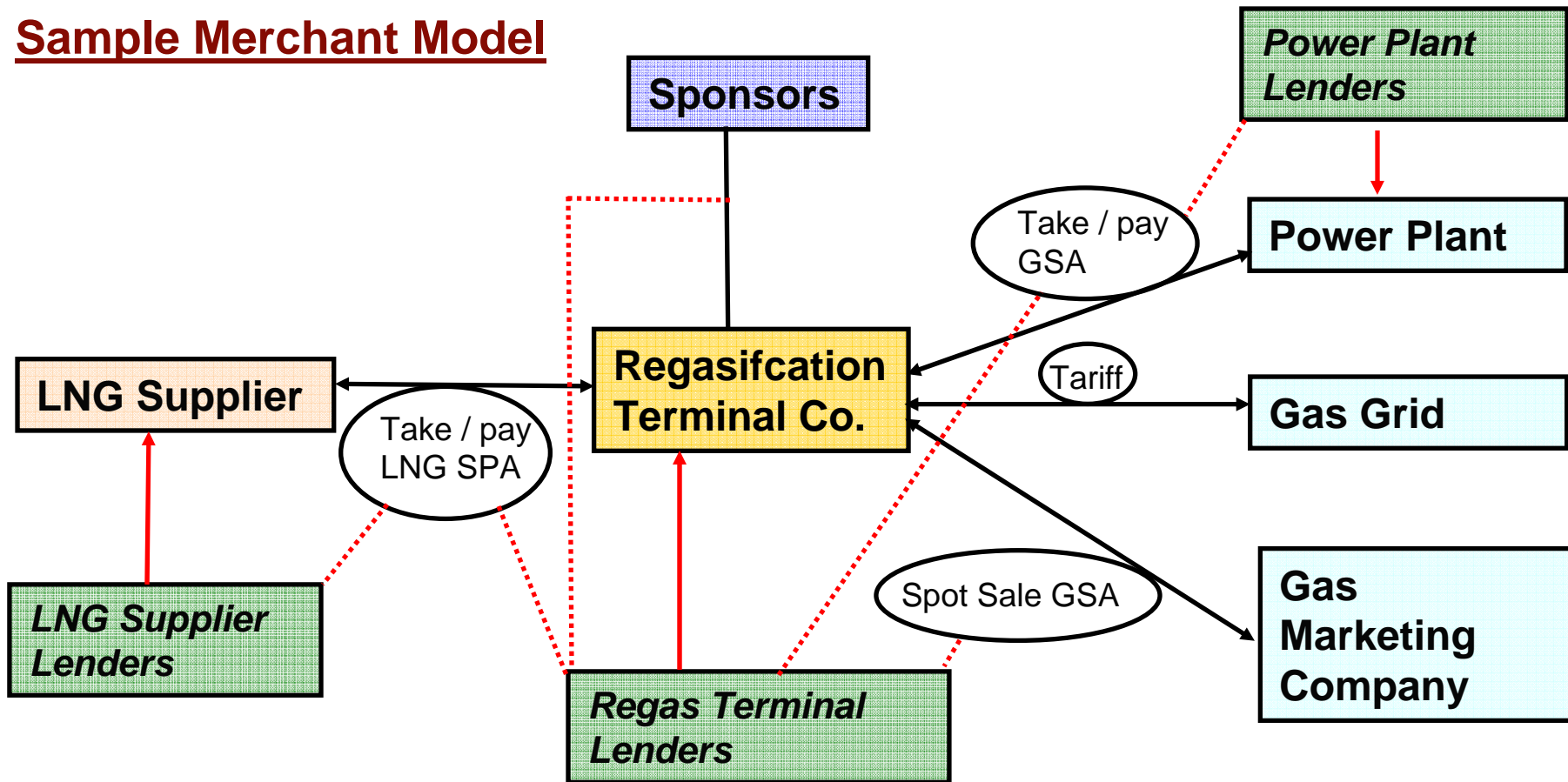
## Project Coordination & Quiet Enjoyment Agreement among VesselCo., Charterer and Lenders

