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Solicitors & Barristers

**Liquefied Natural Gas:
Financing Vietnam's large-scale high-risk
multibillion-dollar greenfield LNG projects**

American Chamber of Commerce in Vietnam

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Pham Ba Linh

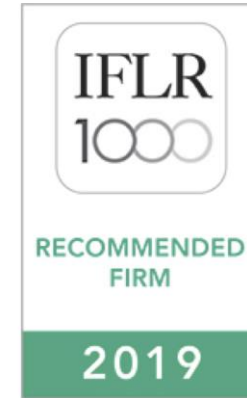
Managing Partner

Head of Energy, Project Finance and Infrastructure

LLB (Hanoi) LLM (Nottingham) FSI Arb

Introduction to Lexcomm Vietnam LLC

- Tier 1 rankings in Projects and Energy by Legal 500 Asia Pacific for 2019
- preeminent full-service Vietnamese commercial law firm with market-leading practices. Offices strategically placed in Hanoi and HCMC



- ✓ consistently ranked by prestigious legal directories Legal 500 Asia Pacific, IFLR1000, Chambers Asia Pacific and Asialaw Leading Lawyers
- ✓ regularly advises international energy companies on Vietnam's multibillion-dollar landmark energy and infrastructure projects
- ✓ established bench of 20+ years experience Vietnam qualified transactional and disputes lawyers to assist international clients
- ✓ top-level technical legal expertise and wealth of Vietnam market experience in banking and finance, capital markets, energy and infrastructure, telecoms, corporate and M&A, dispute resolution

Vietnam's energy security

- historical dependence on oil product imports (70%)
- export sales of crude oil
- constrained State funding for E&P operations
- Prime Minister's Decision No. 60/QD-TTg in efforts to monetise domestic gas discoveries
- significant challenges to secure long-term gas supplies
- momentum building with pipeline of new LNG regas/LNG-to-power projects

Exploration and production



Exploration and production

- first oil from Ca Tam oilfield (Block 09-3/12 PSC) on 25/01/2019
 - ✓ jointly developed by Vietsovpetro, PVEP and Bitexco
- open blocks and farm-in opportunities available from PVN/PVEP
- relatively under-explored offshore deepwater areas with complex geology
- host government contracts - GOV issued a model form of PSC (effective on 8 June 2013)
- field specific, focus on oil exploration, typical “carried” provision
- natural gas aspects of granting instruments
- royalty is not price-sensitive/“ring fenced” tax calculations
- Government take - sliding scales based on production rates

Natural gas - MOIT forecasts

Figure 1-16: Gas supply-demand balance in the period 2016-2035 in the proposed scenario

