



Genex  
**Power**

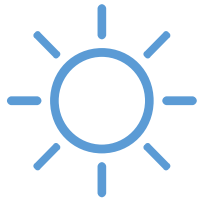
**...The future of energy**

# Investment Highlights



## Genex Power

- **Renewable energy generation & energy storage**
- **Transition towards low carbon economy creating opportunity**
- **Strong cash flows backed by Government contract**



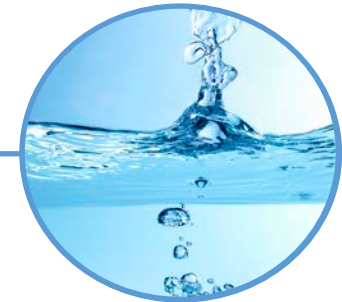
## Solar PV Project Phase One (50MW)

- 20 Year Government Revenue Guarantee
- Construction underway
- First cash flow Q4 2017



## Pumped Storage Hydro Project

- Feasibility completed
- 250MW peak generator/energy storage
- Potential to integrate with expanded 270MW Solar Project (Phase Two)



# Company Overview



**ASX Code:** GNX

**Shares on issue:** 287,707,764

**Market Cap:** \$69 million

**Cash:** \$10 million

**Solar Project Finance:** \$130 million

**Undrawn ARENA:** \$2 million (Hydro)

**Favourable Tax Ruling:** \$39.5 million

**Major Shareholders:** Board & Management – 19%  
Zhefu Hydropower – 11%  
Institutional – 18%  
Other – 52%



ARENA



Australian Government  
Australian Renewable Energy Agency



Queensland  
Government

# Clean Energy: Transition to a Low Carbon Economy

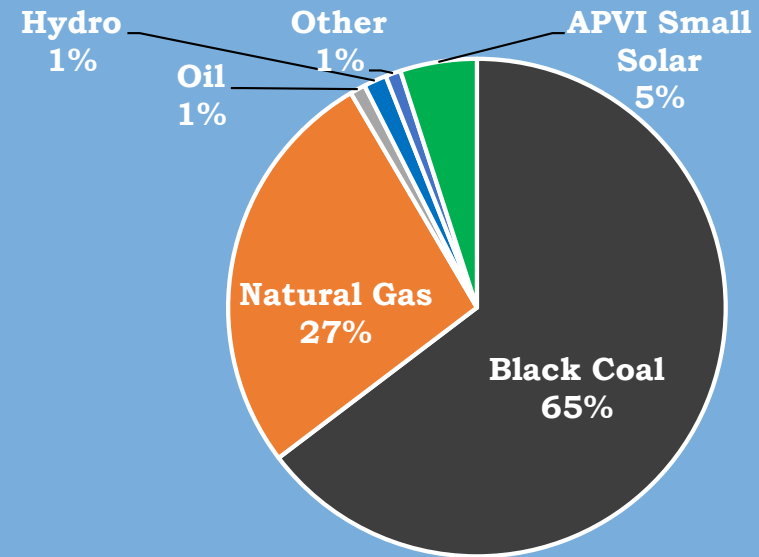
## Growth of renewable energy generation

- Intermittent generation creates volatility
- Need for large-scale energy storage
- Pumped storage integration with renewable generation (i.e. Kidston Solar Project)
- Increasing gas prices in QLD
- 50% renewable energy target in Queensland underpins positive macro environment

