

Genex Power

Smart and simple storage

ADD

Current price:	A\$0.29
Target price:	A\$0.36
Previous target:	A\$
Up/downside:	26.5%
Reuters:	GNX.AX
Bloomberg:	GNX AU
Market cap:	US\$62.18m
	A\$86.62m
Average daily turnover:	US\$0.06m
	A\$0.08m
Current shares o/s	303.9m
Free float:	69.3%



Price performance	1M	3M	12M
Absolute (%)	0	-8.1	26.7
Relative (%)	3.1	-7.3	19.8

Max Vickerson

T +61 7 3334 4804

E max.vickerson@morgans.com.au

Analyst(s) own shares in the following stock(s) mentioned in this report:

- N/A

- We initiate coverage of GNX with an ADD rating and a 36cps price target. We expect the share price to reflect our valuation as the unique Kidston Pumped Hydro project details are announced and the project is delivered.
- Given the large amount of government support our view is that the project will proceed and will be able to secure an offtake contract of at least 10 years at a 10% premium to historical prices for storage with prices rising further following the roll off of the initial contract.
- The immediate catalysts are the detailed announcement and then delivery of Kidston Stage 2 (pumped hydro and solar) but investors should be aware that sustainable dividends from this project will be many years away as project finance repayments absorb most of the free cashflow in the medium term.

Better than batteries and too fast for turbines

GNX is a renewable and energy storage company and developer of the Kidston solar and pumped hydro projects. GNX's pumped hydro is uniquely positioned to offer large scale economic energy storage to take advantage of volatility in QLD wholesale electricity prices. Pumped hydro is significantly cheaper than batteries (1/10th based on our estimates) and unlike gas turbines (OCGT) will be able to start fast enough to cover spikes in the electricity price given changes to the electricity rules due to be in force from July 2021. There are no other commercially feasible storage technologies with shovel ready projects that can provide grid-scale storage (> 1 hour capacity at full power) in the Queensland market for the foreseeable future.

There are still a lot of moving pieces

The majority of the debt funding for the second stage Kidston project (K2) has been conditionally approved by NAIF (\$516m) but this is still subject to the project securing senior debt, a Power Purchase Agreement (PPA) to sell the energy/capacity and the addition of further equity capital. The loan terms (tenor and payment schedules) are yet to be announced and will have a significant impact on cashflow and therefore value for shareholders. Additionally, the engineering contracts to design and construct the K2 project and the access agreement for the new high voltage transmission line need to be finalised, so the final capital requirements are not yet known.

Investment view

We agree with the Queensland Government's view that the pumped hydro project is critical infrastructure for QLD's electricity market and we see long term value as the need for storage increases with the rising share of renewable energy. Our view is that the K2 project will proceed which will generate most of GNX's equity. The price of the offtake agreement for the pumped hydro in particular will be a significant swing factor for GNX's share price (see Figure 17). Beyond the initial contract we see prices increasing significantly but this will be many years away before investors could realise the benefits. We only see \$0.05 / share value in the existing 50 MW solar farm but we reiterate we believe that K2 will proceed (100% probability of success assumed) and the stock offers value for investors who are comfortable with a higher risk profile.

Financial Summary	Jun-16A	Jun-17A	Jun-18A	Jun-19F	Jun-20F
Revenue (A\$m)	0.00	0.00	8.27	12.88	13.13
Operating EBITDA (A\$m)	-6.93	-7.12	-1.72	9.77	9.95
Net Profit (A\$m)	-7.08	-6.94	-4.44	-15.45	0.35
Normalised EPS (A\$)	(0.043)	(0.030)	(0.015)	(0.005)	(0.003)
Normalised EPS Growth		(29.1%)	(50.7%)	(67.2%)	(36.7%)
FD Normalised P/E (x)		NA	NA	NA	NA
DPS (A\$)	-	-	-	-	-
Dividend Yield	0%	0%	0%	0%	0%
EV/EBITDA (x)	NA	NA	NA	21.51	22.68
P/FCFE (x)		NA	NA	NA	110.3
Net Gearing	(26%)	35%	596%	119%	119%
P/BV (x)	6.31	4.36	5.67	1.45	1.52
ROE		(52.0%)	(25.8%)	(3.6%)	(1.6%)
% Change In Normalised EPS Estimates					
Normalised EPS/consensus EPS (x)				0.54	-0.77

