

Commercializing gas value chains to create and enhance demand for LNG

Ken Sauer | Commercial 3 | July 13, 2017

Risco-AG&P: a snapshot

The company

- RISCO-AG&P is a diversified oil and gas Infrastructure company
- RISCO-AG&P is backed by a strong Indonesian businessman with a proven track record in owning, managing and operating oil and gas assets in Indonesia
- World-class engineering and fabrication capabilities
- World-class oil and gas operational safety standards and awards

Leadership

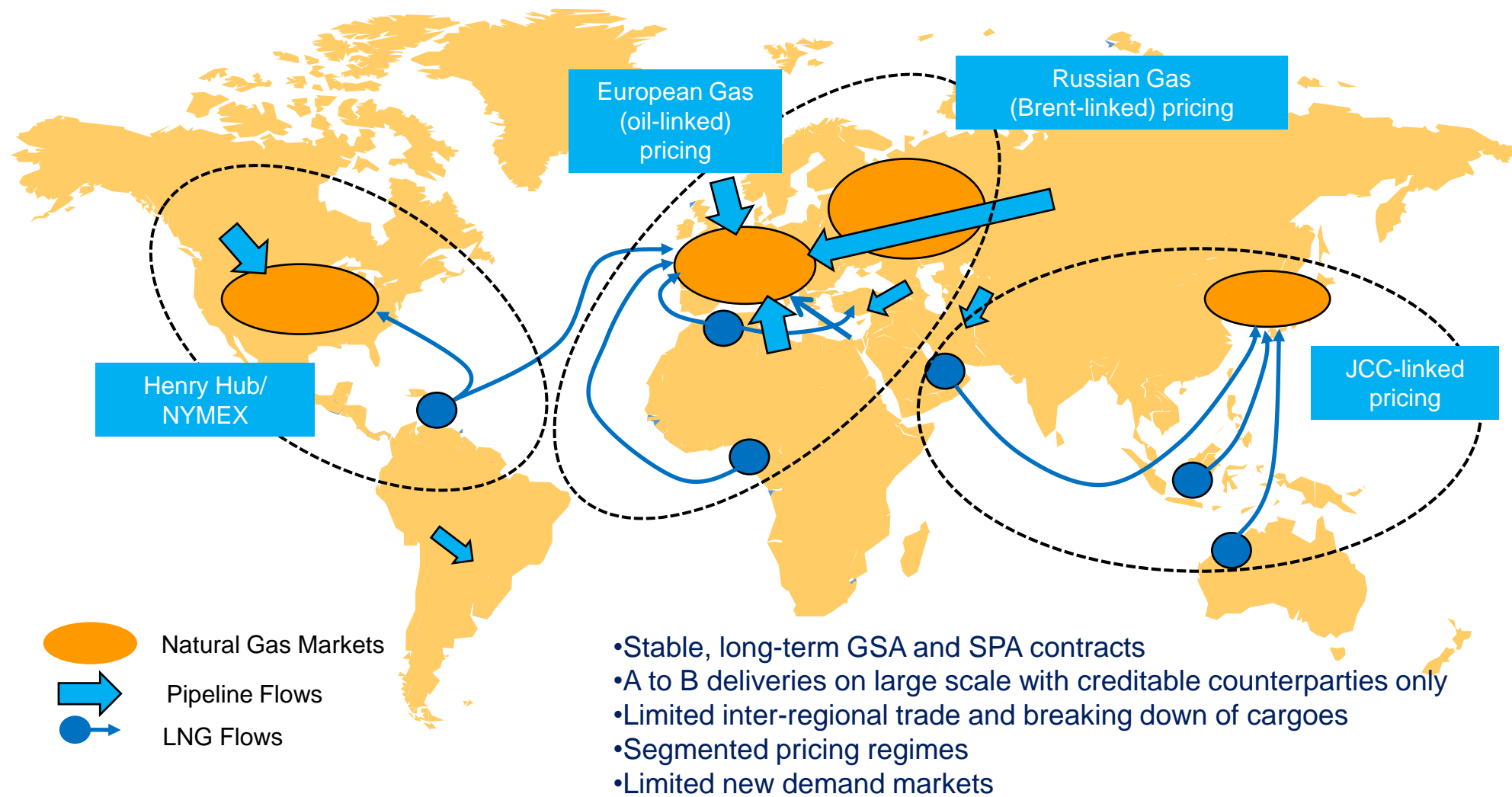
- Senior LNG leadership team
- Proven operating and technical capabilities
- Strong deal origination ability, proprietary and captive deal control
- In-house design, fabrication, development and operations
- Unrivalled engineering and fabrication capabilities