## Unique energy generation mix in Queensland

- Coal fired baseload
- Gas peaking power suffering from rising gas prices

## Queensland Energy Generation By Fuel Type



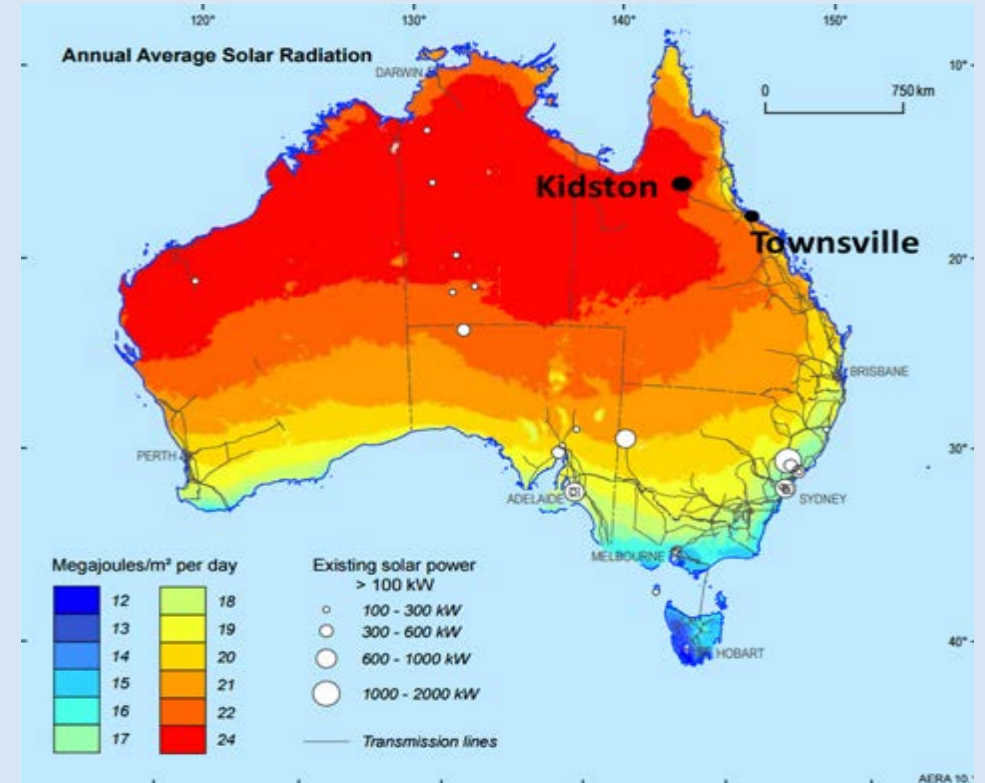
Source: Australian Government – Department of Industry, Innovation & Science, 2015 Report