SOURCE: MORGANS, COMPANY REPORTS

Figure 1: Financial summary

Profit and loss (\$m)	FY18A	FY19E	FY21E	FY23E	FY25E	FY27E	FY29E	FY31E	FY33E	Valuation as at Oct-2018					
Revenue	8.3	12.9	13.3	13.8	14.2	14.7	15.2	15.7	16.3	DCF - KS1 30 yr forecast (\$m)	\$ 14				
Cost of sales	(5.1)	(1.3)	(1.4)	(1.4)	(1.5)	(1.6)	(1.7)	(1.7)	(1.8)	DCF - KS2 80 yr forecast (\$m)	\$ 96				
Gross profit	4.8	16.9	17.6	18.3	19.0	19.7	20.5	21.3	22.1	DCF Total (\$m)	\$ 110				
Operating costs	(6.5)	(7.2)	(7.5)	(7.9)	(8.4)	(8.8)	(9.3)	(9.7)	(10.2)	Shares issued (m)	304				
EBITDA	(1.7)	9.8	10.1	10.3	10.6	10.9	11.2	11.6	11.9	Value per share	\$ 0.36				
D&A	-	(5.7)	(5.7)	(5.7)	(5.7)	(5.7)	(5.7)	(5.7)	(5.7)	DCF Inputs					
Operating EBIT	(1.7)	4.0	4.3	4.6	4.9	5.2	5.5	5.8	6.2	Rf rate	3.5%				
Other income	1.7	5.4	5.7	5.9	6.3	6.6	6.9	7.3	7.7	MRP	6.0%				
Net Interest Expense	(2.7)	(5.9)	(5.5)	(7.1)	(7.6)	(6.5)	(5.3)	(4.0)	(2.3)	Adjusted Beta	0.75				
Distributions from SPV (post tax)	-	-	-	-	14	15	28	12	21	RE	8.00%				
Profit Before Tax	(3)	4	4	3	17	21	35	21	33						
Tax	-	(14)	3	(1)	(2)	(3)	(4)	(6)	(9)						
Statutory Net Profit	(3)	(10)	7	2	15	17	31	16	24						
Tax (deferred profit from JV)	-	14	-	2	-	-	-	1	1						
Underlying Net Profit	(3)	4	7	4	15	17	31	17	25						
Underlying Net Profit	FY18A	FY19E	FY21E	FY23E	FY25E	FY27E	FY29E	FY31E	FY33E	Projected returns					
Underlying Net Profit (\$m)	(3)	4	7	4	15	17	31	17	25	12m Target Price	\$ 0.36				
- cents per share	(0.9)	1.2	1.6	1.0	3.4	3.9	6.9	3.8	5.6	Share Price	\$ 0.29				
- growth		-226%	22%	-23%	250%	19%	380%	117%	118%	Upside/(downside)	26.5%				
										Yield	- cps FY19 0.0%				
										12m potential TSR	26.5%				
Dividends	FY18A	FY19E	FY21E	FY23E	FY25E	FY27E	FY29E	FY31E	FY33E	Rating					
Dividends (\$m)	-	-	-	-	9	10	20	-	10	Key multiples	FY18A	FY21E	FY25E	FY29E	FY33E
Dividend per share (cents)	-	-	-	-	1.95	2.35	4.49	-	2.18	EV/EBITDA (x)	- 102.3	23.3	21.9	17.7	13.0
- growth	N/A	N/A	N/A	N/A	N/A	34%	N/A	N/A	N/A	Price-to-earnings (x)	-30.7	17.7	8.3	4.1	5.1
- payout of Underlying NPAT	0%	0%	0%	0%	57%	60%	65%	0%	39%	Dividend yield	0.0	0.0	6.9	15.7	7.7
Cashflows (\$m)	FY18A	FY19E	FY21E	FY23E	FY25E	FY27E	FY29E	FY31E	FY33E	Gearing - GNX					
EBITDA	(1.7)	9.8	10.1	10.3	10.6	10.9	11.2	11.6	11.9	Net Debt (\$m)	91.1	107.3	106.3	72.7	27.6
Distributions from SPV (post tax)	-	-	-	-	13.7	15.3	28.0	12.1	21.0	Net Debt / ND+E (%)	86%	58%	58%	50%	18%
Gross operating cashflow	(1.7)	9.8	10.1	10.3	24.3	26.2	39.3	23.6	32.9	Net Debt / EBITDA (x)	-52.90	10.67	10.00	6.47	2.32
Net interest paid	(2.7)	(5.9)	(5.5)	(7.1)	(7.6)	(6.5)	(5.3)	(4.0)	(2.3)	Operating CF-to-interest (x)	-1.63	0.82	2.18	7.03	16.40
Tax paid	-	-	-	-	-	4	4	4	7						
Operating cashflow	(4.4)	3.9	4.5	3.3	16.7	19.7	37.5	23.9	38.1	Gearing - SPV					
GNX Capex	(71)	(55)	(15)	-	-	-	-	-	-	Net Debt (\$m)	0.0	675.7	541.8	414.0	276.1
Investing cashflow	(71)	(55)	(15)	-	-	-	-	-	-	Net Debt / ND+E (%)	0%	74%	68%	60%	45%
Equity issuance/(returns)	-	40	-	-	-	-	-	-	-	Senior Debt / EBITDA (x)	0.0	8.0	7.4	7.1	3.1
Debt drawdown/(repaid)	-	34	2	(9)	(8)	(9)	(10)	(12)	(13)	EBITDA-to-senior debt interest (x)	4.9	5.3	5.5	6.1	
Dividends paid	-	-	-	-	(9)	(10)	(20)	-	(10)						
Other financing cash flows	-	-	-	-	-	-	-	-	-						
Financing cashflow	-	74	2	(9)	(17)	(20)	(30)	(12)	(23)						
Net cashflow	(75)	23	(9)	(6)	(0)	(0)	7	12	15						
Balance sheet (\$m)	FY18A	FY19E	FY21E	FY23E	FY25E	FY27E	FY29E	FY31E	FY33E						
Cash	11	33	28	15	11	11	6	5	2						
Receivables	1	1	1	1	2	2	2	2	2						
Fixed Assets	118	112	101	90	78	67	55	44	32						
SPV equity	-	102	105	127	131	125	124	144	168						
Tax assets	-	1	5	7	6	1	-	-	-						
Other	6	6	6	6	6	6	6	6	6						
Total Assets	136	255	246	245	233	210	192	200	210						
Debt	102	137	135	133	117	99	79	56	30						
Deferred Tax from SPV)	-	14	14	17	20	20	24	30	37						
Other liabilities	18	17	19	17	18	18	18	18	18						
Total Liabilities	120	168	169	167	155	137	120	103	85						
Net Assets	15	87	77	78	78	73	72	96	125						
Average Shares on issue (m)	298.7	374.1	444.3	444.3	444.3	444.3	444.3	444.3	444.3						

SOURCE: MORGANS RESEARCH, COMPANY

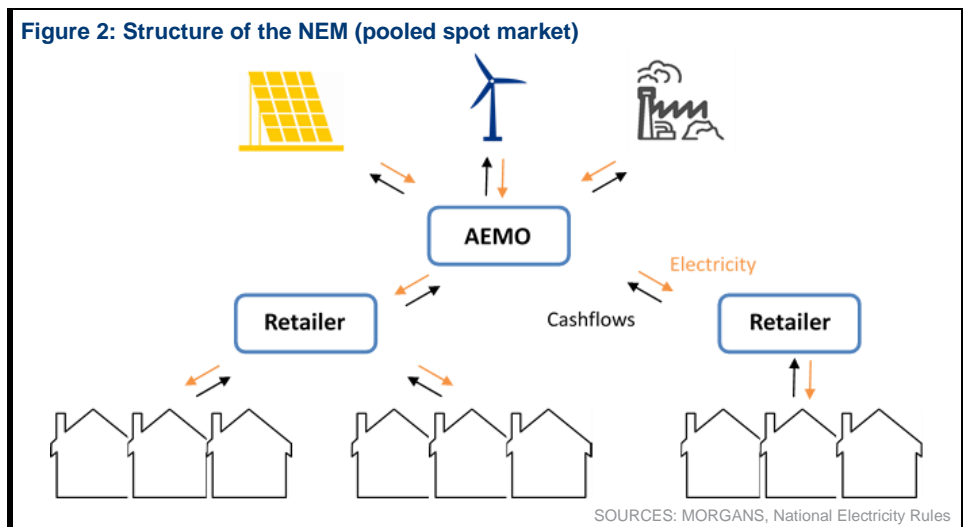
Genex – Smart and simple storage

The market

The National Electricity Market (NEM)

Genex is developing its energy projects to sell energy and storage in the National Electricity Market. The National Electricity Market is a pooled, energy-only market that facilitates the trading of wholesale electricity across the Eastern seaboard of Australia (QLD, NSW, Vic, Tas, SA). A pooled market is one where all electricity generated is sold to the market operator (AEMO) who then sell it to the retailers. Unlike some other energy markets overseas (UK, most states in the US) the NEM only directly facilitates marketing of spot energy; generation capacity and storage must be marketed via financial contracts or via Power Purchase Agreements (PPA). Financial contracts are traded on the ASX (<https://www.asxenergy.com.au>) or directly between parties.