Strategy

- Delivering standardized, modular oil and gas infrastructure assets to our customers
- Aligning with the needs of the power, bunkering, mining, transportation and industrial sectors
- Focusing on midstream and downstream LNG infrastructure assets
- Engaging and providing end-user customer support from the early stage of the project's life
- Investing in logistics, storage and associated infrastructure

LNG trade 10 years ago

“BMP” big market players – A to B trade



Challenges and opportunities

Challenges

Demand

- Small and stranded demand centers
- Not comfortable with supply consistency
- Customer reluctant to switch fuel source
- No access to technology

Infrastructure

- Very bad regional pipeline network
- No medium or small receiving terminals
- No current dynamic end-user support platforms
- No medium or small storage centers
- No early stage development platform provider

Geography

- Some demand centers are isolated and have geographic challenges
- Size of demand points are expensive and do not show good economic cases for investment and development

Midstream
and
Downstream
LNG
Solutions

Opportunities

Demand

- Indonesia's PLN plan to develop gas IPP and some need small gas solutions
- Regional power players gas growth
- Captive power users switching to gas fired
- Industrial retail growth (already used in mining trucks and vessels)

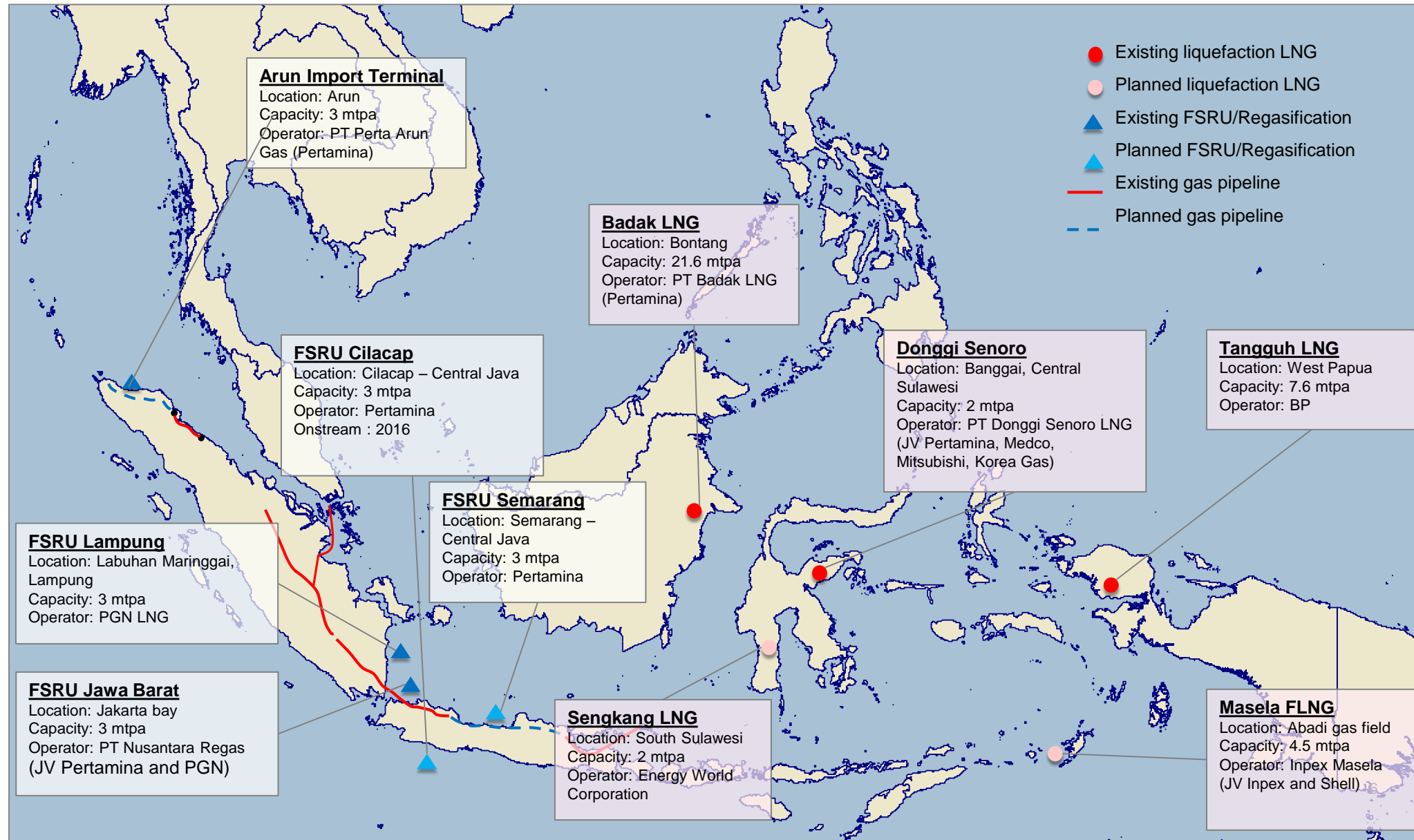
Infrastructure

- Existing large regasification facilities can be easily retrofitted for break-bulk facilities
- Regional medium-small opportunities
- Maritime bunker shuttle developments to enhance infrastructure tolling scheme

Geography

- Maritime solutions that give maximum optionality will be the solution for region
- Break bulk modularized asset developments will be solution for region

Indonesia current LNG infrastructure: can't feed stranded demand



Understanding the old ways to break it down

LNG at a glance

- Super majors as developers, large utilities as off-takers with back-to-back contracts
- Major player game
- Highly capital Intensive stick-built construction of liquefaction and receiving terminals
- Only players with proven track record and very risk averse to project finance
- Plain vanilla financing structures

LNG contracts

- Long-term oil linked pricing mechanism
- Major players offering long-term supply agreements with little flexibility or optionality
- Market contracts very structured and standardized
- Trades flows of LNG very “known” – Japan, Korea, Taiwan
- Direct and first-hand negotiations

LNG project assessment

- Historically, very long and complex development stage