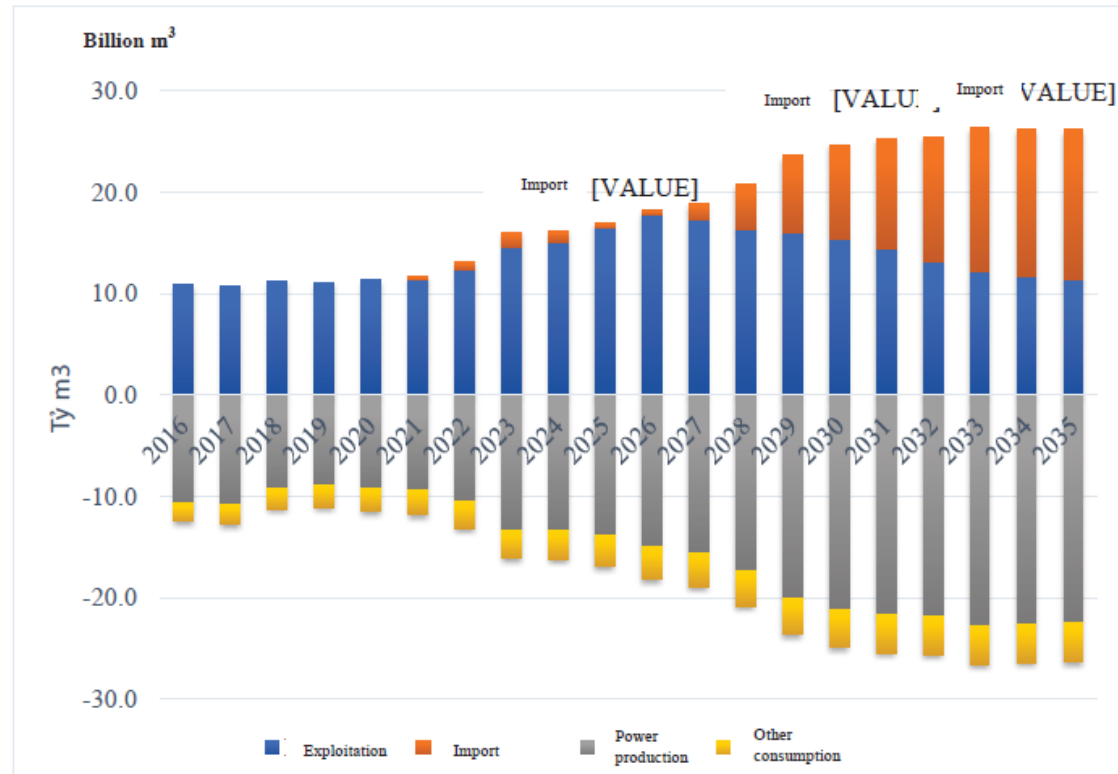


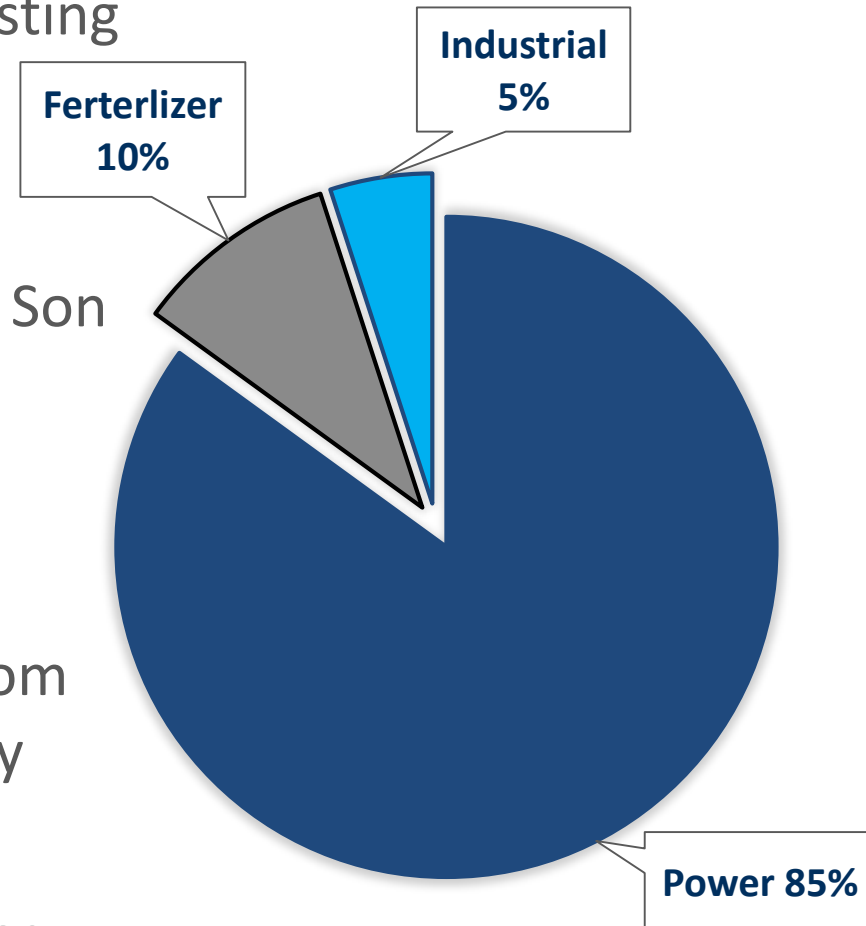
Table 1-15: Gas supply-demand balance in the periods in the proposed scenario (billion m3)

	2016-2025	2026-2035	2016-2035
Exploitation	125.2	145.4	270.6
Import	4.2	90.2	94.4
Power production	109.3	200.4	309.7
Other consumers	23.7	36.2	60.0