Figure 2: Structure of the NEM (pooled spot market)

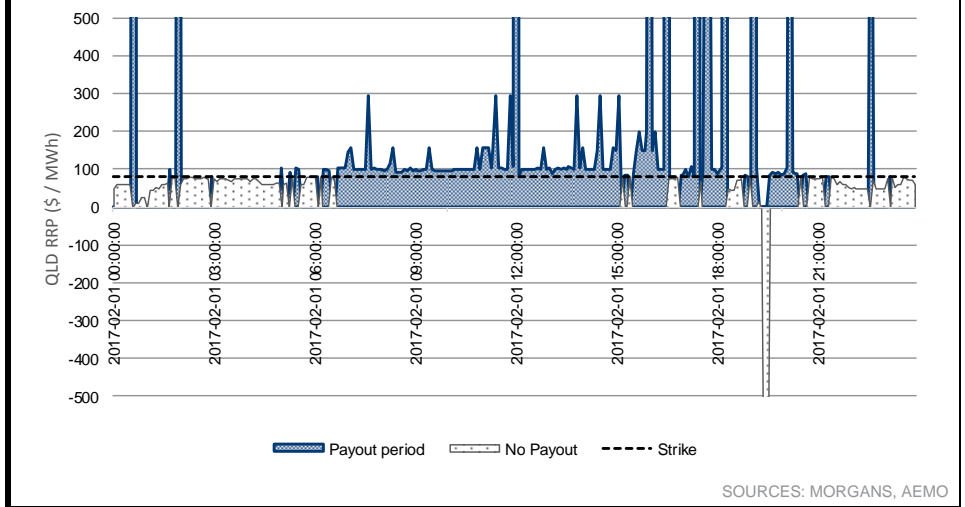


Spot prices in the NEM are almost entirely determined by generators. Generators place bids for their energy every five minutes against the demand aggregated by AEMO. The lowest priced energy to meet the required demand is then dispatched over the next five minutes. Buyers of energy have very little influence to set price because demand is aggregated and the price is taken from the suppliers. The market is structured this way because electricity is so hard to store so generators are strongly incentivised by short duration high prices to keep the power flowing without interruption. These price spikes are what drive the market for financial contracts used to sell generation capacity and storage.

Financial contracts to sell capacity or storage are usually known as caps and typically have the following features:

- A strike price similar to a call option
- The buyer pays a fixed fee to the seller like a call option premium
- If the spot price (in the pooled market) is higher than the strike price, value accrues to the buyer
- Value is calculated every trading interval (every thirty-minute or, from 1 July 2021, every five-minute interval the price is compared to the strike price)

Figure 3: Payout example for \$80 strike with undercap (QLD 2 Feb 17)



Historically the owners and developers of fast start plant (typically OCGT gas plants) have financed their projects by selling long term contracts (usually between 10 - 15 years' duration) so that they have a steady income stream to service debt. Given the age of most OCGT plants, any contracts that may have been used to finance them are likely to be expiring within the next five years. These plants are unlikely to be able to offer contracts under similar terms for two significant reasons: the cost of fuel has increased dramatically since they were constructed and the change to a five-minute settlement period will drastically curtail OCGT's ability to cover price spikes.

Figure 4: Age of QLD Open Cycle Gas Turbine plants

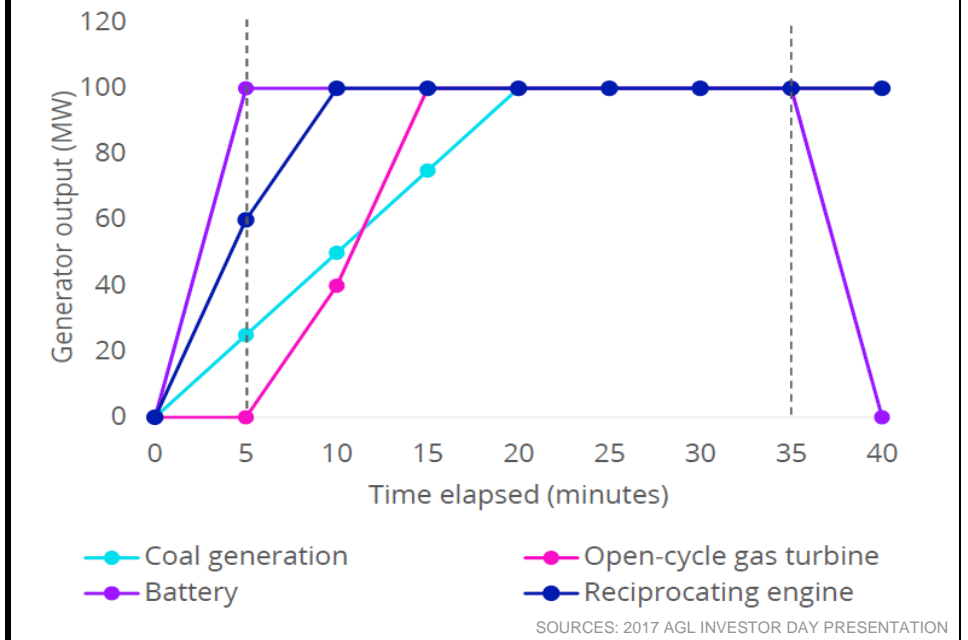
Plant	Fuel Type	Capacity	Owner	Commissioned	Age
Yabulu	Gas (OCGT)	160	AGL	1999	19
Braemar 2	Gas (OCGT)	519	Arrow	2009	9
Braemar 1	Gas (OCGT)	504	Alinta	2006	12
Oakey	Gas (OCGT)	282	ERM	1999	19
Mt Stuart	Jet fuel (OCGT)	419	Origin	1998	20

SOURCES: MORGANS, COMPANY REPORTS

Regulation changes

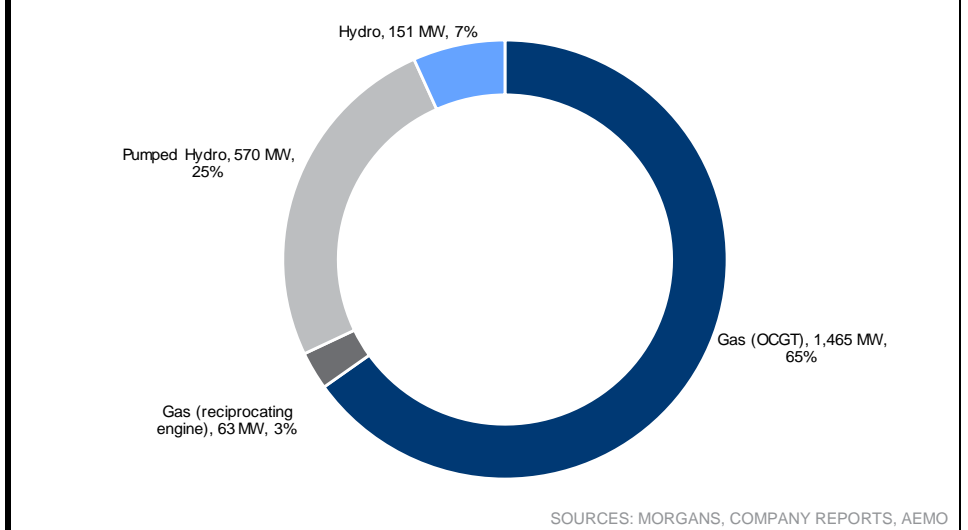
So much attention has been paid to the National Energy Guarantee that the market may have missed the implications of some of the other significant rule changes due to come into effect in the next three years. The most significant change is the move to five-minute settlement periods instead of the current thirty-minute trading period. The value of Genex's pumped hydro project stands in stark contrast to existing gas fired turbines (see Figure 5: Indicative start times by technology) which will no longer be able to capture the value of short duration price spikes from a cold start. Open Cycle Gas Turbines (OCGT) require up to fifteen minutes to ramp up to full output from a stopped state whereas hydro generation can typically ramp up to full output within five minutes and can continue to operate for hours.

