Liquefied Natural Gas Ltd

Outlook for 2018

Moving towards FID in 2018

Oil & gas

Liquefied Natural Gas's (LNGL) Magnolia development is up to 30 months ahead of other US-based greenfield liquefaction plants in regulatory approvals, putting it in prime position for buyers/traders looking to take advantage of the expected rebalancing of the LNG market in 2022-23. With low capex/opex/gas prices, the project has the potential to be very lucrative for partners selling to Europe/Asia. As a result, we now expect LNGL to sign tolling agreements and move towards FID in 2018, with first production in 2023. We have updated our valuation, which falls from A$1.25/share (US$3.79/ADR) to A$1.00/share (US$3.23/ADR). On a longer-term basis, this valuation should grow as the project is de-risked by tolling agreements and moves towards first LNG.

Year end	Revenue (A$m)	Reported PBT (A$m)	Cash from operations (A$m)	Net (debt)/ cash (A$m)	Capex (A$m)
06/16	7.3	(115.1)	(117.1)	67.2	(0.1)
06/17	0.6	(29.2)	(25.5)	40.3	(0.4)
06/18e	0.0	(27.1)	(20.2)	20.1	0.0
06/19e	0.0	(43.6)	(33.6)	(433.8)	(311.8)

Note: We include all project debt on LNGL's balance sheet and assume FID in late 2018.

2018 is a key year for the company

The last few years have been challenging for LNG traders with a supply glut and low oil prices depressing profits. However, increases in oil (and LNG) prices in the near term, and increasing confidence that the market will rebalance in 2022-23, should give added impetus to buyers. Magnolia is well ahead of its greenfield peers in regulatory approvals and in our view should therefore be in a good position to sign up long-term partner agreements in 2018.

Magnolia project awaiting tolling agreements

Magnolia has existing LSTK contractual agreements for plant construction with performance guarantees and at attractively low costs due to its proprietary OSMR technology. The project has the required equity funding (from Stonepeak Infrastructure Partners) and therefore needs to sign tolling agreements and secure debt financing (70% of total, c US$3bn) before construction can proceed.

Valuation: A$1.00/share has space to grow

We retain our risked DCF approach which implies a valuation of A$1.00/share (US$3.23/ADR). This has fallen from A$1.25/share, mainly due to refined assumption inputs (including taxes and interest rates), timeline and exchange rates. While this valuation suggests substantial upside at this point, we note there is significant uncertainty on timelines and project delivery. However, we firmly believe the project is in a near unique position to deliver low cost LNG from US shale gas and we would expect our valuation to increase markedly as and when tolling agreements can be signed, FID taken and first LNG approaches.

13 February 2018

Price	**A$0.53**
Market cap	**A$272m**
	US$:AU$1.28
Net cash (A$m) as at 31 December 2017	33.0m
Shares in issue	513.7m
Free float	91%
Code	LNG AU; LNGLY US
Primary exchange	ASX
Secondary exchange	OTC

Share price performance

%	1m	3m	12m
Abs	(3.6)	20.5	(32.1)
Rel (local)	0.5	24.2	(33.9)
52-week high/low		A$0.96	A$0.37

Business description

Liquefied Natural Gas Ltd is an ASX-listed company devoted to the development of LNG export terminals in the US, Canada and other potential locations. It has traded ADRs.

Next events

Tolling /offtake agreements to be signed	2018
Final investment decision	2018
Financial close	2019

Analyst

Sanjeev Bahl +44 (0)20 3077 5700

oilandgas@edisongroup.com

Edison profile page

Liquefied Natural Gas Ltd is a research client of Edison Investment Research Limited

Investment summary

Company description: Mid-scale LNG development

LNGL is developing LNG export terminals in the US and Canada. Its main asset is the 8mtpa (or greater) Magnolia LNG project on Lake Charles, while Bear Head LNG is an 8-12mtpa development in Nova Scotia. LNGL's proprietary OSMR (optimised single mixed refrigerant) technology is a patented, mid-scale liquefaction technology, promising lower capital and operating costs. The company is currently working hard to get the Magnolia LNG project to financial close and FID by the end of CY18, with start-up in CY23.

Financials: Magnolia should be funded

LNGL has an agreement with KBR (leading a joint venture with SK E&C) for a lump sum turnkey contract for the 8mtpa Magnolia project for US$4.354bn. We expect this to be 70% debt funded, with the remaining 30% or so coming from its equity partner, Stonepeak Infrastructure Partners. Funding of the Bear Head project is less certain, although we expect similar debt structuring capacity. The ability of LNGL (and partners) to attract suitably priced debt funding is key to the value the projects will generate for shareholders. The move by BNP Paribas (former debt co-ordinator) to exit all oil and gas investments in 2017 was a set-back, but not a major one in our view. The company will likely need to raise equity in the next 12 months to fund project development costs and marketing costs.

Valuation: Current A$1.00/share (US$3.23/ADR) should grow

Although we refer to other techniques, our primary methodology continues to be using risked DCF analysis. The predictable and consistent cash flows from the project (once up and running) should enable high debt funding levels and healthy dividend distributions, allowing comparisons with utility-type peers in time. The current share valuation is contingent on various factors, not least LNGL's ability to reach financial close for its projects and, around four years later, start and operate them successfully. Unfortunately it has taken a number of years longer than originally anticipated to progress the project, as regulatory timetables coincided with a depressed LNG pricing and supply/demand environment. This picture looks to be brightening of late.

We currently value LNGL at A$1.00/share (US$3.23/ADR), applying a 60% risk to Magnolia and 15% to Bear Head. Even assuming just Magnolia, this could rise significantly once the project starts based on P/E, EV/EBITDA and dividend yield.

Sensitivities: Predictable cash flows once started

The overriding consideration for investment in LNGL is its ability to get the projects to sanction – despite a marked change in oil prices and dawning realisation by industry players that LNG supply/demand will shift in four to five years, the shares have not picked up materially. Investors are waiting for binding tolling agreements to be signed which we think will happen in 2018.

The structuring of the financing is also key as investors could see large swings in valuation depending on the amount of debt it can attract, while the prices negotiated for the tolling fees (or SPAs) will also have an impact. The larger the debt facility (and lower the costs), the higher the equity returns for the partners. Our modelling indicates an unlevered project IRR in 2018 of 11% (and levered equity cash flow IRR of 17%, assuming 70% debt).

Modular, mid-scale LNG pioneer

Liquefied Natural Gas Ltd (LNGL) is focused on efficient, mid-scale LNG developments, which are expected to have significantly lower capex/opex costs than existing technologies. The company is currently developing two LNG liquefaction plants in North America, the 8mtpa capacity (or greater) Magnolia LNG plant (Louisiana) and 8-12mtpa Bear Head project (Nova Scotia). The company has shares listed on the ASX and ADRs in New York. A full US listing is currently on hold.