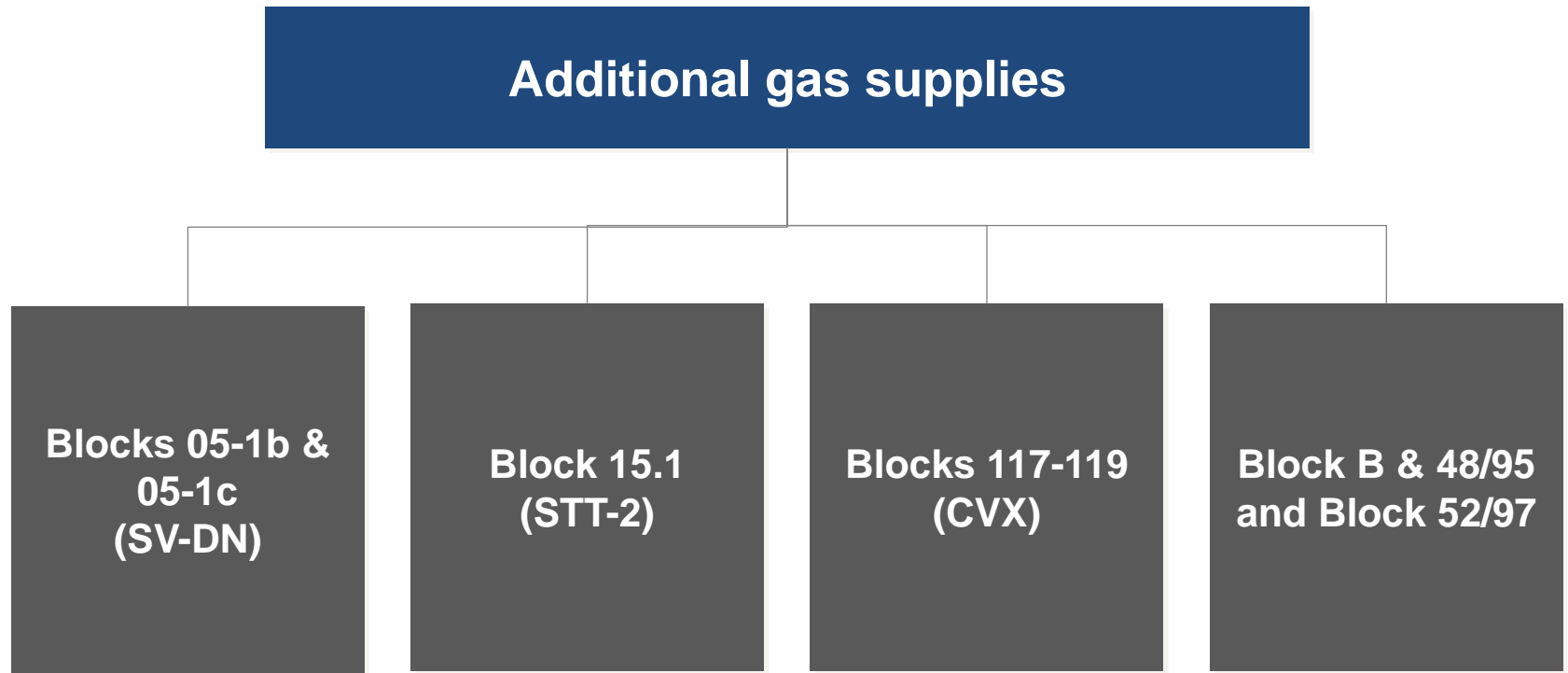
Sources: Vietnam Energy Outlook Report 2017 (MOIT)

Natural gas

- 9-10 bcm/year of gas through existing pipeline systems
 - ✓ Bach Ho (associated gas)
 - ✓ Nam Con Son 1 and Nam Con Son 2 (phase 1)
 - ✓ PM3 CAA - Ca Mau
- strong demand growth for gas outpaces domestic production from 2020 onwards, primarily driven by power generation (>85%)
- declining production of mature gas fields (e.g. LT/LD gas fields)



Natural gas



Natural gas

- licence retention for significant gas discoveries: max 7 years
- upstream gas sales agreements
 - ✓ long-term contracting
 - ✓ pricing for natural gas - project based/oil price indexation
 - ✓ take or pay - volumes and payments to guarantee income stream to Sellers
- fundamental to ensure alignment between gas and power master plans
- gas shortage of 14 bcm by 2025
 - ✓ LNG supplies in High case to cover shortage of gas supply