Figure 5: Indicative start times by technology



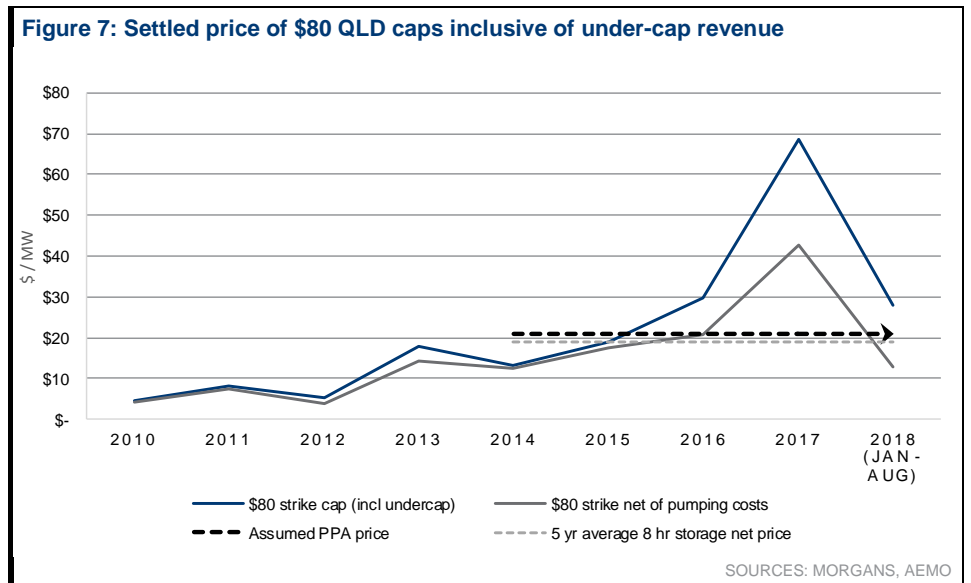
The bulk of Queensland’s peaking plants utilise OCGT technology (see Figure 6: Capacity of peaking plant in QLD by technology). The change to five minute settlements opens a large opportunity for new storage assets to displace OCGT plants as the key source of fast start peaking generation capacity.

Figure 6: Capacity of peaking plant in QLD by technology (ex < 50MW installations)



Increasing Price Volatility

Volatility in electricity prices has grown considerably since 2014 (see Figure 7). There are numerous possible causes for this: increasing cost of gas fuel for peaking generation following the ramp up of the three QLD LNG plants (2014-2016), market concentration of large generators, the increasing age of the coal fleet and the increasing share of Variable Renewable Energy (VRE) generation among other reasons. Figure 7 shows the \$80 strike settled price with under-cap revenue which we believe is a good proxy for the revenue a pumped hydro storage asset (K2H) could typically achieve. Also shown is the margin achievable after overnight pumping costs have been taken into account to refill the reservoir. Higher volatility in the spot electricity price leads to higher cap prices and therefore higher potential margins from storage assets.



There is a significant amount of new renewable energy generation in Queensland due to enter the market over the next three years. The Queensland Government has also set an ambitious target for Queensland to source 50% of its energy needs from renewable energy by 2030. In other regions in Australia when the market share of Variable Renewable Energy (VRE) increases the electricity price volatility typically increases significantly as well. These trends suggest that volatility of the electricity price will continue to be a crucial issue unless storage projects can be built to shift VRE production to align with demand.

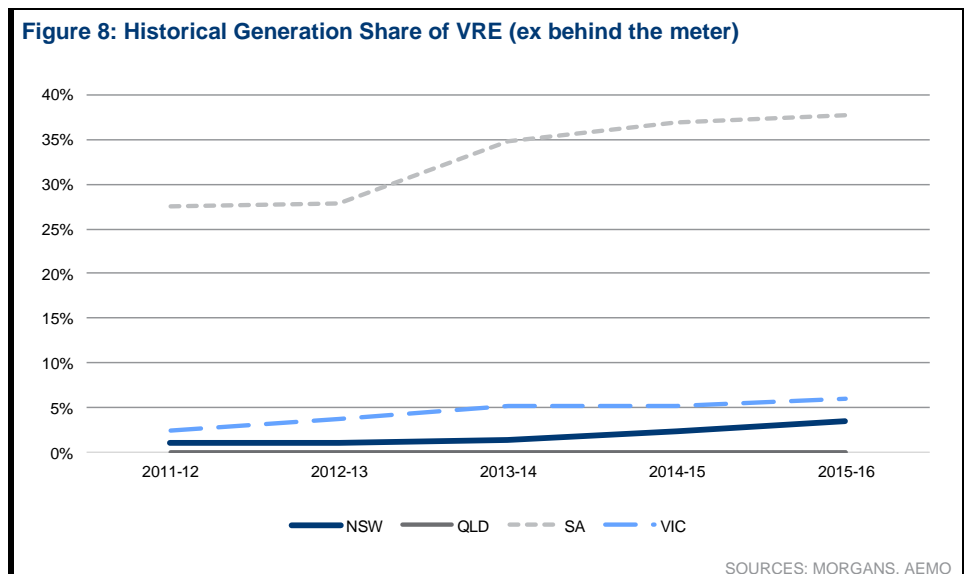


Figure 9: AEMO Neutral Case Forecasts of Generation Capacity

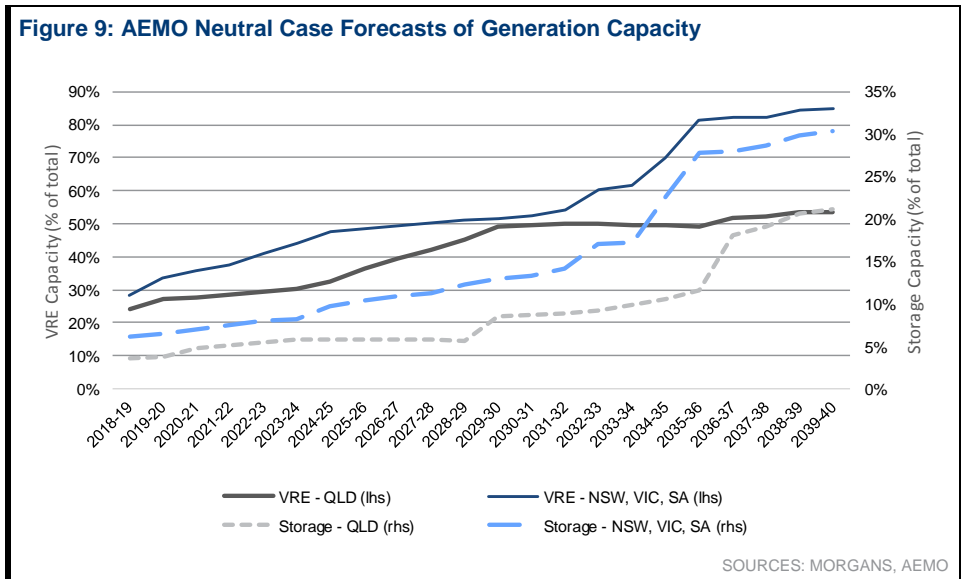


Figure 8 and Figure 9 show the low reliance on VRE that Queensland has historically had compared to AEMO’s forecasts showing a much higher reliance of renewables in line with other states. The forecasts also show a slow uptake of storage which would typically point to a more volatile price. Figure 10 shows the recent history of cap contracts for other regions in the NEM. South Australia is the state with the highest reliance on renewables which shows a significantly higher volatility reflected in the cap price. Following the Hazelwood power station closure in 2017 the shift to a higher share of renewable energy can also be seen in Victoria’s higher cap price.