OSMR: Mid-size LNG with lower capex/opex

LNGL's OSMR liquefaction technology is patented in all major markets and promises to deliver lower capex and opex costs than comparative technologies. Although commercially new as a full application, it is a novel combination of a number of existing solutions reducing risks.

OSMR is the integration of three proven technologies/processes: single mixed refrigerant process (the oldest LNG liquefaction technology), combined heat and power (which is used extensively in the power industry) and ammonia refrigeration (which is one of the most used refrigeration technologies in industrial applications). Furthermore, a number of studies have been executed by third parties, including by CH-IV (2008), Foster Wheeler (developer of multiple LNG systems globally), Arrow-WorleyParsons (2009 and 2010), and HQC and Consultants (2010). A report was also issued by SK E&C in June 2009, and updated in 2013. This concluded that OSMR should be highly reliable and provide good utilisation.

Furthermore, the involvement of KBR (in a JV with SK E&C) as the contractor should be a considerable comfort. It is putting its own balance sheet behind the project and has guaranteed minimum production. The JV will be responsible for the execution of the turnkey projects at Magnolia and be responsible for the timing and budget (and open to liquidated damages).

LNGL's technology is believed to be very competitive with other techniques, producing a much lower NPV10 breakeven than other projects. The very low risk to gas supply and low prices for delivered LNG mean that Magnolia should be very attractive to offtake partners.

According to the company, capex for conventional technologies (which we interpret as single, double and propane-precooled mixed refrigerant systems) are around US$1,000/tpa, while the OSMR for trains 1 and 2 is significantly lower (US$549-628/tpa). Plant efficiency should compare well with other technologies, with lower fuel usage leading to a material improvement over a single mix refrigerant process. The smaller train sizes (vs those typically used by Shell/BG for example) allow a modular development and enable a company such as LNGL to be a credible developer.

Patent protection and licensing

LNGL's patents could lead to valuable future licensing fees. These pale in significance compared to the returns from project equity ownership but could provide useful, cost free, revenues. The management continues to market the project (and technology) globally and is very open to licensing the technology to the right partners.

US shale boom secures the gas supply

Magnolia and Bear Head are well placed to take advantage of the shale gas boom in the US and Canada, where fracking has utterly changed the gas supply picture. Massive existing infrastructure, increasing technological progress and available capital has seen a huge surge of gas production, substantially reducing and stabilising prices.

In this environment, the US has the potential to provide gas to LNG export schemes without risking major price increases. We anticipate that Magnolia could be fed by the Haynesville and Eagle Ford shale gas plays via Kinder Morgan's Louisiana pipeline (with which LNGL has executed a binding capacity precedent agreement), with areas further afield also possible.

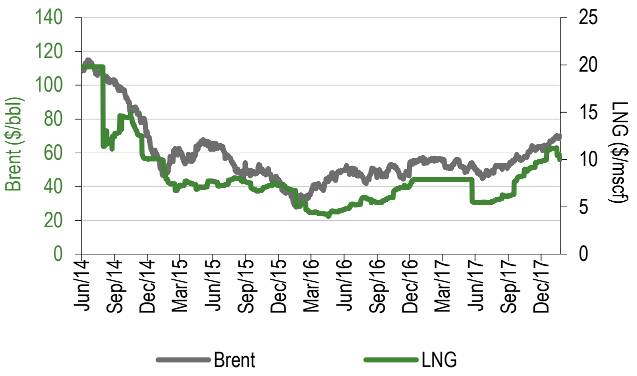
Bear Head will likely be supplied via the company's Bear Paw pipeline, which offers a path for gas to flow to the site. It would connect Bear Head to Goldboro (where the Maritimes and Northeast pipeline terminates, meeting the Sable Island pipeline). The 62.5km pipeline is fully permitted.

LNG supply, demand and pricing

We do not forecast LNG supply/demand, but note that many independent sources point to a rebalancing of supply/demand by 2022-23, after which time new supply will be needed. Given LNGL's low-cost approach, it should be well placed to have economic returns from development.

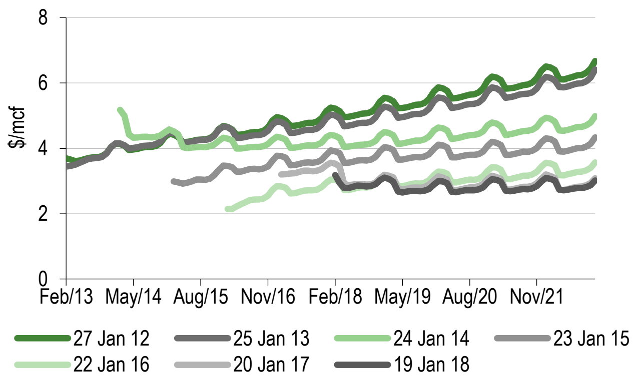
The recent increase in Brent pricing has seen LNG increase in concert. The forward gas curve has continued to lower and flatten, implying increased arbitrage opportunities for shale gas-based LNG.

Exhibit 1: LNG (Japanese) prices have closely tracked Brent prices and have picked up markedly recently



Source: Edison Investment Research, Bloomberg

Exhibit 2: Henry Hub forward curves have lowered and flattened over time



Source: Edison Investment Research, Bloomberg

For a tolling partner, Magnolia(n) LNG would cost approximately $7/mcf, (made up of source gas (US$2.9/mcf in 2023-24 forward prices), tolling fee of c US$2.5/mcf and transport costs of US$1-2/mcf). Given the current LNG prices of c $10/mcf, this would make trading very attractive, giving us comfort that LNGL will be able to negotiate long-term contracts in 2018.

Project summaries

LNGL continues to progress its marketing efforts, as can be seen in Exhibit 3.