Liquefied natural gas

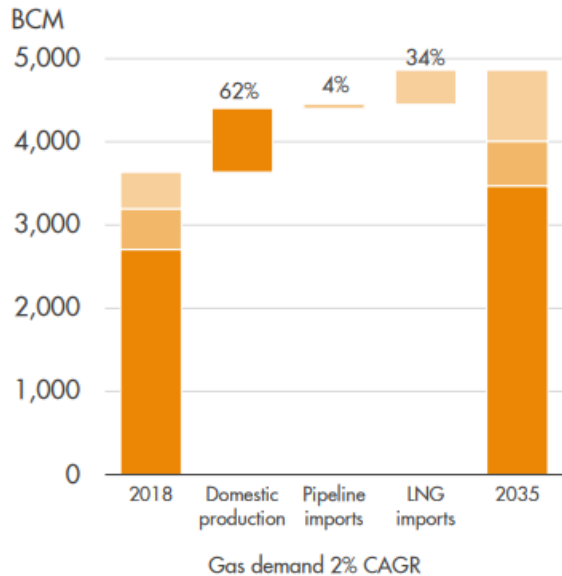


Liquefied natural gas

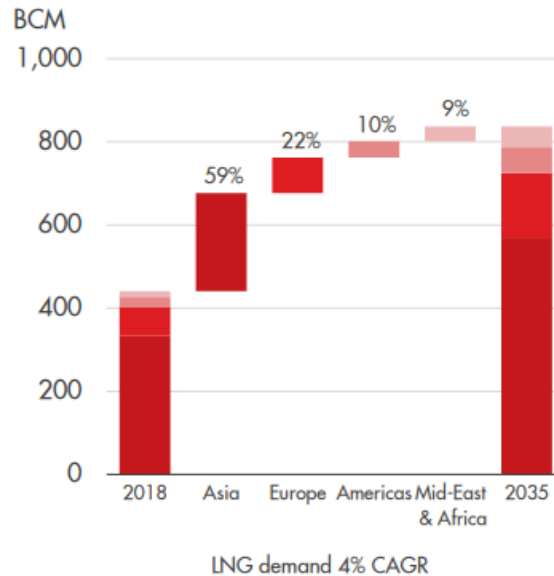
◆ SHELL LNG OUTLOOK 2019

LNG continues to be the fastest-growing gas supply source

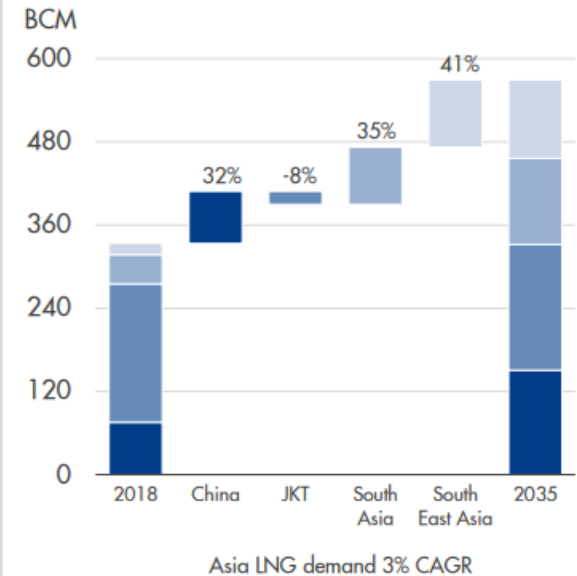
Global gas supply by source



LNG imports by region



LNG imports in Asia

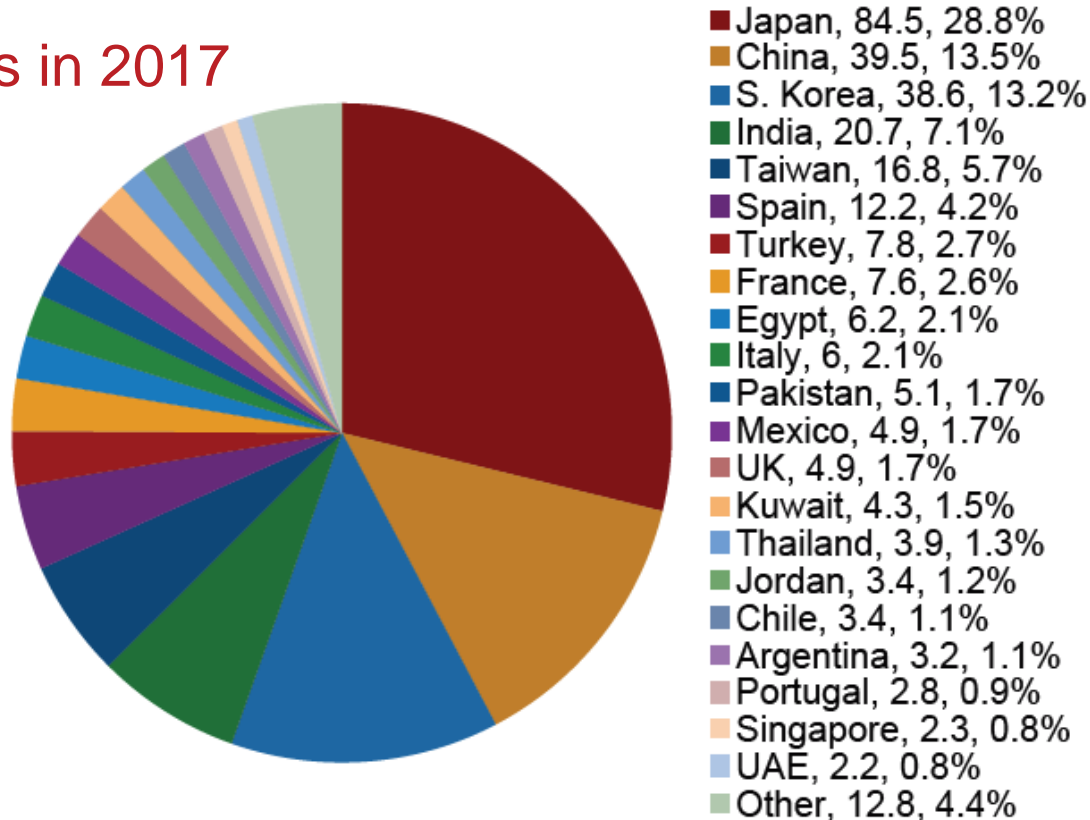


Source: Shell interpretation of Wood Mackenzie Q4 2018 data

Liquefied natural gas

Figure 3.7. LNG Imports and Market Share by Country (in MTPA)

LNG imports in 2017



Note: Number legend represents total imports in MT, followed by market share %.
"Other" includes countries with imports less than 2.0 MT (by order of size): United States, Brazil, Malaysia, Poland, Greece, Belgium, Dominican Republic, Puerto Rico, Lithuania, Netherlands, Israel, Canada, Malta, Jamaica, and Colombia.

Sources: IHS Markit, IGU

Liquefied natural gas



Shell LNG Outlook 2019



Growing recognition of the role of gas and LNG

Global energy demand set to grow by **18%** by 2035

Gas to meet around **40%** of this additional demand



LNG continues to be the fastest-growing gas supply source – more than half of LNG import growth in Asia

Coal-to-gas switching led to

78% improvement in Beijing winter air quality in last 5 years



176 million tonnes reduction in CO₂ emitted by Beijing and surrounding areas

equivalent to **37 million cars** off the road



Economic and environmental benefits making LNG an attractive road transport option

6.7 million tonnes of LNG used on China's roads in 2018



Asian LNG imports exceed expectations again in 2018 absorbing continued supply growth