- ▶ Charterer consent to mortgage over vessel and assignment of Charter
- ▶ Charterer Standstill Period & Lenders Right to Cure Default
- ▶ Lender Substitution Rights
- ▶ Charterer Right of Quiet Enjoyment (Non-Interference)
- ▶ Charter Right of Early Termination of Charter if Vessel Finance Default
- ▶ Additional Charterer Covenants

# LNG Regasification

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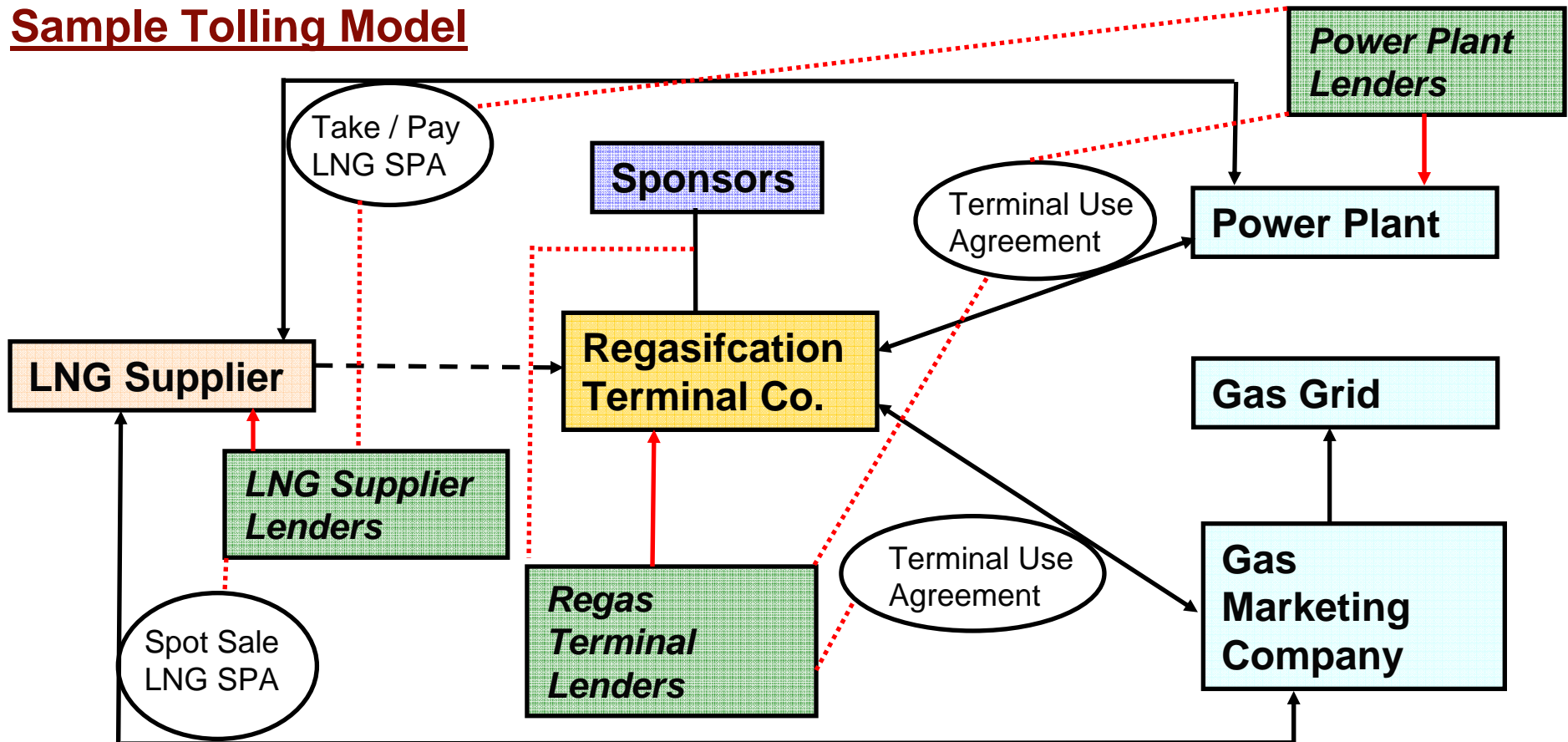
## Sample Merchant Model



