



CORPORATE PRESENTATION

RENEWABLE ENERGY ON TAP



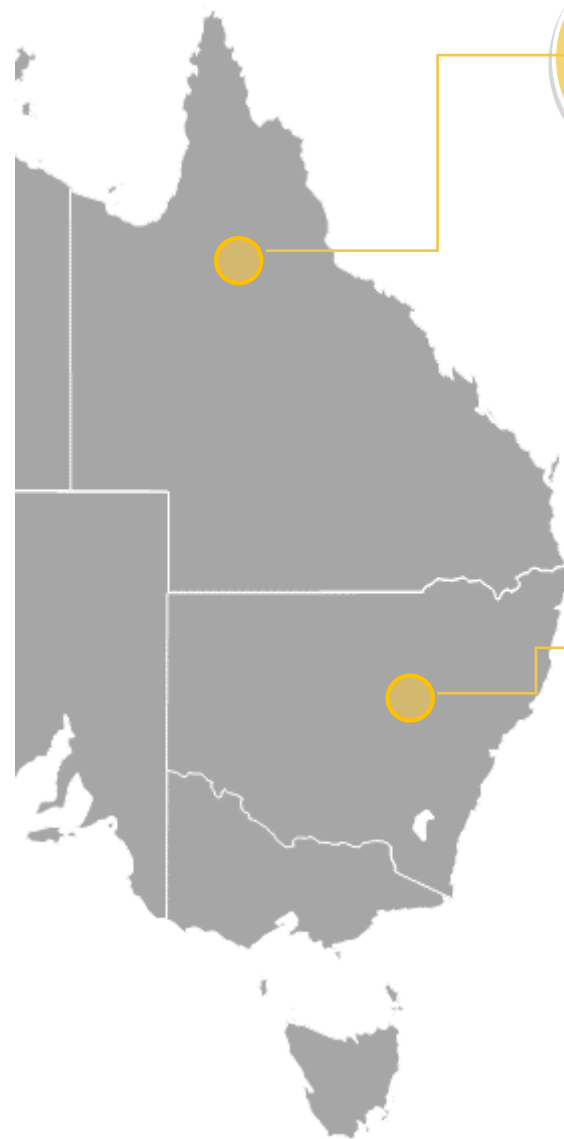
# Genex at a glance

## Renewable energy generation and energy storage

|                        |                          |
|------------------------|--------------------------|
| ASX code:              | GNX                      |
| Shares on issue:       | 401.8M                   |
| Market cap:            | \$104M                   |
| Cash (21.08.2019):     | \$18.8M                  |
| Undrawn ARENA:         | \$0.3M                   |
| Favourable Tax Ruling: | \$39.5M                  |
| Major Shareholders:    | Board & Management – 16% |
|                        | Asia Ecoenergy– 9%       |
|                        | Institutional – 26%      |
|                        | Other – 49%              |



\* Up to 19.99%, conditional upon hydro financial close



### Kidston Clean Energy Hub

- Stage 1: 50MW Kidston Solar Project
- Stage 2: 250MW Kidston Pumped Storage Hydro Project & Stage 2 Kidston Solar Project
- Stage 3: 150MW Kidston Wind Project

### Jemalong Solar

50MW Jemalong Solar Project

# Corporate Portfolio



## Kidston Stage 1

50MW Solar Project

## Status

Production  
(since 2017)

## Counterparty



## Revenue Model

20-year Government Revenue Guarantee  
Selling into National Energy Market.



## K2-Hydro

250MW Pumped Hydro Project  
(Genex 50% share)

## Status

Construction expected  
H2 CY19

## Counterparty



## Revenue Model

Long term rental over the pumped hydro assets. Genex has no exposure to energy prices through the project.