Exhibit 3: Key information on projects

	Magnolia	Bear Head
Current equity interest	100%	100%
Location	Lake Charles, US	Nova Scotia
Size of land	115 acres	327 acres
Capacity	8mtpa (four trains of 2mtpa), possible extension	8-12mtpa (five trains)
Capex	Fixed price turnkey contract with KBR for US$4.354bn gross for 8mtpa (excludes other costs of 15.5% and debt interest repayments at an assumed rate of 6.5%). Valid until June 2018	As per Magnolia
FID/sanction	Late 2018	Mid-2022
Equity partner (funding provided)	Stonepeak will contribute the required equity funding of US$1.5bn on a redeemable preferred basis on a 12-year tenor	No partner secured yet. Assumed to be a partner seeking similar returns as Stonepeak
First gas	We assume 2023, with trains starting up every three months	We assume 2027 (FID after Magnolia first gas); five trains starting sequentially as at Magnolia
Gas source	US gas network	US/Canadian gas network
EPC partners	KBR, SK E&C (agreement extended to mid-2018)	Assumed KBR, SK E&C
Tolling partners	Magnolia LNG and Meridian LNG signed a binding agreement for firm capacity rights for up to 2mtpa in July 2015and this has been extended a number of times and now is valid until March 2018. Other discussions are ongoing. “Substantially all the offtake negotiations are for initial 20-year terms under liquefaction tolling agreements (LTA) or sales and purchase agreements (SPA).” According to the latest quarterly release	

Source: LNGL

Magnolia could deliver first LNG in 2023

The Magnolia project is a four-train, 8mtpa LNG plant planned to be built on a 115 acre plot in the Port of Lake Charles, Louisiana (adjacent to the existing LNG channel). The plant will use LNGL’s proprietary OSMR process liquefaction technology. A binding 20-year pipeline capacity precedent agreement was signed in 2014 with Kinder Morgan Louisiana Pipeline (KMLP). The site itself has a lease for 30 years (potentially extendable to 70 years) and the project is construction ready.

A binding lump sum turnkey (LSTK) with KBR (& SK E&C) has been executed, fixing capex at $4.354bn for the first four fully operational trains (excluding other costs of 13.5-15.5%) – this is currently valid until mid-2018, although we would not be surprised if it was extended again.

LNGL is partnering with Stonepeak Infrastructure Partners on Magnolia. Stonepeak will provide the equity required (US$1.5bn) to develop the project, while debt funding will need to be sourced. An agreement with BNP Paribas fell through after the bank declared in 2017 that it would no longer fund any oil/gas developments. The management is confident that it will be able to secure funding through other sources.

Project timing

The project development timing has continued to slip. We now model financial close – originally scheduled for mid-2015 – in late-2018. The next steps are:

- Binding offtake agreements – this is the critical milestone and management is working hard to get contracts signed.
- Binding term sheet for debt – we expect full funding to be secured six months after binding tolling agreements are executed.

Bear Head is a valuable option for now

LNGL bought the Bear Head site from Anadarko in August 2014 for US$11m. Under Anadarko, the site was originally developed as an LNG import terminal but was mothballed in 2007. All permitting and approvals had been granted and civil works had reached an advanced stage – for example, roads, utilities and foundations for two 180,000m^3 LNG tanks are complete.

The site is large (327 acres vs 115 at Magnolia) and the company has ample space for 8mtpa (two phases). Indeed, it has filed applications with the Canadian authorities for up to 12mtpa of capacity. We assume that first gas is in mid-2027, which is later than management guidance of 2024-2025, as we assume FID after Magnolia first gas.

Exhibit 4: Bear Head site

Source: LNGL

We expect the development of Bear Head to cost a similar amount to Magnolia. While much of the civil works are complete, the harsher climate may require greater protection against the cold winters. To balance this, the yield of LNG could well be greater, increasing efficiency and reducing overall costs.

Bear Head will likely be supplied via the company's Bear Paw pipeline, which offers a path for gas to flow to the site. It would connect Bear Head to Goldboro (where the Maritimes and Northeast pipeline terminates, meeting the Sable Island pipeline). The 62.5km pipeline is fully permitted. We note that Bear Head LNG continues "to market capacity to all three potential gas paths: US, offshore Nova Scotia; and Western and Central Canada."

The source of equity funding for Bear Head is unclear at the moment. We assume a similar structure of funding as Magnolia, although there is currently no equity partner. Magnolia cash flows are not likely to come through until 2023, which would mean that using these to fund development at Bear Head would necessarily require an FID after this date.

Threats and sensitivities

Commodity risk: Should binding tolling agreements be signed, the company should have no direct exposure to commodity risk, while operating costs movements should be largely mitigated by tolling fees. However, if SPAs are used at Magnolia, the company would be more exposed to movements of Henry Hub (HH). As we note elsewhere in the note, the futures curves of HH has lowered and flattened over the years since fracking was introduced.

Financing risks: LNGL needs to secure the funding for the development of the projects. For the 8mtpa Magnolia project, this is US$4.4bn (gross excluding other costs, $5bn including other costs, but excluding capitalised interest). Of this, we assume $1.5bn is funded by Stonepeak, with the rest funded through debt. Without this funding, the Magnolia project's (and hence LNGL's) value could be uneconomic or severely compromised. We assume that the project is 70% debt funded at an interest rate of 6.5%. If debt cannot be found at this level then the NPV of LNGL's stake could fall materially.

Technological risk: the OSMR process has received the technological approval of KBR and SK E&C and has the tacit confidence of a range of companies. The contractors will provide performance liquidated damages for capacity should the technology not deliver the modelled efficiencies and KBR has guaranteed 92% efficiency (implying 8% fuel used in process). The tolling term sheets also require that Magnolia provides minimum production – if this is not achieved, the plant could suffer financial penalties.

Cost escalation risk: cost escalation risk is well mitigated if tolling agreements can be signed quickly. LNGL has a turnkey contract with KBR that is valid until 30 June 2018. Although we are optimistic that the contract will be renewed, there is no guarantee that the cost will be the same and there is therefore a risk of escalation.

Protection risk: LNGL has patent protection for OSMR in 16 countries including the US and Canada (countries where its projects are currently located), and the majority (if not all) of consumer countries (including Japan).

Partner risk: the success of the LNGL projects is reliant on many parties, whether for providing equity finance, arranging debt finance or signing binding tolling agreements, constructing the plants (KBR and SK E&C) and transporting the gas (Kinder Morgan). Partners involved so far (Stonepeak, Meridian and KBR) have been happy to renew contracts and agreements as required.

Tax risks: Magnolia is subject to federal and state taxes, which we assume to be 25% over the life of the project (including tax holidays and breaks), with a 2% land tax (2% of asset value, with a five-year tax break extendable for a second five-year period). For Bear Head, we apply the 31% corporate tax rate (including state tax).

LNG pricing risks: our base case assumption is that all LNG is sold to FTA-approved countries but it does have non-FTA approval, enabling to sell worldwide (widening its reach and hopefully revenues).

Management

We think the board is strong, particularly the experience of Greg Vesey (CEO), Paul Cavicchi (chairman) and Phil Moeller (non-executive director).

LNGL key personnel

Paul Cavicchi (**chairman**) has over 25 years' experience across a range of gas and power projects, including development and construction of LNG infrastructure. Paul's most recent executive position was as executive VP of GDF SUEZ Energy North America where he supervised and directed all business development efforts for the company in North America. Previous roles include president and CEO of SUEZ Renewable Energy.