China, India, South Korea and Pakistan led LNG demand growth in 2018



China became the world's largest gas importer, with LNG imports doubling over 2 years

LNG exports grew by **27 million tonnes** half of the growth came from Australia



Bunkering of world's first LNG-fuelled oil tanker and cruise ship

LNG trade reached **319** million tonnes

Enough to power **643** million homes

LNG imports account for over **50%** of India's gas mix in 2018

Efforts to improve air quality saw China's LNG imports surge by around **16 million tonnes** in 2018

1400+ spot cargo deliveries in 2018

34 contracts signed with an average length of more than **13** years

Near term supply growth expected to be absorbed by Europe and Asia – continued need for investment in supply to meet long-term demand growth



37 million tonnes of new LNG capacity added in 2018

35 million tonnes additional supply expected in 2019 – Europe and Asia expected to absorb supply growth



Potential for growth of gas in European power sector – current utilisation of gas fired power generation capacity below 40%

21 million tonnes of new FID sanctioned in 2018

Supply investment still needed to avoid shortfall by mid-2020s



Liquefied natural gas

- Asia Pacific LNG demand grew strongly
- 50% of 2018 global demand from major Asian LNG buyers, including KOGAS, CPC, JERA and Tokyo Gas, CNPC, CNOOC, Sinopec
- LNG contracting trends
 - ✓ flexible and diverse supplies
 - ✓ increased liquidity and commoditisation
 - ✓ spot trading continues to grow/a spot market in Asia?
 - ✓ alternative pricing structures: Brent crude vs Henry-Hub/NBP indexed
 - ✓ long-term offtake commitments/annual take-or-pay