## K2-Solar

Up to 270MW Solar Project  
(Genex 100% share)

## Status

Feasibility

## Counterparty

To be confirmed

## Revenue Model

To be confirmed



## Kidston Stage 3

150MW Wind Project

## Status

Feasibility

## Counterparty

To be confirmed

## Revenue Model

To be confirmed



## Jemalong Solar

50MW Solar Project

## Status

Construction

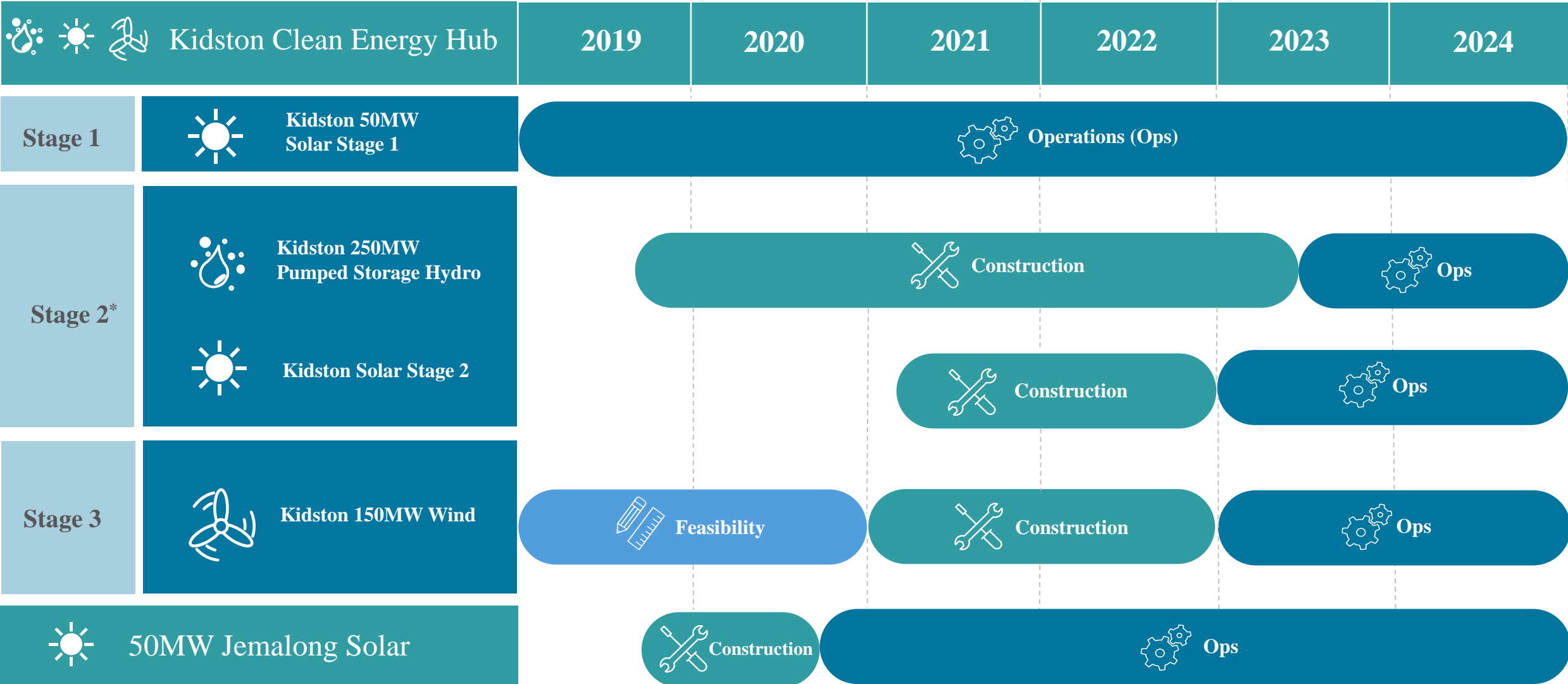
## Counterparty



## Revenue Model

Merchant/Spot

# Corporate Timeline



\*Includes the construction of a new 275kV transmission line

# Operational Highlights

For the year ending 30 June 2019

## KS1

- Operations and maintenance phase. Contract with UGL.
- 20 year revenue support with Queensland Government commenced.

## K2-Hydro

- Non-Binding term sheet with EnergyAustralia (December 2018).
  - Long term energy storage/revenue arrangements.
  - 50% investment into the project.
  - Documentation and approval process underway.
- \$610m NAIF debt facility.
- \$25 million conditional equity investment by J-POWER.
- Currently aiming to finalise the transmission line arrangements with Qld Gov/Powerlink.
- On track for K2-Hydro financial close H2 CY2019.

## Jemalong

- 50MW NSW solar project acquired.
- Connection, planning and land secured.
- Construction to commence September 2019 with first revenue late CY2020.












