Who we are

- RISC is a truly independent advisory firm. We provide impartial advice to a broad range of clients in the oil and gas industry, enabling them to make their business decisions with confidence.
- We work in partnership with our clients to support their interests in the oil and gas industry, offering a broad and innovative perspective on oil and gas projects around the world.
  - We have many years of practical experience and provide a bespoke service.
  - We provide insightful views on technical, commercial and strategic issues
  - We help our clients understand the uncertainties and risks associated with the oil and gas industry.
What we do...RISC Group Expertise:

Independent Opinion
- CPRs; ITSRs etc..
- Reserves / Resources audits and certification
- Expert Witness
- Asset/Portfolio valuations

Due Diligence
- Support for acquisition, debt/equity raising etc..
- Asset/Portfolio valuations

Peer Assistance and Review
- Modelling
- Feasibility and Concept Selection studies
- Pre/Post FEED/FID, and execution reviews

Technical Advice
- Basin/Exploration studies and evaluation
- Field Development Plans

Strategic and Commercial Advice
- Portfolio assessment
- Gas market evaluation
- Workshop facilitation

Divestments and Acquisitions
- Sales and purchase processes
What we do...in the last 5 years:

- We have advised on transactions totalling over $20 Billion

- We have provided independent advice
  - To over 500 clients
  - On over 1500 oil and gas fields
  - With a total value in excess of $100 Billion

- Including:
  - Over 120 due diligence exercises on assets and portfolios
  - More than 110 Independent Technical Specialist and Expert assignments
  - More than 100 Resources and Reserves reviews and audits
  - Over 140 Technical and Commercial Consulting assignments

- We have covered LNG projects totalling more than 100MTPA or over 35% of the world’s current total LNG production.
Who we work with
A quick global overview
The Global LNG Market has changed, liquidity is **still** increasing:

LNG development traditionally supported by long term contracts
- Small resources unable to commit to long term contracts

Strong growth in LNG market
- Significant increase in short term trade

Development of short term market means:
- Buyers less reliant on long term contracts
- Security of Supply through diversification
- Increased diversity and more liquidity
- Increased confidence in sales
- More confidence in smaller developments for Sellers
Changes in export and import countries....
Changes in export and import countries....

[Map showing LNG exporters and importers in 2015]
Changes in export and import countries...
Current Exporters and Importers

Major LNG Export Countries

- Qatar, Australia, USA, Malaysia, Nigeria, Indonesia, Trinidad, Algeria, Russia, Other...

Major LNG Import Countries

- Japan, China, South Korea, India, Taiwan, Spain, Turkey, France, Pakistan, Mexico, Other...
Mid and Long Term

Rapid rise in supply

- In last 4 years over 100MTPA of capacity has been added, mainly in Australia and USA
- Between now and ~2022 a further 40+MTPA of capacity will be brought into production, mainly in the USA
- Beyond this timeframe projects under consideration total well over 200 MTPA, USA, Canada, Russia, East Africa

Rapid diversification of LNG imports both geographic and market segment

- Growth in importing countries - Asia, South America and Middle East
- FSRU’s now the “entry level”, which significantly reduces both cost and time to begin imports
  - Smaller scale regional distribution gaining momentum both in Europe and Asia
  - Transportation gaining momentum…but timing is unclear

FLNG offers the same change in “entry level” potential for upstream projects

The rise of renewable energy creates both opportunity and risk

- Gas is the natural companion to renewables because of it ability to react quickly in line with variable renewable changes.
- Gas experiencing a “Green-Cheap Squeeze”
  - Not as green as renewables
  - Not as cheap as coal
- Large scale electricity storage is a potential game-changer in the power generation arena, but appears to be some way off.
Impact of floating facilities
Historical Development of FPS facilities (Oil FPSO’s)

Development of FPS facilities

Source: International Maritime Associates Inc./GIIGNL, BP and BG Group/LNG Journal and IGU
The LNG short/spot market has followed a similar development trend.
FSRU’s also appear to be following the same development path
FSRU’s also appear to be following the same development path
Why FSRU’s?

Scale
- Entry enabled at smaller scale

Cost
- Capital cost significantly lower
  - Minimal onshore infrastructure
  - Potential to lease

Schedule
- <12 months from sanction to start up

Environment
- Minimal onshore impact
- Many more possible locations

End of life
- Redeployment
- Minimal decommissioning
FSRU benefits are also applicable to FLNG
Significant (interesting) projects in SE Asia Region

- Abadi LNG – now going to be an onshore development, timing still unclear
- Barossa as backfill to Darwin LNG
- PFLNG2

- Australia
  - 5 proposed LNG import terminals, start up from 2021/22 (port Kembla, AIE, includes gas to power)

- Indonesia
  - PT Jawa Satu Power, Integrated FSRU / Gas power plant (1.7 GW)
  - Construction started end of 2018, completion expected end 2021

- Philippines
  - Native gas production in decline, want to have import facility before Malampaya depleted
  - Batanga onshore terminal to provide gas to existing power stations (up to 5GW)

- Thailand
  - EGAT FSRU proposal on hold(?)

- Thi Vai LNG Terminal in Vietnam
  - Gas for power plant
  - Construction commenced, planned start up end 2022

- Son My LNG
- Bac Lieu LNG
  - Gas to power project (3.2GW) announced this week by LNG Ltd (Magnolia LNG yet to reach FID in Louisiana, US)