Liquefied natural gas

- US became the net exporter of LNG with shale boom
- growing influence of the US market/Henry Hub
- transitioning from exporter to importer
- strong investor interest in integrated LNG to power developments
 - ✓ climate change - lowering carbon dioxide emissions
 - ✓ Government support on clean and renewable energy to displace coal in power generation
 - ✓ more FSRUs in service with lesser investment at remote places

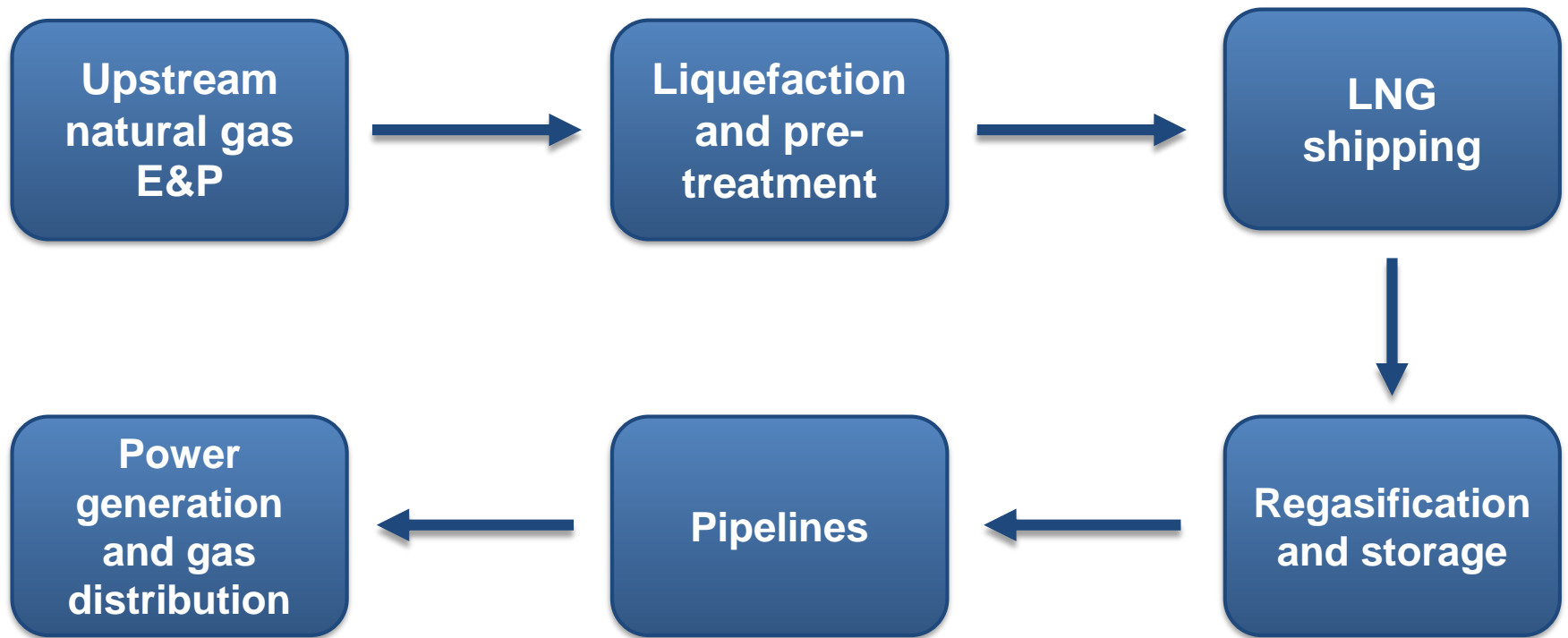
Vietnam LNG regas opportunities

- Vietnam's LNG import capacity and master plan
- requires enabling regulatory framework for LNG import and terminal use
- LNG regas opportunities
 - ✓ Thi Vai LNG (1-3 mtpa) (LNGV as ProjectCo)
 - ✓ Son My LNG (3.6-9 mtpa)
 - ✓ Khanh Hoa LNG (3 mtpa)
 - ✓ Hai Phong LNG (1-3 mtpa)
 - ✓ Southeast LNG (Tien Giang, 4-6 mtpa)
 - ✓ Southwest LNG (Ca Mau, 1 mtpa)
 - ✓ FSRU Thai Binh (0.2-0.5 mtpa)