- Medium-to-small players unable to survive the long project development window
- Costly process for medium and smaller owners and developers
- Project finance delayed and tough to align with project execution timeline
- Between FEED and FID, a make-or-break period for many developers
- Consequence – failure in development and building of new value chains

Dynamic new frontier for LNG

The new LNG market is opening up to a dynamic new field of minds, technology and standardized approaches

- Bringing functions like engineering in-house speeds up pre-development phases
- Investing in companies with gas applications and technologies to develop value chain solutions
- Build-to-lease approach offering standardized solutions to support the end-user
- End-to-end solutions including design, manufacturing, financing, leasing, operations and maintenance of modular energy infrastructure to deliver lower cost gas to the end-user

Benefits of integration: removing nervousness

- Shortens delivery schedule - no lead times on engineering
- Raises quality - standardized products allow for high quality work due to repeatability and experience of installation
- Drives cost down - designs and equipment technologies are standardized
- Builds references and increases the ability to look at smaller and medium project scopes for future demand points
- Ultimately this enhances the mindset shift to move to LNG and development smaller and medium value chain and in turn drive demand for LNG
- Removes the nervousness for smaller and medium project developers to switch to LNG

The new LNG frontier

LNG at a glance

- New technology advancements and innovation in the sector
- Standardized technology and modular concepts that allow for a somewhat plug and play approach
- Transport volumes have changed
- In-house platform advancements have lowered costs

LNG contracts

- No longer only long term oil linked pricing mechanism
- Traders have entered the market
- Spot market has become more open and liquid
- Supply agreements have become more flexible and increased spot contracts
- Trades flows of LNG are opening up the “unknown” – Pakistan, India, Indonesia, Caribbean, etc.
- LNG brokers have emerged removing a portion of the once direct firsthand negotiations

LNG project assessment

- Working to tailor solutions to customers’ needs
- Design, build, finance - many market participants are now offering “total package solutions”
- Medium to small players don’t survive the long project development window
- Costly process for medium and smaller owners and developers
- Project finance is delayed and tough to align with project execution timeline

The LNG tipping point...