Greg Vesey (CEO) joined as MD and CEO in April 2016, based in Houston. Greg has held senior executive roles in the international energy sector through a distinguished career of 35 years with Chevron and Texaco. Most recently, he was president of Chevron Natural Gas and VP, gas supply and trading, from 2011 to 2015. In this role he was responsible for Chevron's global LNG, natural gas and natural gas liquid marketing and trading activity and was based in Houston. Other roles include president of Chevron Global Power and at Chevron Technology Ventures. Greg holds a bachelor of business degree from Northwestern State University of Louisiana.

Mike Mott (CFO) joined the company in September 2014. Before joining LNG, Mike held a number of senior finance, strategy and operations roles at BG. He held progressively senior accounting and risk management roles at Dynegy from 1995 and was previously at PwC.

Joseph B'Oris (CDO) began his career at Getty Oil (later acquired by Texaco). While at Texaco, Joe was responsible for all commercial activities on the Sabine pipeline (owner/operator of Henry Hub). He served in leadership roles in various LNG projects across the world for Nexen Energy/CNOOC, Shell, Marathon, and Jordan Cove LNG, where he was responsible for commercial and business development activities.

John Baguley (CTO) joined LNGL in May 2014 as the Magnolia LNG COO based in Houston, moving to CTO in November 2015. John brings over 30 years' experience in the successful delivery of front-end engineering design and EPC services for major LNG plants and projects worldwide, including serving as a project director, project manager and engineering manager for some of the world's most challenging facility locations (primarily at KBR for 33 years).

Non-executive director: Phil Moeller is a former commissioner of the Federal Energy Regulatory Commission (FERC). He was the second-longest serving member in the history of FERC and the only person in the federal government in a senate-confirmed position who was nominated by both President George W. Bush and President Barack Obama. He focused on policies that encouraged the construction of additional electric transmission and interstate natural gas infrastructure and policies promoting well-functioning wholesale markets.

Financials

Project financing cost

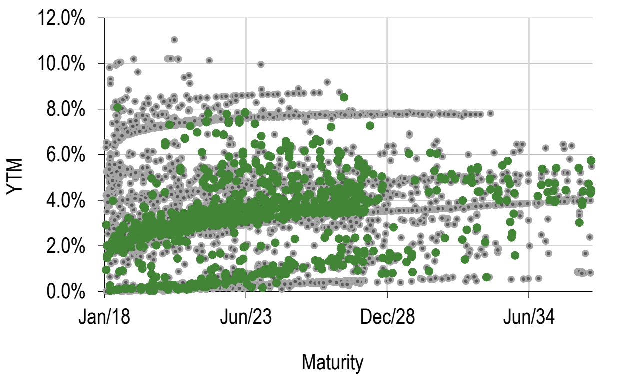
The key to how much of the project's value current investors will be able to retain is the level of debt that can be raised for development. With 30% already covered by the Stonepeak agreement (see below), we assume debt will cover the rest. However, if this is too optimistic new funding sources may have to be found, diluting current shareholders' interests.

For simplicity, we model that all debt is provided by a bank facility and that this is paid off as quickly as possible with project free cash flows. This will almost certainly not be the case – Cheniere has raised c 80% of its debt through bonds, with the remaining 20% as a bank facility. As a result, our modelling (with dividends paid only after all bank debt is paid off on a project basis) will likely lead to a later (and higher) dividend stream than will probably take place.

The Stonepeak agreement (originally made in 2013) was renewed and extended in July 2017 and provides that Stonepeak will contribute equity funding of up to US$1.5bn for the project (which should cover all required equity funding). In return, it will receive a redeemable preferred interest in Magnolia with a fixed coupon with pay-in-kind provisions during construction. The tenor is 12 years and it is redeemable at Magnolia's discretion after three years of operations. There are no conversion features into Magnolia or LNGL shares.

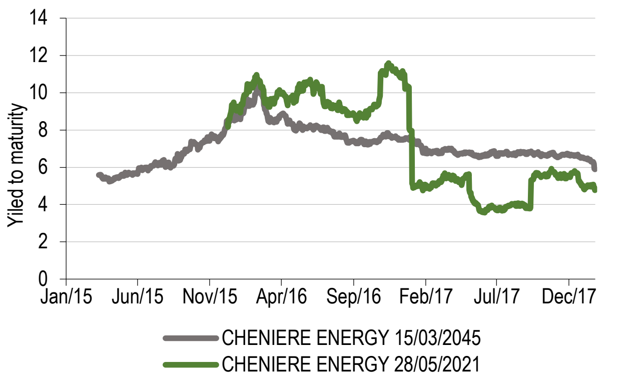
We assume that the rest (70%) of the project financing will be achieved through debt and at an effective interest rate of 6.5%. This is higher than peers are trading on (on a yield-to-maturity basis), including Cheniere. As a result, as long as LNGL delivers the projects as promised, we think 6.5% is a fair/conservative assumption for the moment.

Exhibit 5: Bond yield to maturity vs pipeline/utility peers



Source: Bloomberg, Edison Investment Research. Note: Grey dots are bond B rating while green dots are A rated in industrials, utilities sectors

Exhibit 6: Cheniere bonds, yield to maturity



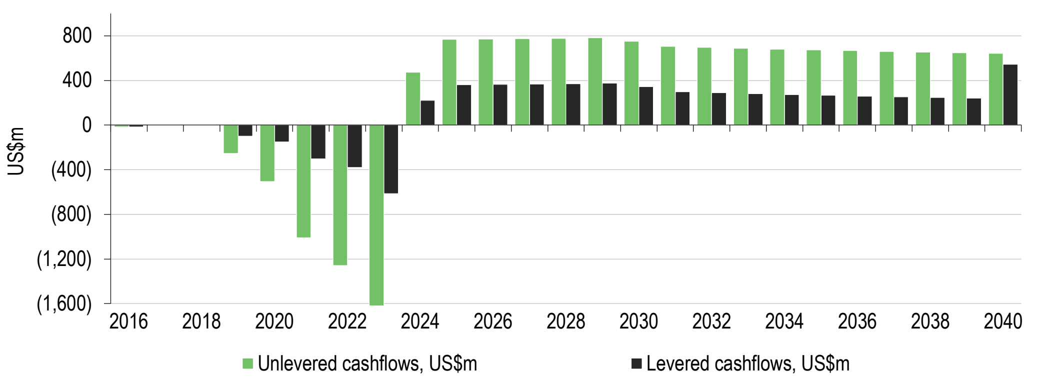
Source: Bloomberg, Edison Investment Research

Company financials

At December 2017, LNG had cash resources of A$33m, annualised administration expenses of c A$16m and spends around A$5m every six months on project development (expensing for the moment). At this level of spend the company will require further capital in 2019 assuming no offtake is forward sold; our base case assumes any capital raise is executed at the current share price which would be dilutive for shareholders.