# Financial Highlights

For the year ending 30 June 2019

|  | 30 June<br>2018 | 30 June<br>2019 |  |
|--|-----------------|-----------------|--|
| <b>Revenue</b>                                 | <b>\$m</b>      | <b>\$m</b>      | <b>Comment</b>   |
| Sale of electricity and environmental products | 8.273           | 10.819          | 20 year revenue contract with Queensland Government.         |
| Other Income                                   | 1.667           | 4.800           | Includes liquidated damages from UGL (KS1 Project).          |
| <b>Total Revenue</b>                           | <b>9.940</b>    | <b>15.619</b>   |  |
| <b>Expenses</b>                                |                 |                 |  |
| Project & Site costs                           | (6.319)         | (6.455)         | Project development and site costs.                          |
| Depreciation                                   | (3.017)         | (6.369)         | KS1 depreciation costs.                                      |
| Admin  | (5.343)         | (3.576)         | Salary, office, fees and other.                              |
| <b>Total</b>                                   | <b>(14.679)</b> | <b>(16.400)</b> |  |
| EBITDA   | (1.722)         | 5.588           |  |
| EBIT   | (4.740)         | (0.781)         |  |
| Operating Profit (Loss)                        | <b>(4.740)</b>  | <b>(0.781)</b>  |  |
| Finance Costs                                  | (2.971)         | (4.922)         | Interest cost of KS1 senior debt facility.                   |
| Finance Income                                 | 0.250           | 0.225           | Interest income.   |
| Tax  | 0               | 0               |  |
| <b>Loss</b>                                    | <b>(7.461)</b>  | <b>(5.478)</b>  |  |
| <b>Cash flow</b>                               |                 |                 |  |
| Cash utilised from Operating Activities        | (6.103)         | 0.522           | Receipts from customers, payments to suppliers and interest. |
| Cash flow from Investing Activities            | (82.331)        | (12.343)        | KS1 completion of construction.                              |
| Cash flow from Financing Activities            | 88.340          | 4.289           | KS1 debt draw down.  |
| <b>Net cash increase</b>                       | <b>(0.94)</b>   | <b>(7.532)</b>  |  |
| <b>Balance Sheet</b>                           |                 |                 |  |
| Cash at Bank                                   | 10.994          | 3.463           | Excludes cash from June 2019 share placement.                |
| Project Debt                                   | 99.696          | 98.924          | Senior debt facility (KS1).                                  |



# Genex – Clean Energy Credentials

| Clean Energy Production | Total Generation (Per Year)  | Offsets CO2 production (Per Year)   | Houses Powered (Per Year)       |
|-------------------------|--|---|---------------------------------|
| 2019                    |  <b>KS1: 50MW</b><br>145,000MWh   |  <b>120,000t of CO2</b>                      | <b>26,500</b>                   |
| 2020                    |  <b>KS1: 50MW</b><br>145,000MWh<br> <b>Jemalong: 50MW</b><br>128,700MWh  |  <b>226,510t of CO2</b>                      | <b>50,000</b>                   |
| 2023                    |  <b>370MW</b><br>1,056,700MWh<br> <b>150MW</b><br>525,600MWh <sup>2.</sup><br> <b>250MW</b><br>730,000MWh <sup>1.</sup> |  <b>1,913,628t of CO2</b> <sup>1,2,3.</sup> | <b>240,000</b> <sup>1,2,3</sup> |

1. Assumes K2-Hydro dispatches once a day.  
 2. Based on a typical wind farm in the region with a capacity factor of 40%.  
 3. Assumes K2-Hydro pumps water using green energy.