Figure 10: Settled price of \$80 strike caps inclusive of under-cap revenue

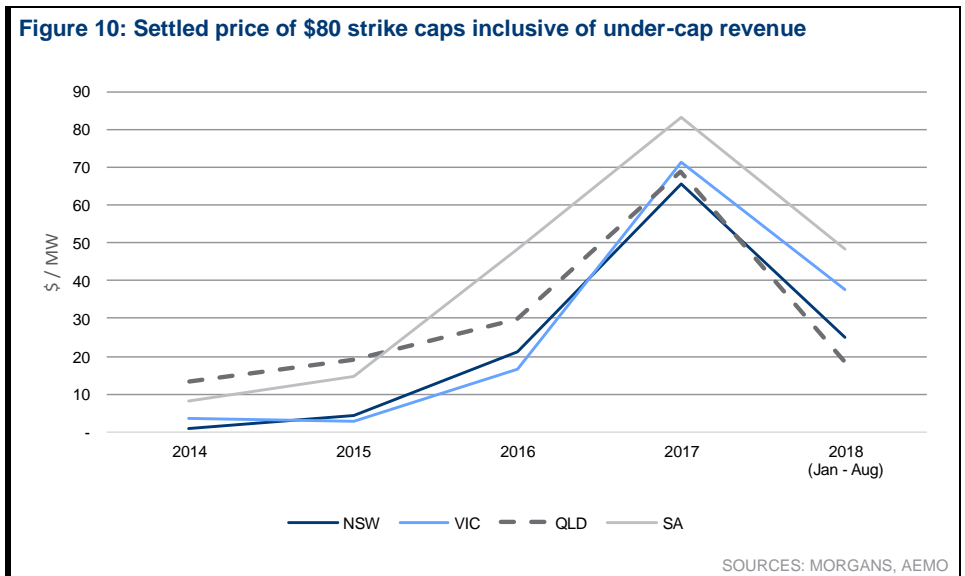
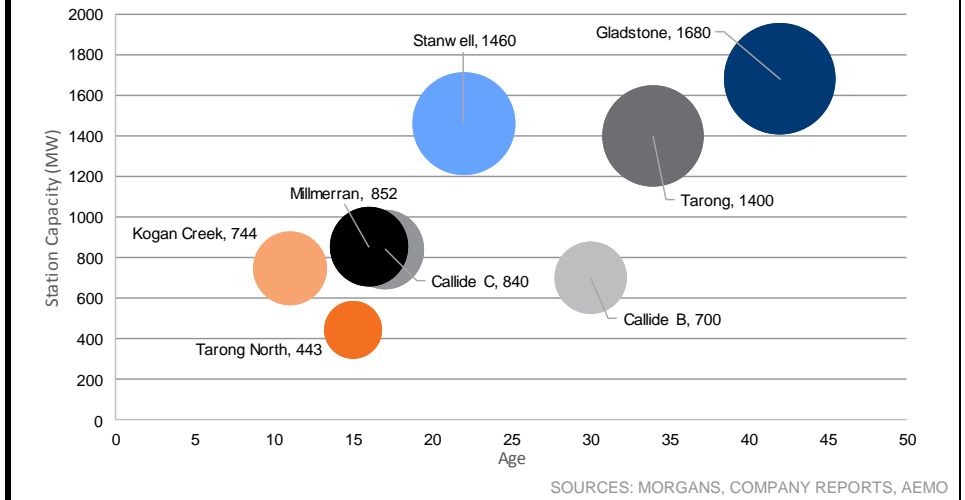


Figure 11: Age and capacity of QLD's coal fleet



While there have been no firm commitments to coal plant closures yet in QLD Figure 11 shows the increasing age of the generation fleet which will likely mean decreased reliability than what the market has been used to. When large chunks of generation are taken out of the market unexpectedly due to station trips the wholesale spot price will inevitably shoot higher, quite often to the market price cap (currently \$14,200 / MWh indexed with CPI from 1 Jul 2017).

Where does Pumped Hydro fit in this context?

Pumped hydro will likely capture significant market share from existing OCGT plants as the key provider of fast start generation capacity. The alignment of high gas prices, increased renewables generation and ageing baseload generation points to increasing volatility over time and the need for storage. Pumped hydro assets make money by selling electricity into higher priced periods and then buying electricity when it's cheap so increasing volatility increases their value. Alternatively, these assets can make money for the asset owner by selling the flexibility and optionality to a third party by a financial contract or a PPA. Either way the underlying driver of value, spot price volatility, is the same and the average revenue generated by these assets would be calculated the same way.