We assume FID is taken on Magnolia at the end of CY18, and this should catalyse a payment from Stonepeak adding short-term capital for LNGL. After sanction/FID, the project should be largely funded by Stonepeak and debt, with little equity required from LNGL. It will need to pay for G&A in this period however until first production and cash flows.

Exhibit 7: Unlevered and levered cash flows for Magnolia



Source: Edison Investment Research

Valuation

Our DCF approach is one used across our oils coverage and, given the steady predictable expected EBITDA across the LNG projects, should be applicable for the valuation of LNGL. We then apply a risking to account for various factors before the projects' start-up (such as uncertainty over possible delays and uncertainty over reaching FID/sanction).

Major assumptions

- We assume a tolling fee of US$2.75/mcf (or equivalent margin achieved in an SPA) inflating at 0.5% per year from start-up in 2023, 96% utilisation. Opex is assumed to be $0.25/mmbtu, with produces a lowered EBITDA margin of $2.25/mmbtu (vs $2.5/mmbtu previously).
- A corporate tax rate of 25% and land tax rate of 2% at Magnolia. The tax rate falls from our previously assumed rate of 38% as a result of a better tax understanding of the project with the effect of tax holidays and other tax breaks, and as a result of the implementation of the recent Republican tax plan. At Bear Head, we revise the tax rate to 31% (including state and federal taxes).
- Debt funding of 70% of the project with an interest rate of 6.5%. The debt is modelled as bank debt, although we expect the project to raise the majority of the capital through bonds (as Cheniere has done). We have lowered our assumption on debt interest costs given the current yields on Cheniere debt/other instruments and note that our assumptions may end up too high.
- Equity funding of US$1.5bn. For Magnolia, Stonepeak Infrastructure Fund is the equity partner, and this amount should cover the entire equity funding requirement.
- The modelling implies that LNGL will need some capital in 2019/20, so we would expect this to happen in 2018. We hope (some) binding tolling agreements will have been announced by this point and that additional shares can be issued at a premium to its current price, though this is not assured (or assumed). To be conservative, we assume US$20m is raised at the current price, diluting NAV and producing a lower valuation than would otherwise be the case.
- We discount the levered equity cash flows due to LNGL at 10%.
- We assume commissioning of the trains occurs every three months after the end of construction, leading to a ramp up of utilisation over the first year or so of operations.

Exhibit 8: NAV summary

Asset	Country	Equity interest (%)	CoS (%)	Net risked value		
				US$m	A$/share	US$/ADR
Net (debt)/cash (June 2017)				36	0.08	0.26
G&A				(69)	(0.16)	(0.50)
Project development costs June 2017 to July 2018e				(8)	(0.02)	(0.02)
Additional cash from assumed equity issuance				20	0.04	0.14
Magnolia Trains 1-4	US	100%	60%	365	0.82	2.63
Bear Head Trains 1-4	Canada	100%	15%	105	0.23	0.76
NAV				**448**	**1.00**	**3.23**

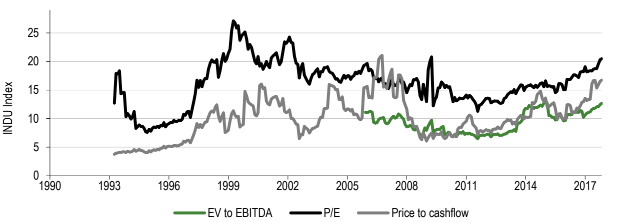
Source: Edison Investment Research. Note: We assume all financing for Magnolia is provided by debt and Stonepeak and that LNGL only has to provide for corporate costs. At Bear Head, we assume LNGL provides equity capital and is thus able to retain more of the project. We have assumed the capital raised above is at current share prices (c A$0.6/share)

Our modelling assumptions produce an unlevered IRR for Magnolia (gross) of 11% in July 2018 (17% levered), so the value for shareholders depends to a great extent on the inputs we use. Increase in debt facility/lowering of debt rates/increasing tolling fees achieved/decreases in final capex bills and other factors all have a very material effect on this valuation. We also caution that our risking is very subjective and we would urge investors to be comfortable with their own view on project progress.

Historical pricing multiples for peers

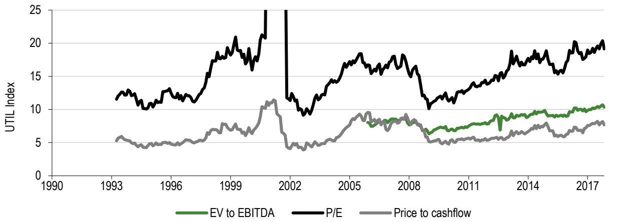
With stock markets at historical highs and multiples continuing to expand, we urge investors to look beyond current multiples to ensure that long-term investment retains a margin of safety for returns. LNGL's peers/comparators have traded on a wide range of multiples in the last 25 years, depending on interest rates and overall investment sentiment. As a result, investors should be aware that current multiples are not consistent over time and are well above historical norms/averages.

Exhibit 9: Long-term multiples for peers – New York Industrial Average Index



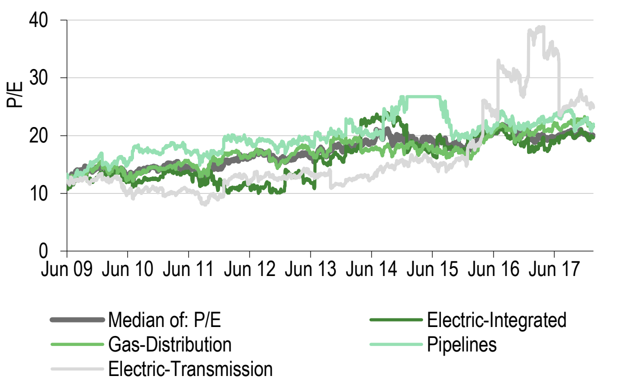
Source: Bloomberg, Edison Investment Research

Exhibit 10: Utilities index multiples have continue to push higher and are at historical highs