# Market Transitions: Renewables & Storage

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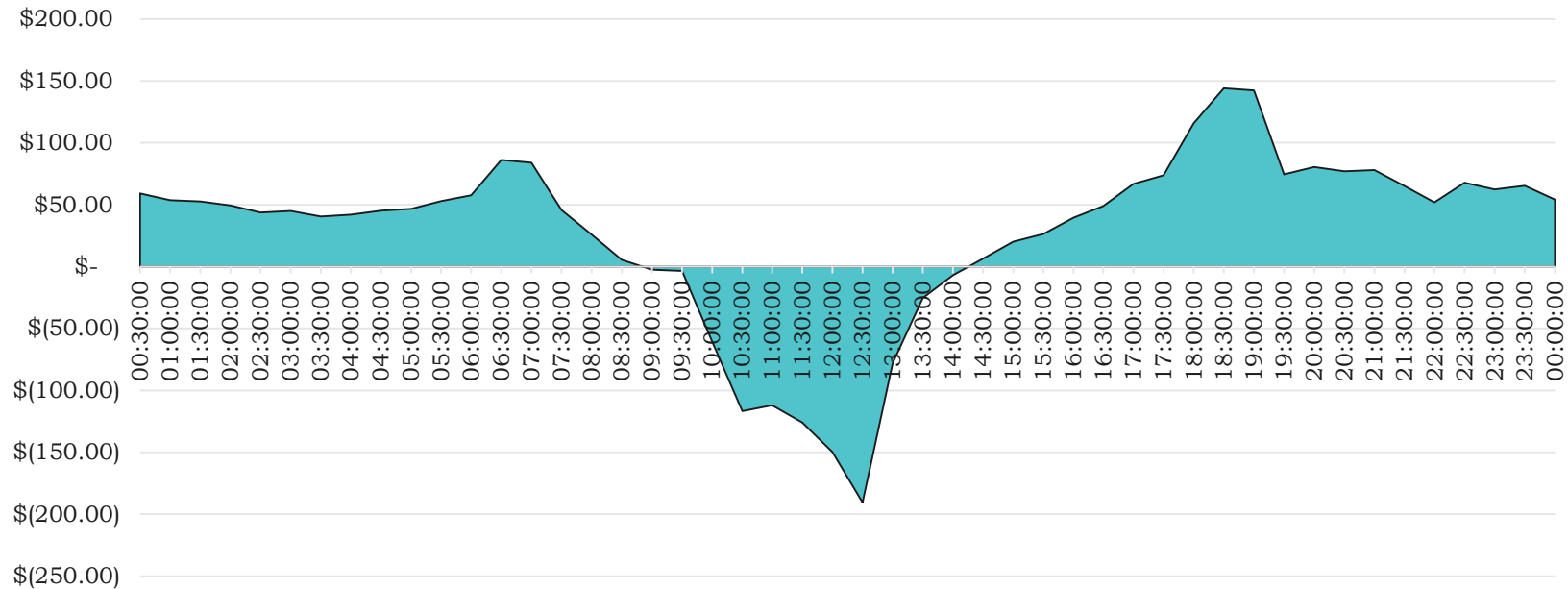




# Evolving Energy Market – The Need for Storage

- Growth of intermittent wind & solar creating volatility in the market and is having an impact on energy prices with recent periods of negative pricing.
- Need for low-cost, large-scale storage to help facilitate high penetration of renewables & to accomplish the Government’s renewable energy targets and reliability requirements.
- Pumped storage hydro is the most efficient form of energy storage available in the world.
- The shift in the National Energy Market (NEM) towards 5-minute settlement in 2021 likely to increase price volatility. Pumped hydro can ramp up in under 30 seconds to dispatch into 5 min pricing (gas closer to 15 minutes from cold start).

**Paid to Pump / Paid to Generate**  
Average Electricity Price in Qld week 1 September 2019



# Pumped Storage Hydro

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- Mature technology – in use for over 130 years, with > 200 projects worldwide.
- Lowest cost of energy storage available.
  - 250MW Kidston Project with up to 8 hours of storage is ~15x more affordable than the cost of equivalent lithium-ion battery storage.
- Peak power generator – able to dispatch into peak periods.
- Can be integrated with renewables.
  - Perfect component to firm intermittent & volatile renewable generation.
- 80+ year project lifespan.



# Lithium Batteries VS Pumped Storage Hydro

## Batteries

| Project   | Nameplate capacity (MW) | Storage capacity (MWh) | CAPEX \$M | CAPEX/MWH (\$/MWh) | Economic lifespan (years) |
|---|-------------------------|------------------------|-----------|--------------------|---------------------------|
| Hornsedale Power Reserve (SA) <sup>1</sup>          | 100                     | 129                    | 90        | 697,674            | 10-15                     |
| Gannawarra Energy Storage System (VIC) <sup>2</sup> | 25                      | 50                     | 37        | 740,000            | 10-15                     |
| Ballarat Energy Storage System (VIC) <sup>3</sup>   | 30                      | 30                     | 35        | 1,166,667          | 10-15                     |