Market is at a dynamic period

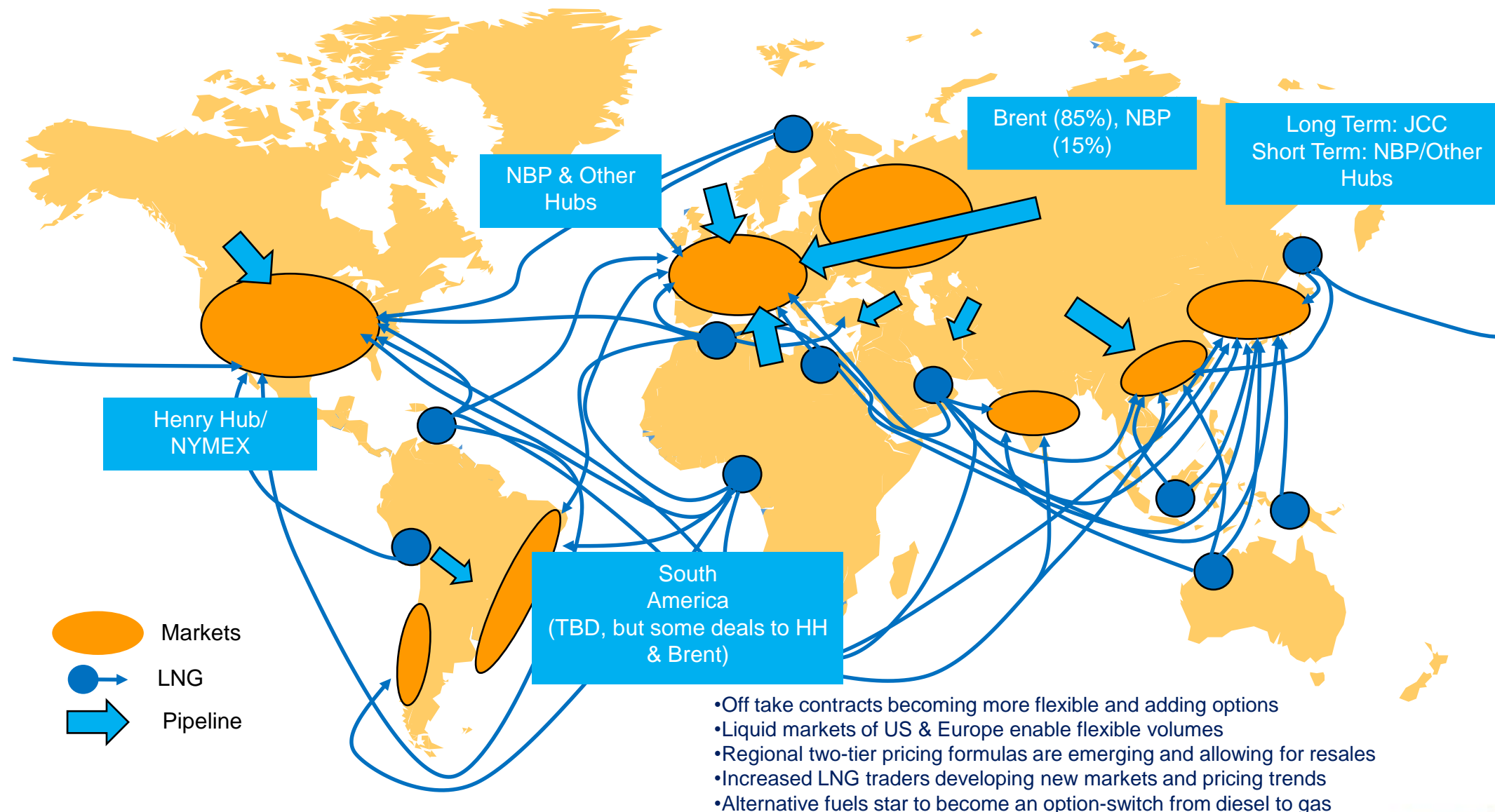
- The Asian market players and consumers are all moving towards cleaner energy fuels
- Governments and policy are changing to sustain economic growth
- Maritime policies are changing to enhance usage of LNG
- Power players are looking for cleaner and better solutions to providing electricity
- Industrial users are seeking alternative fuels such as LNG

LNG demand

- Steadily increasing over the next 5-7 years
- Customers becoming more “in the know” surrounding LNG usage
- LNG technology advancements and innovations are growing
- More market participants are now involved in LNG - traders, banks, etc.