Vietnam gas-to-power opportunities

- 19,000MW from gas-fired power plants, including LNG
- MOIT's proposed Power Master Plan No. 8 (PDP8)
- gas-fired power projects
 - ✓ Dung Quat 2 IPP (750MW)
 - ✓ Dung Quat 1 and Dung Quat 3 (750MW each) to be developed by EVN
 - ✓ Mien Trung 1 and 2 (750MW each) to be developed by PVN
- LNG-fired power projects
 - ✓ Son My 1 IPP (2,000MW)
 - ✓ Son My 2 (750MWx3), Nhon Trach 3 and Nhon Trach 4 (750MW each) to be developed by PV Power

LNG value chain



Structuring considerations

- long-term “baseload” sales of LNG
- LNG procurement strategy - conventional vs FSRUs/FSUs
- structuring considerations
 - ✓ onshore
 - ✓ FSRU
 - ✓ FSU with onshore regas
- long-term vs short-term SPA
- back-up supplies
- alignment of equity across the LNG value chain

Project development challenges

- adequacy of regulatory framework
 - ✓ regulatory approvals and permits
 - ✓ pass-through of project risks and liability allocation
 - ✓ long-term offtake agreements
- long-term economic viability
- project structuring and contracting strategies
- LNG pricing - oil-indexed vs gas hub
- LNG import terminals and infrastructure
 - ✓ capacity utilisation
 - ✓ third-party access regime/shared infrastructure

Commercial terms for LNG sales

- pricing
- contract term - supply security vs flexibility
- take-or-pay over contract year
- volume flexibility
- destination clauses
- shipping control
- aggregated parties

Project financing considerations

- funding options/long-tenor limited recourse debt financings
- back-to-back pass-through of all costs and risks
- lenders' step-in rights
- viability gap funding (VGF) and host government support
- sponsor support obligations/change of control restrictions
- fuel procurement risk, commodity and currency risks
- creditworthiness of key project counterparties
- long-term take-or-pay liability
- termination payments and buyout provisions
- complexity of intercreditor issues and the role of ECAs/MLAs

Government support

- Key legal authorities
 - ✓ Art 12.1 of the Investment Law 2014/Art 61 of Decree 63
- Large demands for infrastructure financing in emerging markets, policy and institutional environment
- ‘Guaranteed’ revenue stream from oftaker
- Limited government support in certain critical areas
 - ✓ utility performance
 - ✓ fuel supply
 - ✓ access to foreign exchange
 - ✓ creditworthiness of Vietnam project counterparties
- Legal and practical issues upon enforcement

Government support

- GGU scope
 - ✓ legal and fiscal stability
 - ✓ payment obligations
 - ✓ performance obligations typically excluded
 - ✓ currency risk
- currency risk
 - ✓ denomination, availability, convertibility and remittance
- Vietnam's foreign exchange controls
- implications of the Prime Minister's Official Correspondence 1604/TTg-KTN

Dispute resolution

- Choice of law
 - ✓ may apply a foreign law
 - ✓ English law typically selected as the governing law of key project documents
- Tiered dispute resolution provision, allow for joinder of disputes
 - ✓ negotiation
 - ✓ mediation
 - ✓ expert determination
 - ✓ international arbitration
- Investment protection in international investment treaties

Conclusion

Ways forward

increase Vietnam's domestic reserves and production

complement domestic gas production by LNG imports

develop a robust enabling policy and regulatory framework for LNG-to-power to "pass through" risks to downstream customers

need incentivised fiscal terms and gas pricing to unlock marginal gas fields and unconventional resources

increase institutional capacity of Governmental authorities and credit worthiness of Vietnam project counterparties

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HO CHI MINH CITY OFFICE

Unit 2106-07, Level 21, Saigon Trade Center
37 Ton Duc Thang Street, District 1, Ho Chi Minh City, Vietnam
Tel: +84 8 3936 5018 - Fax: +84 8 3936 5019

HANOI OFFICE

Unit 1702, Level 17, TNR Tower
115 Tran Hung Dao Street, Hoan Kiem District, Hanoi, Vietnam
Tel: +84 4 3971 0888 - Fax: +84 4 3971 0999

Website: www.lexcommvn.com