## Pumped Storage Hydro

| Project                                    | Nameplate capacity (MW) | Storage capacity (MWh) | CAPEX \$M        | CAPEX/MWH (\$/MWh) | Economic lifespan (years) |
|--|-------------------------|------------------------|------------------|--------------------|---------------------------|
| 250MW Kidston Pumped Storage Hydro Project | 250                     | 2000                   | 466 <sup>4</sup> | 233,000            | 80+                       |

1. Reneweconomy – 21.09.18

2. Reneweconomy – 16.11.18

3. Reneweconomy – 19.10.18

4. Average of Morgan's (04/09/2019) & Baillieu's (11/06/2019) Broker Reports. Excludes Genex's contribution to the 275kV transmission line.



# Kidston Stage 1: 50MW Kidston Solar

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# 50MW Kidston Solar Project

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- Currently producing electricity into the National Electricity Market.
- 20-year Revenue Support Deed with Queensland Government.
- 145,000MWh per annum at full capacity.
  - Equivalent to 26,500 homes.
- 30-year project lifespan.
- Use of first-tier suppliers & contractors to mitigate risk (UGL, AECOM, First Solar, NEXTracker, SMA).



# 50MW Kidston Solar Project



**Queensland  
Government**

- 20-year Revenue Support Deed with Queensland State Government

|                         | FY 2018   | FY 2019    | FY 2020 to date | Cumulative |
|-------------------------|-----------|------------|-----------------|------------|
| <b>Generation (MWh)</b> | 52,220.15 | 126,759.19 | 21,676.60       | 200,655.93 |
| <b>Revenue (\$M)</b>    | 8.273     | 10.819     | 1.870           | 20.962     |

Table 1. KS1 generation and revenue figures – 1 December 2017 to 31 August 2019.

Notes to Table 1:

1. FY2018 revenue is for the period 1 December 2017 to 30 June 2018;
2. 'FY 2020 to date' only includes revenue from July & August 2019 and is unaudited;
3. Revenue comprised of energy and LGC sales up to and including 30 July 2018; and
4. Queensland Government Revenue Support Deed commenced 31 July 2018 with LGC revenue reverting to the Govt. from that date.



# **Kidston Stage 2: 250MW Pumped Storage Hydro Project**

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# 250MW Pumped Storage Hydro

- Strategic location given existing combination of abandoned gold mine and existing infrastructure.
- Feasibility complete, design optimized for up to 8 hours of peaking, dispatchable generation (2,000MWh).
- Water licence in place for external top-up if required.
- Integrated with Kidston Solar 2 – solar generated will result in low-cost intra-day pumping.
- Revenue will be generated from rental of the dam and associated infrastructure to EnergyAustralia. Genex will not have exposure to energy pricing through the project.
- Construction will see 500+ direct jobs generated through construction.
- Construction to commence 2H FY2019.
- Finalising arrangements with funding partners.





# K2-Hydro – Construction Ready



## Long-term energy offtake and 50% equity investor in the project

- Completing final due diligence.
- Commencing final investment approvals process.



## Funding partners arranged

- Long term \$610m concessional loan facility of \$610m from Northern Australian Infrastructure Facility.
- \$9m funding by ARENA.



## Genex equity investor

- \$25m share subscription agreement signed.
- Technical support.

## EPC Contractor/supplier of pump turbines

- Binding EPC Contract with final negotiations, Early Works Stage 1 completed.

## Transmission network service provider

- Will construct and operate new 275kV transmission line from Kidston to Mt Fox.
- Offer to Connect submitted.
- GPS approved.

## Critical infrastructure/coordinated project





Photo for illustrative purposes only

# Kidston Stage 2: 270MW Solar Project

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# Project specifications

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- Phased 270 MW development:
  - 165MW; and
  - 105MW staged over time.
- Ability to integrate with K2-Hydro Project.
  - Produces low-cost solar power that can drive pumping cycle.
  - When integrated will be world first renewable energy powered Pumped Storage Hydro Project.
- Co-located with K2-Hydro. Project to be funded and operated separately.
- UGL selected as preferred EPC Contractor following success on Solar Stage One.
- Development Approval received from local Council.