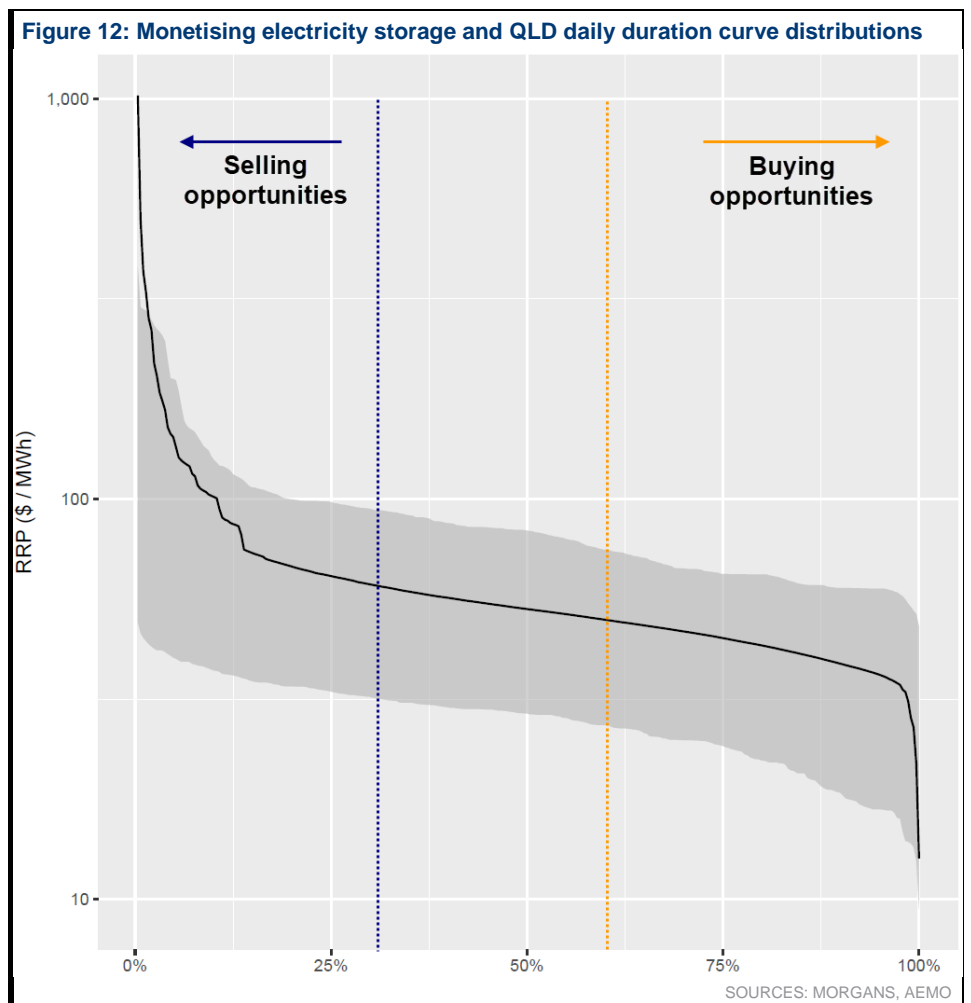


Figure 12 above shows the average power price (black line) in Queensland over the last 5 years ranked from the highest price to the lowest price in the day. The shaded grey area indicates the typical spread of prices (90th percentile to the 10th percentile). We've plotted the price in log format to make the distribution easier to see. While that sounds very technical what investors can take from that is there are a number of very high priced periods with a larger number of lower priced periods where pumped hydro generation has the opportunity but not the obligation (like an option) to sell and buy electricity. The rolling 5 yr average margin achievable in QLD by selling the top 33% and buying the bottom 42% is ~\$19 / MWh (margin averaged across the full year, i.e. 8760 hours).

The company

Projects Summary

Genex has recently completed the K1 solar project and is progressing several projects to development within the next five years as well as future growth options (see Figure 13 and Figure 14).

Figure 13: GNX Project pipeline

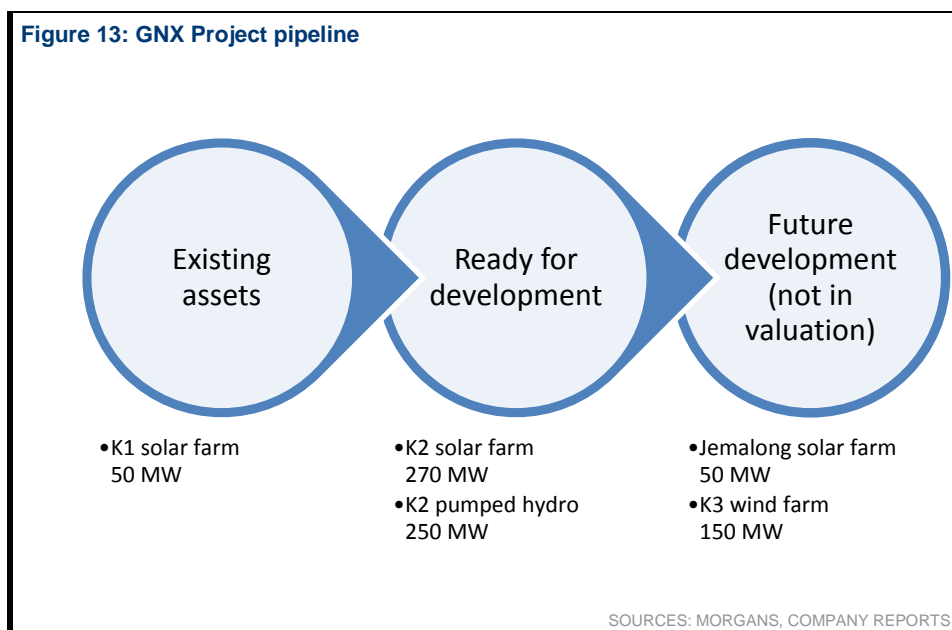


Figure 14: Project Assumptions

Project	Nameplate capacity (MW)	Capacity Factor	Annual Volume (GWh)	Price (\$ / MWh)	Asset Life	Estimated capex remaining (\$ m)
K1	50	33%	145	88.0	30	-
K2S Solar	270	33%	781	60.0	30	500
K2H Pumped Hydro	250	10% - 33%	2,190	20.9	80	294
K2 Transmission line	N/A	N/A	N/A	N/A	80	100

SOURCES: MORGANS, COMPANY REPORTS

K1 – 50MW solar

The K1 solar project is a 50 MW solar plant located next to the old Kidston gold mine in northern Queensland and was completed in H1 2018. The output (both electricity and LGCs) from this plant has been contracted for 20 years to the Queensland government. The solar panels are First Solar single axis tracking panels (Generation 4). The estimated capacity factor for these panels is approximately 33%.

K2S – 270MW solar

We have assumed that the K2S solar project likely be installed in two stages, the first being 165 MW and then an additional 105 MW later. The project will be located adjacent to the K1 project. We have estimated that, assuming financial close is achieved in 2018, the first tranche of solar panels will be operational by July 2020 with the second tranche to be completed a year later. GNX have indicated they are likely to use a similar single-axis tracking system to KS1. We have assumed that the capacity factor will be the same as the KS1 project. However the Marginal Loss Factor (MLF) for K2S will be lower than KS1. MLFs are used to take into account transmission losses between the energy generator and end user. AEMO's current MLF for Kidston is 0.8842. This issue doesn't affect KS1 as this risk has already been transferred to their offtake customer as part of their PPA.

We have estimated the capex required for this project based on IRENA's 2017 (International Renewable Energy Agency) cost estimate data and our key assumptions are summarised below:

- Capex cost rate = \$1851 / kw
- Opex cost rate = \$26 / kW / annum (estimate provided by GNX)
- Capacity factor = 33%
- Marginal Loss Factor = 0.8842 (latest AEMO assessment)
- PPA for first ten years' output at \$60 / MWh inclusive of both electricity production and green credits

K2H – 250MW pumped hydro

The K2H pumped hydro project will use a two reservoir system developed from old mining pits to store up to 2,000 MWh (8 hours at 100% power output of 250 MW) of energy. The project has received development approval and has been declared a “co-ordinated” project by the State Government.

We have estimated the capex investment required for this project by using a publicly available pumped hydro cost model published by the Australian National University (<http://re100.eng.anu.edu.au/research/re/phescost.php/>). We have modified the standard inputs by reducing the capex requirement for storage by a third to allow for the reduced requirement for earthworks given the existing mining pits.