LNG trade in 2017

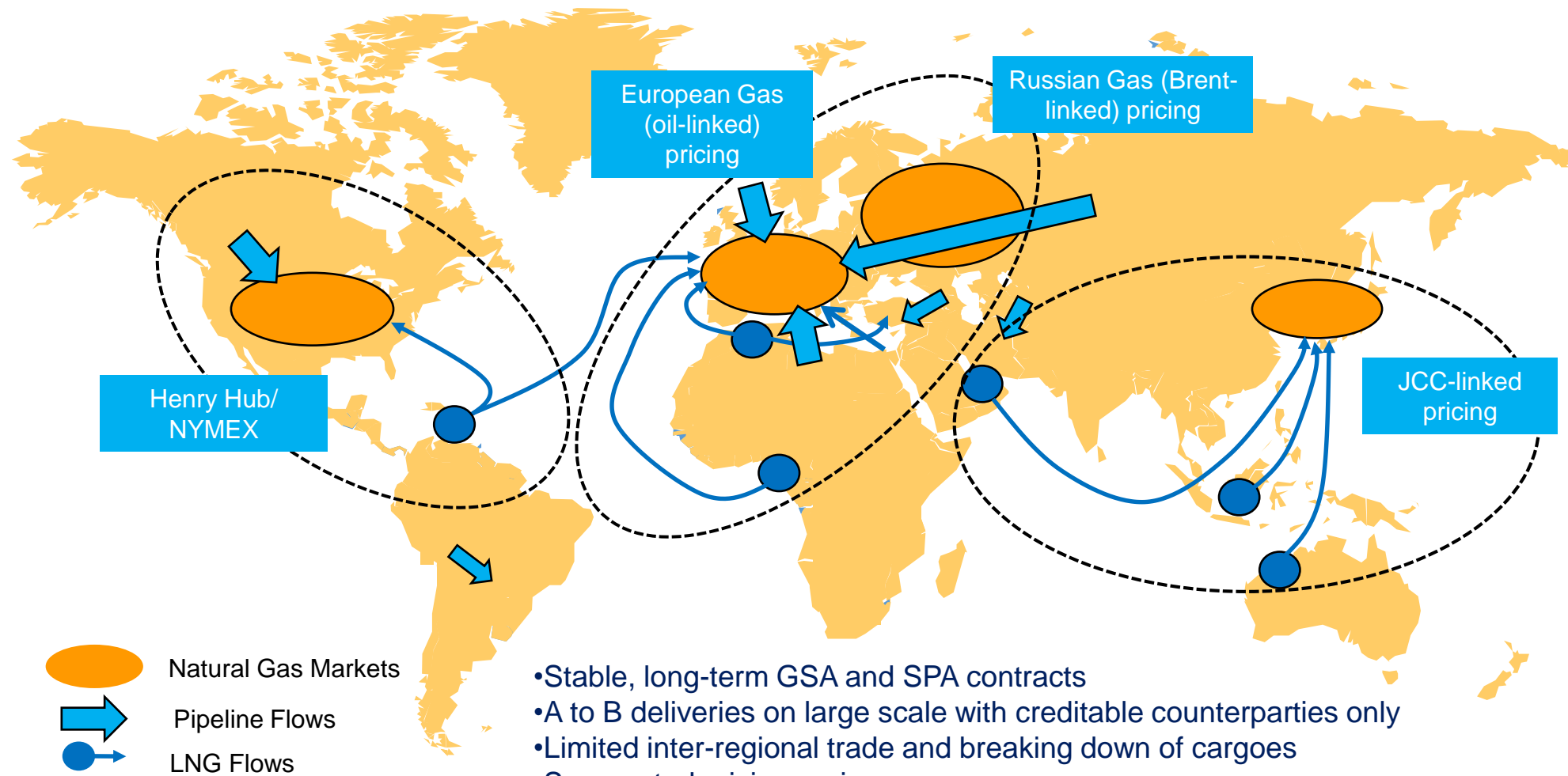
New dynamic structures are breaking into trade flows



- Off take contracts becoming more flexible and adding options
- Liquid markets of US & Europe enable flexible volumes
- Regional two-tier pricing formulas are emerging and allowing for resales
- Increased LNG traders developing new markets and pricing trends
- Alternative fuels start to become an option-switch from diesel to gas