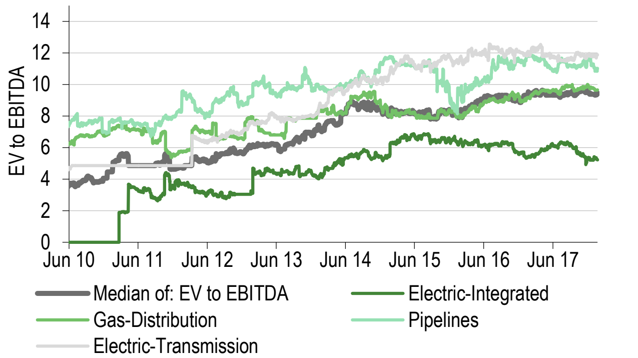
Source: Bloomberg, Edison Investment Research

Exhibit 11: Price to earnings multiples for comparable companies



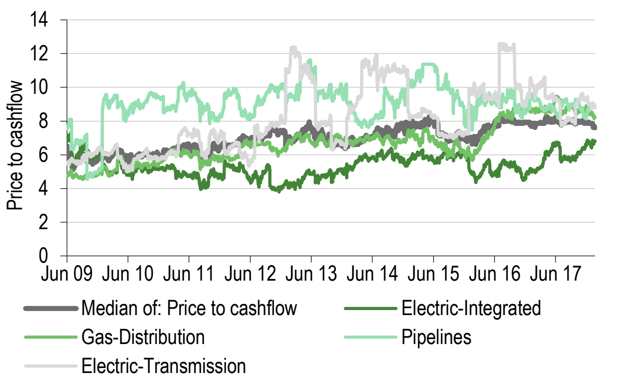
Source: Bloomberg, Edison Investment Research

Exhibit 12: EV/EBITDA multiples for comparable companies



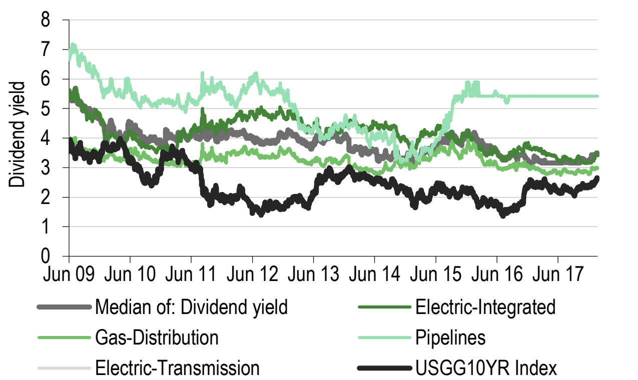
Source: Bloomberg, Edison Investment Research

Exhibit 13: Price to cash flow multiples for comparable companies



Source: Bloomberg, Edison Investment Research

Exhibit 14: Dividend yields for comparable companies



Source: Bloomberg, Edison Investment Research. Note: The black line is a generic 10-year US government bond yield.

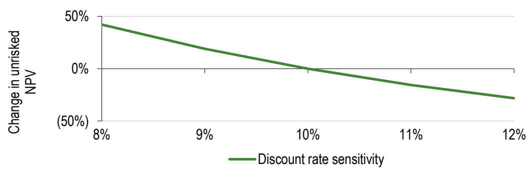
Exhibit 15: Scenarios (applied only to Magnolia)

Exhibit 16: Effect on project ownership and net value for Magnolia (unrisked), US$m

Exhibit 17: Effect on net value

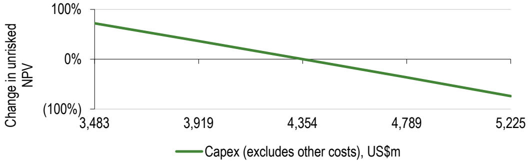
Discount rate applied to levered cash flows. Default is 10%.

Discount rate sensitivity	8%	9%	10%	11%	12%
Unrisked NPV	864	723	608	513	436
Change in unrisked NPV	42%	19%	0%	(16%)	(28%)



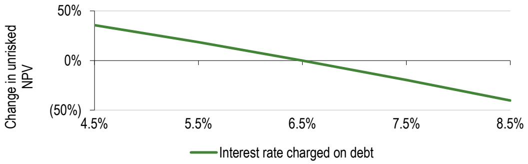
Capex – base case is the upper end of the current guidance (US$4.354bn with a further 15.5% of "other costs", or a total of $5bn). Low end of guidance would correspond to $3.8bn + other costs leading to US$4.4bn. We do not include capitalised interest in this number.

Capex (excludes other costs), US$m	3,483	3,919	4,354	4,789	5,225
Unrisked NPV net to LNGL	1,110	880	645	410	168
Change in unrisked NPV	72%	36%	0%	(36%)	(74%)



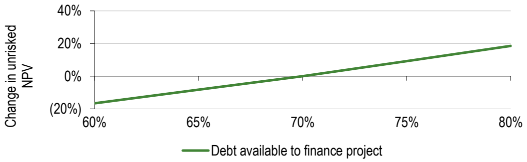
Interest rate on debt – assumed as 6.5% as base case where debt provides 70% of funding requirement.

Interest rate charged on debt	4.5%	5.5%	6.5%	7.5%	8.5%
Unrisked NPV net to LNGL	875	764	645	519	385
Change in unrisked NPV	36%	18%	0%	(20%)	(40%)



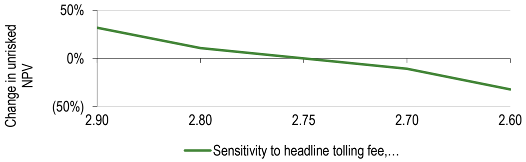
Debt available to finance project (assume any amount below 70% is provided by LNGL). If more than 75% debt is provided, Stonepeak reduces its contribution. Note: this likely underestimates the effect as we do not include dilutive effect of raising shares at lower than our valuation.

Debt available to finance project	60%	65%	70%	75%	80%
Unrisked NPV net to LNGL	538	592	645	705	765
Change in unrisked NPV	(17%)	(8%)	0%	9%	19%



Tolling fee (or average rate achieved through SPAs if used). Default is US$2.75/mcf, and we assume opex of $0.5/mcf against this, giving EBITDA margins of $2.25/mcf

Sensitivity to headline tolling fee, $/mmbt	2.90	2.80	2.75	2.70	2.60	2.50
Unrisked NPV net to LNGL	851	714	645	576	437	
Change in unrisked NPV	32%	11%	0%	(11%)	(32%)	(100%)