Our K2H Pumped Hydro key assumptions:

- Capex cost rate = \$1176 / kw
- Opex cost rate = \$20 / kW / annum (inclusive of fixed and variable maintenance)
- Variable capacity factor but up to 33% (8 hours of storage)
- MLF = 1
- 80% round trip efficiency (10 hours of pumping for 8 hours of generation)
- PPA for first ten years' output at \$20.90 / MWh (10% uplift on rolling 5 yr average of estimated storage gross profits based in QLD)
- PH capacity pricing uplift of 25% post PPA (assumed PPA expires in 2032, two years after the Queensland Government's target of 50% renewable generation is achieved)

Jemalong solar

In September Genex announced their acquisition of the Jemalong project which is a 50 MW solar PV project located near the Jemalong township in central NSW. This project is at a very early stage of development and as GNX has not announced any details of the project (e.g. acquisition cost, capex requirement, offtake agreements, etc) we have not considered it in our valuation of the company.

K3W – wind generation

Genex has stated that they have a promising wind resource at their Kidston site which could be developed into a 150 MW wind farm. As this is still at concept stage only we have not included this in our valuation.

Corporate Structure

GNX has a number of subsidiary companies which are all equal to or more than 99.9% owned by GNX. These entities modelled as being consolidated with the parent company. The KS2 project however will be structured in a separate entity (the SPV) which will be marketed to a third party investor to fund the construction. GNX has indicated that up to 50% of the equity in the SPV will be sold to the third party and we have assumed this figure (50%) in our modelling. We have also assumed that 75% of our assumed staff costs and other corporate overheads will be passed through to the SPV given our assumption that GNX will be responsible for managing the assets.

Funding structure – GNX

GNX has taken on a significant amount of debt to construct the K1 project (86% net gearing at 30 June 2018). GNX will also need to raise more funds to support their equity investment in the K2 project and to effectively refinance the redemption of their convertible notes. We have assumed this will come in the form of an equity raising and revolving debt:

- \$40m equity raising in late 2018 / early 2019
- \$40m debt revolver expanding up to \$55m over 3 years at 6.5% p.a.
- \$85m outstanding KS1 debt and revolver refinance into new debt at 6.5% p.a. in 2023 with principal repaid by 2035 (year 18 of K1).

Funding structure – K2 SPV

GNX has said its target funding structure for the SPV will be made up of 75% debt and 25% equity. We have summarised our assumptions in Figure 15 given that target. A large portion of the debt has been conditionally approved already by the Northern Australia Infrastructure Fund (NAIF). This funding will be provided at a small premium to 30-year Australian Government bonds (currently yielding 3.16%) for a term up to 30 years. In addition to the NAIF loan a senior secured facility will be required to fund the balance not provided by equity. Our key assumptions for the SPV debt funding are:

- \$516m NAIF loan at 3.75% with a tenor of 20 years
- \$297m total senior debt at 5% with a tenor of 10 years

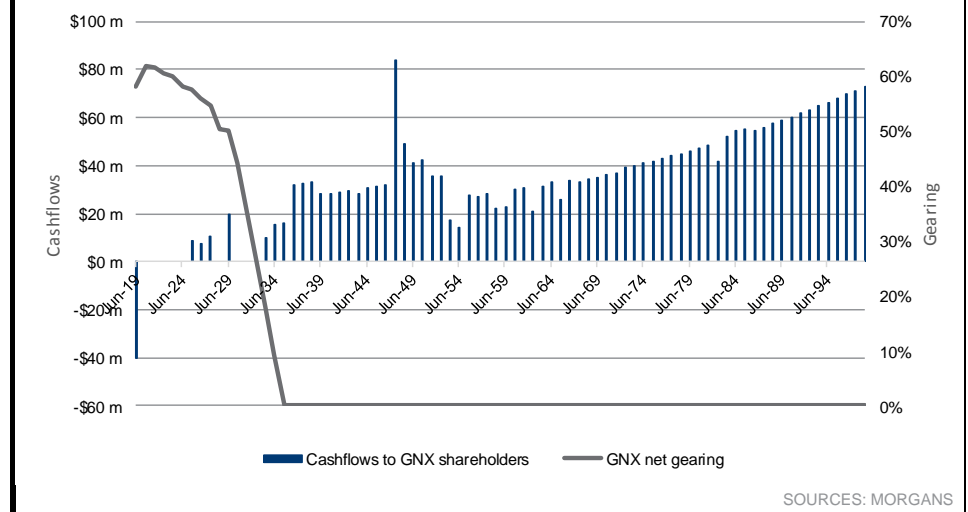
GNX has said it intends to raise equity in the SPV by attracting a third party investor in addition to GNX's additional cash contribution to the SPV. We have also assumed that GNX will be compensated for the value of the work done so far on the K2 project (e.g. pre-existing pits for the pumped hydro project) in the form of a free-carry in the SPV equity. We have estimated this amount to be \$50m based on adjustments to cost factors (storage capex reduced by a third) in the previously mentioned ANU cost model we've sourced as an independent estimate. Our key assumptions for the equity funding of the SPV are:

- \$55m initial GNX cash investment in SPV
- \$30m later GNX cash investment in SPV for second tranche of K2 solar
- \$50m free-carry in SPV equity for GNX (based on estimated revaluation of K2H asset for existing earthworks and development fee)
- \$105m initial third party cash investment in SPV
- \$30m later third party cash investment in SPV for second tranche of K2 solar

Figure 15: Summary of SPV funding assumptions

Funding source	GNX share	Third party investor share	SPV total (\$m)
Debt - NAIF		258	258
Senior Debt		148.5	148.5
Equity - cash invested tranche 1	55	105	160
Equity - cash invested tranche 2	30	30	60
Equity - revaluation of K2H	50	0	50
Total Debt		406.5	406.5
Total Equity	135	135	270
Debt / Debt + Equity			75%

SOURCES: MORGANS

Figure 16: Gearing ratio and Cashflows to shareholders


Valuation and risks

Valuation summary

- Base case GNX price target: 36 (cps)
- Bull case GNX price target: 55 (cps)
- Bear case GNX price target: 24 (cps)
- In each case our assumption is that K2 proceeds and is delivered successfully, if the K2 project isn't completed then we would value K1 and GNX at only at 5 cps.

Valuation methodology

We have modelled the available cash flow that could be distributed to shareholders while still maintaining the target gearing levels in both the listed entity (GNX) and the K2 Special Purpose Vehicle (SPV). A bull case and a bear case has been considered where the contract price of the K2 pumped hydro and future storage prices are increased / decreased by 20% respectively. We view the chance of the K2 project being constructed successfully as very likely given the considerable support being given to the project by both the federal and state governments on top of our analysis identifying the critical role that storage needs to play in the electricity market.