# LNG Regasification cont'd . . .

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## Sample Tolling Model



## ▶ Issues in Financing LNG Regasification Terminals

- Regas terminals dependent upon upstream supply
    - Subject to all upstream risks and delays
    - Tight supply market has resulted
  - Point to point supply model changing; but tolling structure still more common than merchant
  - Significant upstream support required from offtaker / sponsors
  - Offtakers often invest in Regas Terminals
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- ▶ Issues in Financing LNG Regasification Terminals
  - Permitting / Siting – “NIMBY”
  - Terrorism
  - Typical construction / force majeure risks of other large projects
  - Strict cashflow management through waterfall
  - Direct Agreements between lenders and terminal users

- ▶ Terminal Use Agreement
  - Basic document for regasification terminal tolling structure
  - Removes price and volume risk from terminal operation
  
- ▶ Terminal Use Agreement Issues
  - TUA counterparty risk
  - Force Majeure
  - Assignment or diversion of cargos
  - Liability
  - Multiple users
  - Lender / Offtaker rights on Terminal Operator default

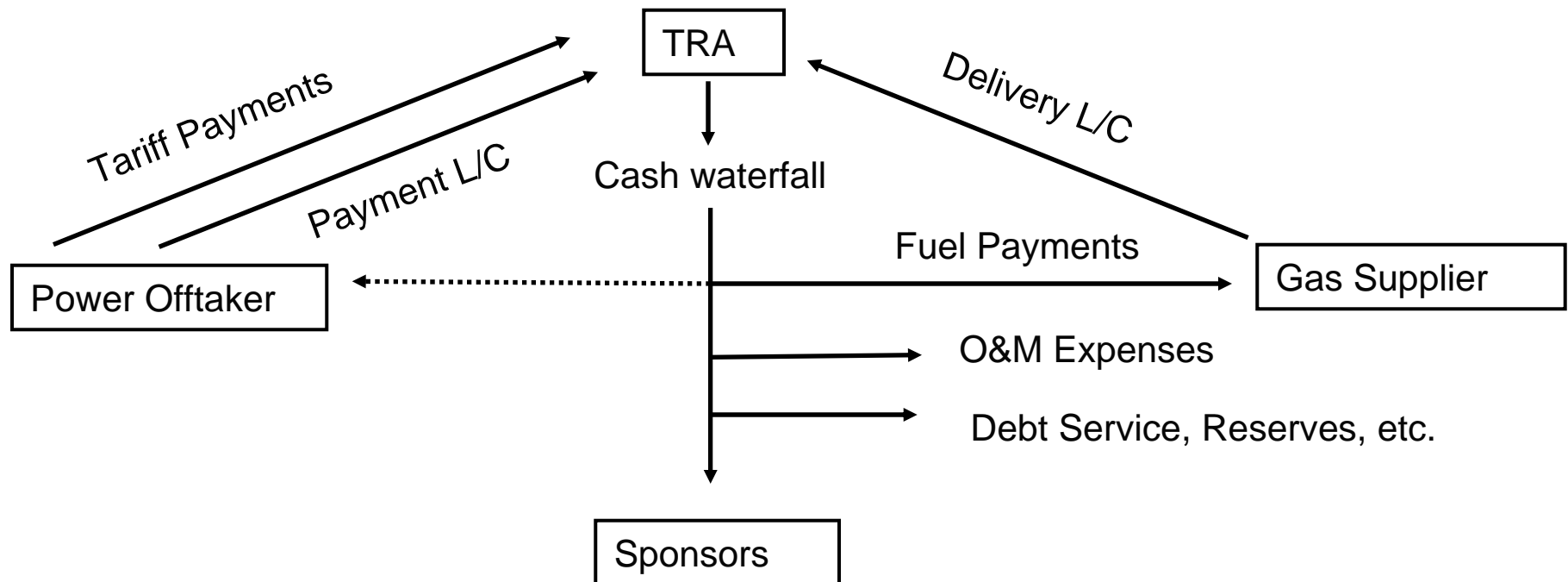
- ▶ Downstream pricing / economics
  - ultimately drive entire project financing structure
- ▶ Downstream market dynamics
  - can be very different from up/midstream LNG market
- ▶ Offtaker strength in target market is vital
- ▶ Downstream issues in LNG project finance – two examples
  - Sales to US / UK Grid
  - GSA with Independent Power Project (IPP)