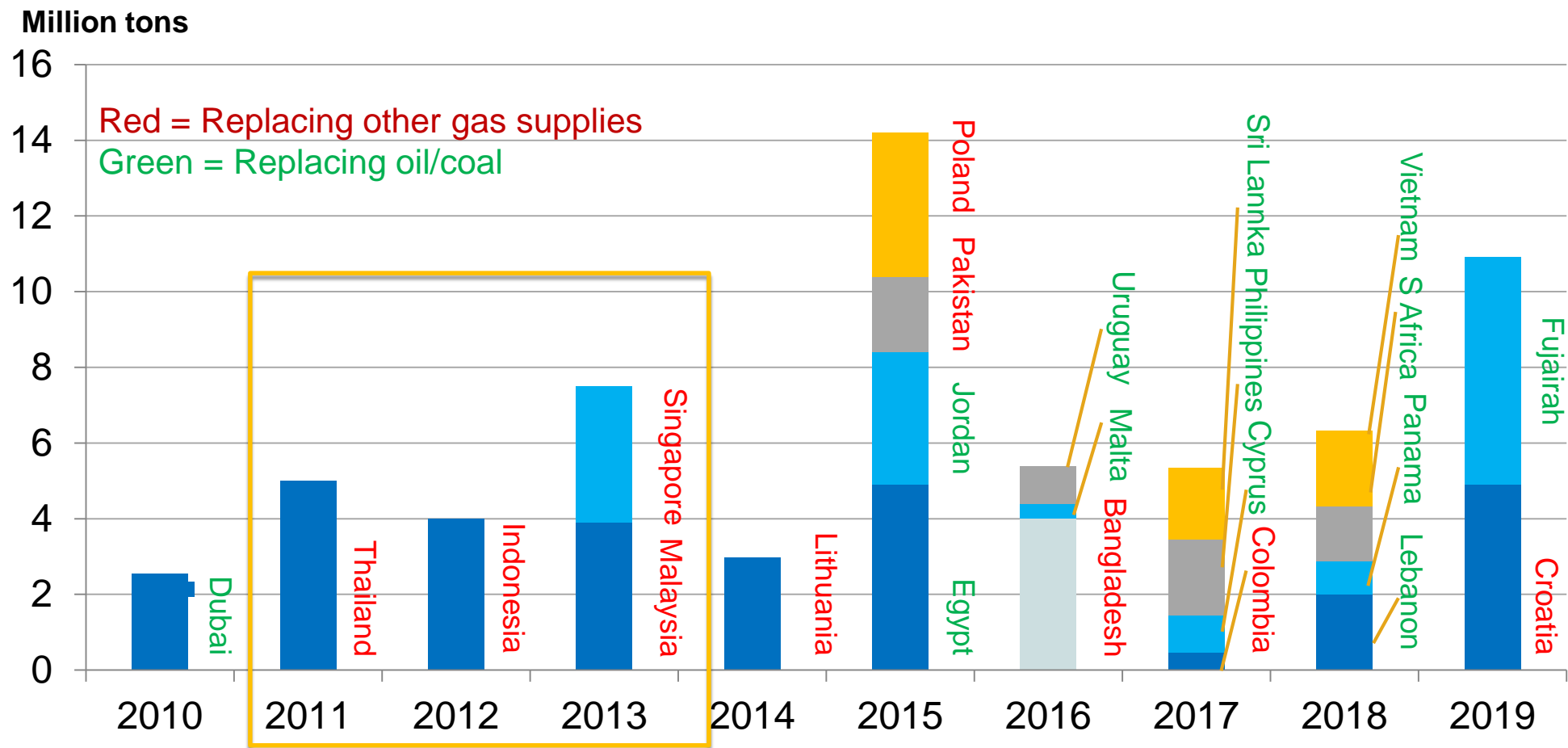
LNG trade 10 years ago

Regional compartment and point to point trade



- Stable, long-term GSA and SPA contracts
- A to B deliveries on large scale with creditable counterparties only
- Limited inter-regional trade and breaking down of cargoes
- Segmented pricing regimes
- Limited new demand Markets
- Siloed LNG suppliers, buyers and infrastructure players