The key assumptions in the valuation are:

- $r_e = 8\%$
- $r_f = 3.5\%$
- *Equity Risk Premium* = 6%
- *inflation rate* = 2.5%
- *SPV target net gearing ratio* = $D/(D + E) < 75\%$
- *GNX target net gearing ratio* = $D/(D + E) < 75\%$

There are a number of factors that will affect the GNX share price. Figure 17 identifies the estimated effects of the pumped hydro contract price on our GNX valuation. The key risks to our valuation are:

- Pumped hydro contract price: correctly pricing a capacity contract for the pumped hydro project is difficult as there is no directly traded products to draw a price from. Figure 17 summarises the effect on the GNX share price to different K2 PH contract prices.
- Success of capital raising: if GNX is unable to successfully raise equity to complete financial close of the project either later this year or early next year then this would put the funding structure of K2 at risk and therefore the bulk of the equity value of GNX at risk as well. Alternatively, if GNX is unable to raise capital at a sufficient price then existing shareholders may be diluted.
- Repayment schedules on debt: the available cashflows for GNX shareholders will be significantly influenced by how quickly GNX must repay the principal on its debt. Being able to secure finance with an acceptable tenor is potentially more important than securing attractive rates so that shareholders don't have to wait too long before they can receive dividends.
- Interest rates: GNX's cost of interest will be affected by changes to rates both for its existing K1 loan (effectively a floating rate given the swap contract) and for debt for future construction.
- Loss factors: The revenue from GNX's future projects could be impacted by detrimental MLF determinations by AEMO in the future. GNX may be able to transfer this risk depending on how their offtake agreements will be structured.
- Changes to Australia's tax regime: Any changes to tax rules could have a significant effect on GNX given the capital intensity of the business. If the tax shields from early year losses are not accessible the value would be significantly impaired.

Figure 17: Sensitivity of GNX price to Pumped Hydro contract price

Factor compared to base case	PH contract price (\$ / MW)	GNX price (cps)	Upside / downside	
60%	12.54	13	-55%	
70%	14.63	16	-42%	
80%	16.72	24	-15%	
90%	18.81	30	7%	
100%	20.90	36	27%	
110%	22.99	45	57%	
120%	25.08	55	93%	
130%	27.17	68	138%	
140%	29.26	70	147%	

SOURCES: MORGANS

Queensland

Brisbane	+61 7 3334 4888
Stockbroking, Corporate Advice, Wealth Management	
Brisbane: Edward St	+61 7 3121 5677
Brisbane: Tynan	+61 7 3152 0600
Partners	
Brisbane: North Quay	+61 7 3245 5466
Bundaberg	+61 7 4153 1050
Cairns	+61 7 4222 0555
Caloundra	+61 7 5491 5422
Gladstone	+61 7 4972 8000
Gold Coast	+61 7 5581 5777
Ipswich/Springfield	+61 7 3202 3995
Kedron	+61 7 3350 9000
Mackay	+61 7 4957 3033
Milton	+61 7 3114 8600
Noosa	+61 7 5449 9511
Redcliffe	+61 7 3897 3999
Rockhampton	+61 7 4922 5855
Spring Hill	+61 7 3833 9333
Sunshine Coast	+61 7 5479 2757
Toowoomba	+61 7 4639 1277
Townsville	+61 7 4725 5787

New South Wales

Sydney	+61 2 9043 7900
Stockbroking, Corporate Advice, Wealth Management	
Sydney: Grosvenor	+61 2 8215 5000
Place	
Sydney: Reynolds	+61 2 9373 4452
Securities	
Sydney: Currency	+61 2 8216 5111
House	
Armidale	+61 2 6770 3300
Ballina	+61 2 6686 4144
Balmain	+61 2 8755 3333
Bowral	+61 2 4851 5555
Chatswood	+61 2 8116 1700
Coffs Harbour	+61 2 6651 5700
Gosford	+61 2 4325 0884
Hurstville	+61 2 8215 5079
Merimbula	+61 2 6495 2869
Mona Vale	+61 2 9998 4200
Neutral Bay	+61 2 8969 7500
Newcastle	+61 2 4926 4044
Orange	+61 2 6361 9166
Port Macquarie	+61 2 6583 1735
Scone	+61 2 6544 3144
Wollongong	+61 2 4227 3022

Victoria

Melbourne	+61 3 9947 4111
Stockbroking, Corporate Advice, Wealth Management	
Brighton	+61 3 9519 3555
Camberwell	+61 3 9813 2945
Domain	+61 3 9066 3200
Geelong	+61 3 5222 5128
Richmond	+61 3 9916 4000
South Yarra	+61 3 8762 1400
Southbank	+61 3 9037 9444
Traralgon	+61 3 5176 6055
Warrnambool	+61 3 5559 1500

Western Australia

West Perth	+61 8 6160 8700
Stockbroking, Corporate Advice, Wealth Management	
Perth	+61 8 6462 1999

South Australia

Adelaide	+61 8 8464 5000
Norwood	+61 8 8461 2800
Unley	+61 8 8155 4300

Australian Capital Territory

Canberra	+61 2 6232 4999
----------	-----------------

Northern Territory

Darwin	+61 8 8981 9555
--------	-----------------

Tasmania

Hobart	+61 3 6236 9000
--------	-----------------

Disclaimer

The information contained in this report is provided to you by Morgans Financial Limited as general advice only, and is made without consideration of an individual's relevant personal circumstances. Morgans Financial Limited ABN 49 010 669 726, its related bodies corporate, directors and officers, employees, authorised representatives and agents ("Morgans") do not accept any liability for any loss or damage arising from or in connection with any action taken or not taken on the basis of information contained in this report, or for any errors or omissions contained within. It is recommended that any persons who wish to act upon this report consult with their Morgans investment adviser before doing so. Those acting upon such information without advice do so entirely at their own risk.

This report was prepared as private communication to clients of Morgans and is not intended for public circulation, publication or for use by any third party. The contents of this report may not be reproduced in whole or in part without the prior written consent of Morgans. While this report is based on information from sources which Morgans believes are reliable, its accuracy and completeness cannot be guaranteed. Any opinions expressed reflect Morgans judgement at this date and are subject to change. Morgans is under no obligation to provide revised assessments in the event of changed circumstances. This report does not constitute an offer or invitation to purchase any securities and should not be relied upon in connection with any contract or commitment whatsoever.

Disclosure of interest

Morgans may from time to time hold an interest in any security referred to in this report and may, as principal or agent, sell such interests. Morgans may previously have acted as manager or co-manager of a public offering of any such securities. Morgans affiliates may provide or have provided banking services or corporate finance to the companies referred to in the report. The knowledge of affiliates concerning such services may not be reflected in this report. Morgans advises that it may earn brokerage, commissions, fees or other benefits and advantages, direct or indirect, in connection with the making of a recommendation or a dealing by a client in these securities. Some or all of Morgans Authorised Representatives may be remunerated wholly or partly by way of commission.

Regulatory disclosures

Analyst owns shares in the following mentioned company(ies): N/A

Recommendation structure

For a full explanation of the recommendation structure, refer to our website at http://www.morgans.com.au/research_disclaimer

Research team

For analyst qualifications and experience, refer to our website at <http://www.morgans.com.au/research-and-markets/our-research-team>

Research coverage policy

For an overview on the stock selection process, refer to our website at <https://www.morgans.com.au/research-and-markets/company-analysis/Research-Coverage-Policy>

Research independence statement

<https://www.morgans.com.au/Research-Independence-Statement>

Stocks under coverage

For a full list of stocks under coverage, refer to our website at <http://www.morgans.com.au/research-and-markets/company-analysis/ASX100-Companies-under-coverage> and <http://www.morgans.com.au/research-and-markets/company-analysis/EX-100-Companies-under-coverage>

www.morgans.com.au

If you no longer wish to receive Morgans publications please contact your local Morgans branch or write to GPO Box 202 Brisbane QLD 4001 and include your account details.