Source: Edison Investment Research

Exhibit 18: Peer group valuation

Company	Market cap	EV	EV/EBITDA (current EV) (x)			P/E (x)			P/CF (current share price) (x)			Dividend yield (%)		
	$m	$m	2017	2018e	2019e	2017	2018e	2019e	2017	2018e	2019e	2017	2018e	2019e
Cheniere Energy Inc	13,164	34,223	18.7	15.9	11.9	Neg.	68.2	40.9	10.5	10.4	8.1	0.0	0.1	0.0
NextDecade Corp	868	868												
Tellurian Inc	2,635	2,633												
National Grid PLC	38,665	64,833	9.1	8.9	8.4	13.8	13.5	12.8	7.6	7.4	7.2	5.5	5.7	5.9
United Utilities Group PLC	7,189	17,145	12.1	11.3	10.8	17.0	14.9	13.6	7.8	6.9	6.7	5.2	5.3	5.5
Severn Trent PLC	6,628	13,930	11.1	10.6	10.1	16.8	15.6	14.4	7.7	7.3	7.0	4.3	4.6	5.0
Pennon Group PLC	4,325	8,043	11.4	10.5	9.9	15.6	13.8	12.5	8.0	7.6	6.8	5.2	5.6	6.0
Snam SpA	17,153	30,697	12.4	12.0	11.9	14.7	14.1	13.9	8.4	8.3	8.5	5.5	5.5	5.7
Federal Grid Co Unified Energy System PJSC	4,022	6,591	2.6	2.6	3.2	3.3	3.3	4.1	1.6	1.5	2.0	7.8	7.3	7.3
Red Electrica Corp SA	11,871	18,988	10.1	9.9	9.6	14.4	13.7	13.2	8.5	8.3	8.0	5.1	5.5	5.8
Fluxys Belgium SA	2,281	2,159	6.3	6.4	6.6	32.0	31.7	36.3	9.1	9.3	9.7	4.8	4.8	4.7
REN - Redes Energeticas Nacionais	2,094	5,160	8.6	8.3	8.2	13.0	14.2	13.9	4.7	5.2	5.1	6.5	6.3	6.3
Enagas SA	6,856	12,083	9.1	9.4	9.6	11.9	13.2	13.2	6.8	7.1	7.3	6.2	6.5	6.8
Terna Rete Elettrica Nazionale SpA	12,179	22,369	11.5	11.2	10.9	14.6	14.3	13.9	8.6	8.2	8.1	4.4	4.6	4.8
Centrica PLC	10,829	16,907	5.4	5.3	5.3	10.9	10.0	10.5	5.2	5.1	5.2	8.7	8.2	7.9
Consolidated Edison Inc	24,350	39,402	9.8	9.7	9.3	19.2	18.4	17.5	8.6	8.3	7.6	3.5	3.6	3.7
RWE AG	13,087	16,720	2.4	2.6	2.6	8.8	11.9	11.1	3.2	3.0	2.9	2.9	3.2	4.1
PG&E Corp	22,604	40,856	6.6	6.5	6.8	11.9	11.5	11.1	4.4	4.2	4.2	4.4	5.1	5.4
CenterPoint Energy Inc	11,978	19,276	9.4	8.8	8.5	21.0	19.0	18.1	7.5	6.7	6.5	3.9	4.0	4.2
NiSource Inc	8,066	15,940	10.4	9.6	8.8	20.1	18.8	17.5	7.7	7.5	7.6	2.9	3.1	3.3
UGI Corp	7,998	11,968	7.8	7.5	7.3	18.2	17.4	17.5	9.1	8.6	8.2	2.2	2.3	2.4
Atmos Energy Corp	9,032	12,432	10.9	9.9	8.8	21.3	19.8	18.4	11.6	10.8	10.1	2.4	2.5	2.7
Kinder Morgan Inc/DE	43,838	80,491	10.8	10.4	9.9	24.2	21.9	19.3	10.4	10.3		4.0	5.1	6.3
Spectra Energy Partners LP	13,772	20,494	9.7	9.2	8.7	12.6	13.2	13.8	9.4	11.0	11.3	6.6	7.1	7.5
Boardwalk Pipeline Partners LP	3,382	6,935	8.2	8.2	8.2	9.9	10.3	10.8	5.0	5.0	4.8	3.0	3.2	6.1
Energy Transfer Equity LP	20,008	63,327	9.5	8.2	7.5	15.8	10.2	9.3	5.1	4.6	4.4	6.3	6.9	7.7
ONEOK Inc	24,409	33,601	17.1	15.1	13.7	34.5	25.8	24.2	18.1	15.4	14.6	4.8	5.3	5.8
CEZ AS	13,451	20,097	7.8	7.8	7.6	15.5	19.8	20.9	5.6	5.9	5.8	6.2	5.0	4.5
RWE AG	13,089	16,720	2.4	2.6	2.6	8.8	11.9	11.1	3.2	3.0	2.9	2.9	3.2	4.1
SSE PLC	18,207	27,490	8.0	7.8	7.6	11.1	10.5	10.2	6.6	6.3	6.2	7.3	7.6	7.6
Verbund AG	9,874	8,135	7.7	8.6	7.5	25.4	29.6	22.4	11.7	12.4	11.0	1.6	1.5	1.9
Veolia Environnement SA	14,763	23,830	6.0	5.7	5.5	21.0	17.7	15.9	5.4	5.0	4.7	3.8	4.2	4.5
A2A SpA	6,160	10,049	6.8	7.0	7.0	13.7	14.1	14.0	5.9	5.9	5.9	3.7	4.4	4.6
Endesa SA	24,396	30,014	7.2	7.1	7.0	14.6	14.0	13.6	7.4	7.2	6.9	7.1	7.2	7.4
Gas Natural SDG SA	24,725	42,424	7.8	7.3	6.9	16.5	15.1	13.6	6.1	5.7	5.6	5.0	5.1	5.3
Hera SpA	5,577	8,959	7.4	7.4	7.4	18.5	18.3	18.2	6.3	6.3	6.1	3.1	3.2	3.3
Iberdrola SA	51,793	87,491	9.1	7.9	7.5	15.7	14.4	13.4	6.9	6.4	6.0	4.8	5.0	5.3
Acciona SA	5,330	11,588	7.5	7.4	7.1	17.0	16.8	14.9	6.3	5.0	4.6	3.8	4.0	4.2

Source: Bloomberg. Note: Prices are as at 23 January.