- ▶ Downstream issues in LNG Project Finance
- ▶ **US / UK grid sales**
  - Price volatility
  - Transportation
  - Delivery volumes
  - Market concentration

- ▶ Downstream issues in LNG Project Finance
- ▶ **GSA with IPP**
  - Payment Risk
    - Creditworthiness of counterparty
    - Payment Security
  - Fuel Supply Risk
    - Delivery Security
    - Force Majeure
  - Risk Allocation GSA / PPA interface key

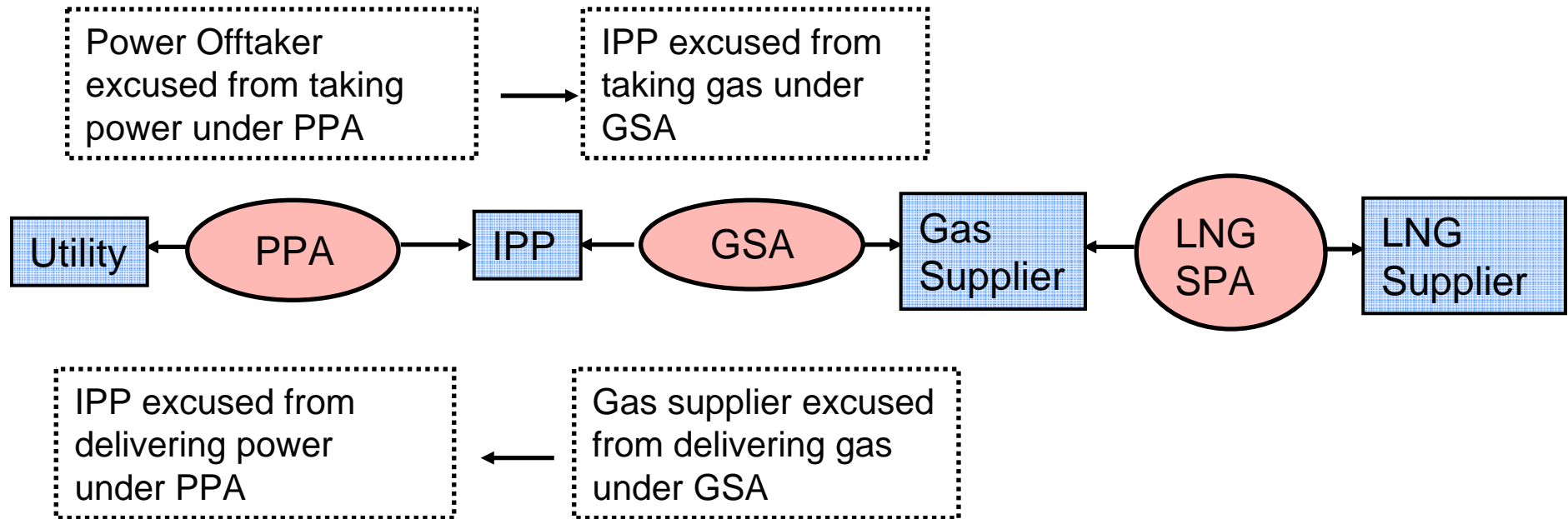
## ▶ GSA with IPP

- Security for Payment and Delivery



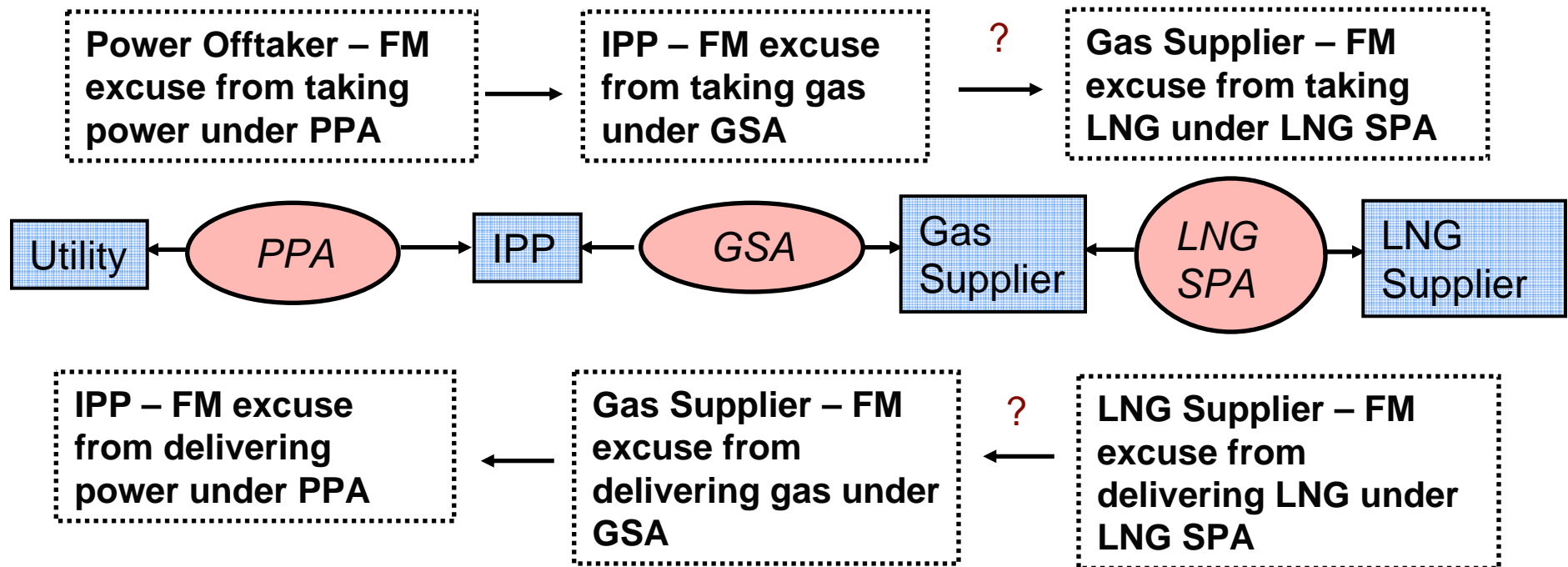
## ▶ GSA with IPP

- Force Majeure



## ▶ GSA with IPP

- Force Majeure – difficult to extend upstream





# Consistently a Leading Advisor in the Global LNG Sector

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Paul Hastings Global LNG Practice has been consistently recognized by independent organizations, such as *Chambers Global*, *Legal 500*, *International Financial Law Review*, *Euromoney*, based on peer voting and/or interviews with clients and other lawyers.

- **Chambers & Partners Asia 2009 edition** – “[Paul Hastings’] practice’s main strength lies in the LNG sector, where it represents lenders, developers and sponsors.”

- **Asia Pacific Legal 500 2009 edition** – “Paul Hastings is known for its strength in oil, gas and LNG projects.”

## Our Recent Global LNG Experience

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Counsel to  
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BTMU  
Commercial  
Lenders  
US\$1.5 billion  
Loan

### Angola

Counsel to  
Mitsui & Co  
NYK  
Teekay  
for LNG Shipping for  
Angola LNG Supply  
Services

### Croatia

Counsel to  
HEP  
Plinacro  
as Sponsors &  
Shareholders in the  
Adria LNG Project

### CPC

Counsel to  
Mitsui & Co  
NYK  
for LNG Shipping for  
CPC Taiwan from  
Qatar

### Tanggung

Counsel to  
JBIC  
US\$1 billion Loan  
  
“Deal of the  
Year” Award

### Mashal

Counsel to  
Sui Southern Gas  
Mashal LNG  
Import Terminal  
Development

### Guangdong

Counsel to  
Chinese State-  
Lenders  
US\$897 million  
Loan  
8 “Deal of the  
Year” Awards

### Petronet

Counsel to  
Petronet LNG  
Dahej Import  
Terminal  
development and  
financing  
“Deal of the Year”  
Award



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