New demand centers are emerging

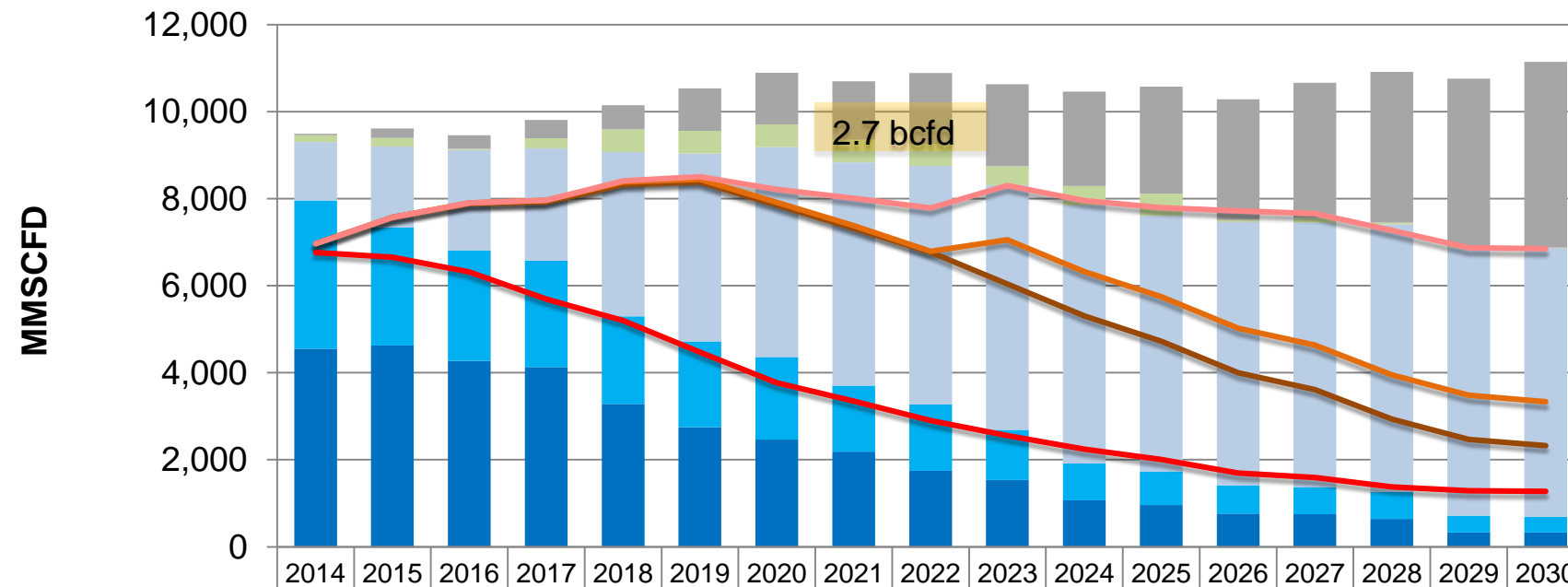


Southeast Asia is driving point behind new LNG flows

Why LNG? Indonesia gas balance declining

National gas imbalance between supply and demand

2.7 bcfd gap in 2020 to be met through LNG imports



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Potential Demand	34	220	308	419	560	974	1187	1342	1624	1886	2171	2460	2773	3104	3458	3859	4266
Ekspor (Committed)	156	195	32	229	521	521	522	521	509	436	446	508	45	120	41	29	12
Domestic (Committed)	1346	1863	2303	2586	3774	4315	4824	5128	5482	5624	5927	5877	6053	6072	6146	6158	6178
Ekspor (Contracted)	3409	2711	2537	2444	2013	1977	1895	1517	1526	1151	845	770	653	617	625	384	357
Domestic (Contracted)	4549	4624	4275	4130	3282	2746	2466	2189	1744	1534	1071	962	761	753	641	331	331
Projection of Exploration Discovery	0	0	0	0	27	59	300	631	996	1248	1628	2045	2699	3021	3320	3391	3515
Potential Supply	0	1	15	41	61	59	59	60	23	1020	1020	1020	1020	1020	1020	1015	1012
Project Supply	206	910	1571	2231	3124	3910	4084	3970	3869	3480	3060	2717	2305	2022	1555	1178	1048
Existing Supply	6764	6658	6318	5694	5197	4476	3771	3350	2902	2557	2246	2010	1694	1594	1378	1290	1278

Conclusion

Region presents good opportunities

- Demand centers in the region are growing
- LNG pricing continues to become more and more dynamic and flexible
- Oil has put LNG to sleep. Only recently has LNG become not as competitive to oil due to the downturn in oil prices. Which has led to a decrease in industrial fuel prices making customer hesitant to switch
- The region is not suitable for huge growth in pipeline business leaving medium and small infrastructure the only solution
- Standardization and modular solutions are to provide turn key solutions to customers is the key link to enhance future demand for LNG

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