Artist's impression

# Kidston Stage 3: 150MW Wind Project

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# Project development

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- Stage 3 of the Kidston Clean Energy Hub.
- Globally unique integration of solar, wind and hydro.
- Dispatchable renewable energy on demand 24/7.
- Leverage existing infrastructure and co-location advantages.
- Land option secured, feasibility studies commenced.
- Diversification of renewable power with wind capable of generating clean power to pump the hydro through the night.
- Pre-feasibility works indicate excellent wind resource, utilizing naturally elevated escarpment measuring ~21km in length.





Artist's impression

# 50MW Jemalong Solar Project

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# Development milestones

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- Located 26km south-west of Forbes, NSW.
- Provides geographic diversity in GNX portfolio.
- 128,000MWh per annum forecast (P50).
- Status:
  - ✓ Land secured & Development Approval granted;
  - ✓ GPS approved;
  - ✓ Offer to Connect received;
  - ✓ Key advisors and consultants appointed;
  - ✓ BEON Energy Solutions selected as preferred EPC; and
  - ✓ Connection Agreement.
- Construction on track to commence H2CY2019.
- Potential to double Genex's revenue from 2020.





# Outlook

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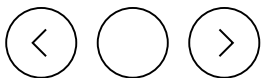




# Outlook

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- **KS1** steady state cash flow supported by long term contract.
  
- **Jemalong cash flow CY 2020**
  - Step change revenue growth on commissioning.
  - Funded with construction to commence September 2019.
  - Exposure to high merchant energy prices in NSW.
  - Potential to contract revenues in due course.
  
- **K2 Hydro**
  - On track to be first pump hydro project developed since 1980s.
  - Strong partners with J Power, NAIF and EnergyAustralia.
  - Funded with construction to commence CY 2019 pending board approvals and transmission line arrangements.
  
- Financing and management in place to execute growth.
  
- On track to become a **diversified renewable energy producer**.



# Board & Management



## **Dr. Ralph Craven (Chairman)**

- Chairman of Stanwell Corporation
- Director of Senex and AusNet Services
- Former CEO and Chairman of Ergon Energy
- Former CEO of Transpower New Zealand



## **Michael Addison (Director)**

- Founder of EndoCoal and Carabella
- Water Engineer with extensive finance experience



## **James Harding (Chief Executive Officer)**

- 30 years experience in international project business.
- Former head of Business Development in Abengoa Solar Power Australia & General Manager of Renewables with IPS Australia and MAN Ferrostaal.



## **Simon Kidston (Executive Director)**

- Founder of EndoCoal and Carabella
- Former banker with HSBC, Macquarie, Helmsec



## **Ben Guo (Finance Director)**

- 13 years finance and accounting experience with PWC, E&Y, Helmsec and Carabella Resources



## **Teresa Dyson (Non-Executive Director)**

- Director of Energy Queensland, Seven West Media & Energy Super, Power & Water Corporation
- Former Partner of Ashurst & Deloitte
- Member of FIRB and Takeovers Panel



## **Yongqing Yu (Non-Executive Director)**

- Engineering background with extensive global hydro experience
- Vice Chairman of Zhefu



## **Arran McGhie (Chief Operations Officer)**

- 20 years experience in senior project management roles for underground excavation and civil construction projects
- Management roles with Lend Lease, John Holland, CPB Contractors and Thiess



## **Craig Francis (General Manager - Commercial Finance)**

- Over 10 years investment banking and finance experience in Australia and the UK focusing on the energy and natural resources sectors



## **Justin Clyne (Company Secretary/Legal Counsel)**

- 15 years experience in the legal sector
- 10 years experience as a corporate governance specialist
- Director and Secretary of a number of listed & unlisted public companies



## **Harrison Holihan (Commercial Manager)**

- Bachelor of Science (Psych) – University of Sydney
- Undergraduate Certificate – Oxford University
- Masters in Environmental Science – Harvard University (Active)



## Contact

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**Simon Kidston** (Executive Director)

Tel: +612 9048 8852

Mob: 0414 785 009

Email: [sk@genexpower.com.au](mailto:sk@genexpower.com.au)

**James Harding** (Chief Executive Officer)

Tel: +612 9048 8855

Mob: 0439 139 179

Email: [jh@genexpower.com.au](mailto:jh@genexpower.com.au)



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