Exhibit 19: Financial summary

Accounts: IFRS, Yr end: June, AUD: Millions	2013	2014	2015	2016	2017	2018e	2019e
Total revenues	0.5	0.3	7.9	7.3	0.6	0.0	0.0
Cost of sales	0.0	0.0	0.0	0.0	0.0	0.0	(2.5)
Gross profit	0.5	0.3	7.9	7.3	0.6	0.0	(2.5)
SG&A (expenses)	(2.7)	(3.5)	(8.1)	(19.4)	(13.6)	(16.2)	(16.6)
R&D costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other income/(expense)	(11.3)	(20.1)	(71.9)	(89.3)	(14.0)	(6.0)	(14.6)
Exceptionals and adjustments	0.1	(0.5)	(14.8)	(14.3)	(2.5)	(7.0)	(10.0)
Depreciation and amortisation	(0.1)	(0.1)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)
Reported EBIT	(13.6)	(23.8)	(86.9)	(115.7)	(29.6)	(29.2)	(43.7)
Finance income/(expense)	0.2	(0.8)	0.6	0.6	0.4	0.1	0.1
Other income/(expense)	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Exceptionals and adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reported PBT	(13.4)	(24.7)	(86.3)	(115.1)	(29.2)	(27.1)	(43.6)
Income tax expense (includes exceptionals)	0.0	0.0	(0.1)	0.0	(0.1)	(0.0)	0.0
Reported net income	(13.4)	(24.7)	(86.3)	(115.1)	(29.3)	(27.2)	(43.6)
Basic average number of shares, m	267.7	333.9	464.4	503.2	513.0	513.7	513.7
Basic EPS	(0.0)	0.0	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)
Adjusted EBITDA	(13.6)	(23.3)	(72.0)	(101.4)	(27.0)	(22.2)	(33.7)
Adjusted EBIT	(13.7)	(23.3)	(72.1)	(101.4)	(27.0)	(22.2)	(33.7)
Adjusted PBT	(13.5)	(24.1)	(71.5)	(100.8)	(26.7)	(20.1)	(33.6)
Adjusted EPS	(0.1)	(0.1)	(0.2)	(0.2)	(0.1)	(0.0)	(0.1)
Adjusted diluted EPS	(0.1)	(0.1)	(0.2)	(0.2)	(0.1)	(0.0)	(0.1)
Balance sheet							
Property, plant and equipment	0.1	0.3	12.1	12.0	12.0	12.0	308.2
Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	15.6
Other non-current assets	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Total non-current assets	0.6	0.3	12.1	12.0	12.0	12.0	323.8
Cash and equivalents	1.6	47.8	47.0	67.2	40.3	20.1	0.0
Inventories	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trade and other receivables	0.0	0.3	2.5	0.7	0.1	0.1	0.1
Other current assets	1.0	3.3	135.2	4.6	4.6	4.6	4.6
Total current assets	2.6	51.4	184.6	72.6	45.0	24.8	4.7
Non-current loans and borrowings	0.0	0.0	0.0	0.0	0.0	0.0	433.8
Other non-current liabilities	0.3	0.2	0.2	0.1	0.0	0.0	0.0
Total non-current liabilities	0.3	0.2	0.2	0.1	0.0	0.0	433.8
Trade and other payables	1.1	3.4	13.9	2.6	2.2	2.2	2.2
Current loans and borrowings	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Other current liabilities	0.3	0.0	1.0	0.9	0.4	0.4	0.4
Total current liabilities	1.4	3.9	14.9	3.5	2.5	2.5	2.5
Equity attributable to company	1.7	47.7	181.7	81.1	54.6	34.4	(107.7)
Non-controlling interest	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Cash flow statement							
Profit for the year	(13.4)	(24.7)	(86.3)	(115.1)	(29.3)	(27.2)	(43.6)
Taxation expenses	0.0	0.0	0.0	0.0	0.0	(0.0)	0.0
Net finance expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Depreciation and amortisation	0.1	0.1	0.1	0.2	0.2	0.0	0.0
Share based payments	(0.1)	0.0	14.8	14.3	2.5	7.0	10.0
Other adjustments	5.3	0.8	(7.4)	(6.8)	1.5	0.0	0.0
Movements in working capital	0.4	2.0	8.9	(9.8)	(0.4)	0.0	0.0
Interest paid / received	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income taxes paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash from operations (CFO)	(7.7)	(21.8)	(70.0)	(117.1)	(25.5)	(20.2)	(33.6)
Capex	(0.0)	(0.2)	(11.6)	(0.1)	(0.4)	0.0	(311.8)
Acquisitions & disposals net	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investing activities	2.4	(1.8)	(131.7)	130.6	0.0	0.0	0.0
Cash used in investing activities (CFIA)	2.4	(2.0)	(143.3)	130.5	(0.4)	0.0	(311.8)
Net proceeds from issue of shares	0.0	70.2	205.0	0.2	0.7	0.0	0.0
Movements in debt	0.0	0.0	0.0	0.0	0.0	0.0	433.8
Other financing activities	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(108.5)
Cash from financing activities (CFF)	(0.0)	70.2	205.0	0.2	0.7	(0.0)	325.3
Increase/(decrease) in cash and equivalents	(5.3)	46.4	(8.3)	13.5	(25.3)	(20.2)	(20.1)
Currency translation differences and other	0.0	(0.3)	7.5	6.7	(1.6)	0.0	0.0
Cash and equivalents at end of period	1.6	47.8	47.0	67.2	40.3	20.1	0.0
Net (debt) cash	1.6	47.3	47.0	67.2	40.3	20.1	(433.8)
Movement in net (debt) cash over period	(5.3)	45.7	(0.3)	20.2	(26.9)	(20.2)	(453.9)

Source: Company accounts, Edison Investment Research

Contact details	Revenue by geography
1001 McKinney Suite 600 Houston Texas 77002 www.lnglimited.com.au	N/A

Management team

Chairman: Paul Cavicchi	CEO: Greg Vesey
Paul has over 25 years' experience across a range of gas and power projects, including development and construction of LNG infrastructure. Paul's most recent executive position was as executive VP of GDF SUEZ Energy North America. Previous roles include president and CEO of SUEZ Renewable Energy.	Greg has held senior executive roles in the international energy sector through a distinguished career of 35 years with Chevron and Texaco. Most recently, he was president of Chevron Natural Gas & VP, gas supply and trading from 2011 to 2015.
CDO: Joe B'Oris	**Mike Mott: CFO**
Joe began his career at Getty Oil (later acquired by Texaco). While at Texaco, Joe was responsible for all commercial activities on the Sabine Pipeline (owner/ operator of Henry Hub). He served in leadership roles in various LNG projects across the world for Nexen Energy/CNOOC, Shell, Marathon, and Jordan Cove LNG, where he was responsible for commercial and business development activities	Mike Mott joined the company in September 2014. Before joining LNG, he held a number of senior finance, strategy and operations roles at BG. Mike held progressively senior accounting and risk management roles for Dynegy from 1995 and was previously at PWC.

Principal shareholders	(%)
Baupost	12.1
Valinor	8.2
Vanguard	2.6
Andrew Bruce	1.7
Bassam Chahla	1.6
Paul Bridgwood	0.6
Norges	0.6

Companies named in this report

Cheniere, KBR, SK E&C, Meridien, BNP Paribas , Next Decade