## Location



Site Location & NEM Network



Average Solar Radiation - Source: Bureau of Meteorology

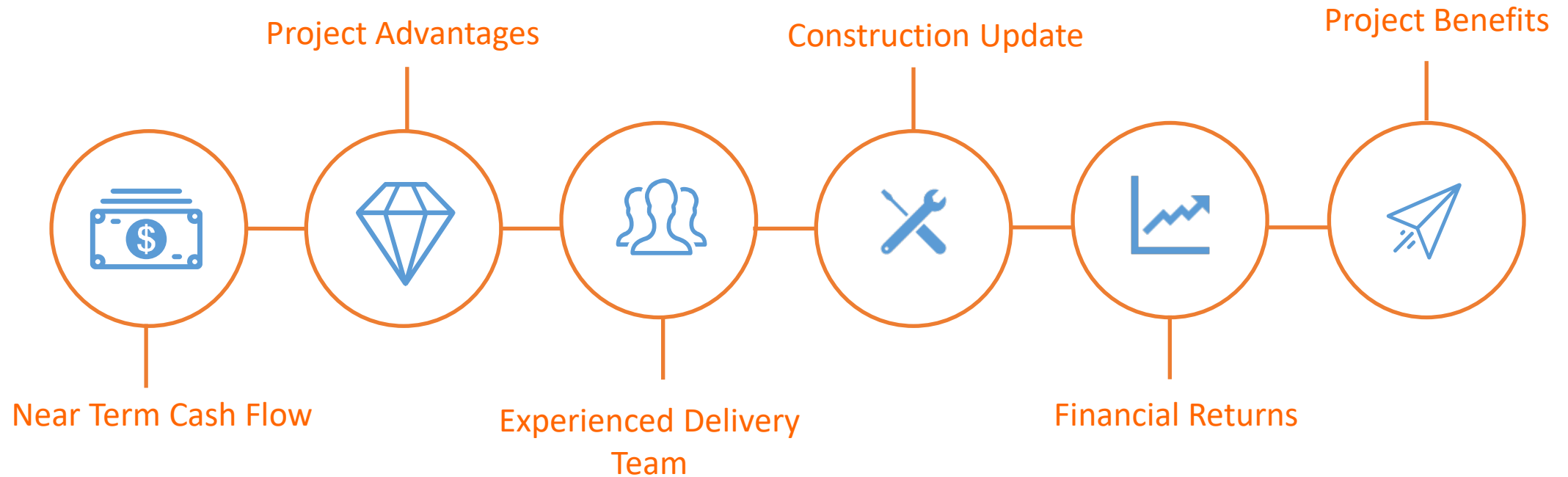
## Renewable Energy Hub



The Kidston Solar & Pumped Storage Hydro Project – Animation Design



## Kidston Solar PV Project Phase One (50MW)



# Kidston Solar PV Project Phase One (50MW) - Near Term Cash Flow



## Project Status

- ✓ Fixed price contract with UGL (EPC Contractor)
- ✓ Grid Connection secured (30 years)
- ✓ 20 Year Government Revenue Support Deed
- ✓ ARENA Grant
- ✓ Construction underway

## Key Project Parameters

AC System Capacity	50 MW
DC System Capacity	63 MW
Annual Generation	145,000 MWh
Capacity Factor (tracking)	>33%

- 50MW AC Solar Farm
- Located in North Queensland
- Highest solar resource in Australia connected to the NEM
- 30 year economic life
- 20 year Queensland Government Revenue Guarantee
- Strong local community support
- First generation 4Q 2017
- Co-located with large-scale pumped storage hydro project





# Kidston Solar PV Project Phase One (50MW) – Project Advantages



- Ideal site for large scale solar
  - ✓ The highest solar radiation region in Australia
  - ✓ The only solar project connect to grid in the 'red zone'
  - ✓ Consistent strong annual solar exposure
  - ✓ Good road access from Townsville & Cairns
  - ✓ Onsite accommodation camp
  - ✓ Good condition access road throughout the site
  - ✓ Co-located with Pumped Storage Hydro Project
- Existing substation & transmission line located adjacent to plant
- Remote community supportive of economic development



First Solar Inc – Photovoltaic Modules

# Kidston Solar PV Project Phase One (50MW) – Experienced Delivery Team

Company		Key Role(s)
	Genex (Solar) Pty Limited	Project Sponsor
	Australian Renewable Energy Agency	Funding Partner
	Power Purchase Support Deed	Offtake Partner / Financial Support Deed
	AECOM Australia Pty Ltd	Owner's Engineer and Technical Advisor
	UGL Engineering Pty Limited	EPC Contractor, Operations & Maintenance Contractor
	First Solar (Australia) Pty LTD	Thin-film PV Module Supplier
	Ergon Energy Corporation Limited	Distribution Connection
	Clean Energy Finance Corporation	Debt Provider
	Société Générale	Lead Debt Financing Arranger and Financial Advisor
	OST Energy	Lender's Independent Engineer for Due Diligence
	Baker & McKenzie	Legal Counsel
	PricewaterhouseCoopers Securities Limited	Tax Structuring Advisor



Construction underway at the Kidston Substation

## **Construction On Track:**

- First Generation – Q4 2017
- Practical Completion – Q1 2018

## **Construction Commenced:**

- Site clearing commenced
- Detailed design progression
- Construction camp operational with accommodation available for 84 personnel
- Kidston substation civil works nearing completion and on track for completion and handover to Ergon in April 2017
- Orders placed for major components including solar panel modules, tracking system frames and inverters



# Kidston Solar PV Project Phase One (50MW) – Financial Returns



## Financial Back-Test Model (2015 – 2017)

	12 months ended 28 Feb 2017	12 months ended 29 Feb 2016	12 months ended 28 Feb 2015
<b>Revenue</b>	\$16.8m	\$13.8m	\$14.1m
<b>EBITDA</b>	\$15.2m	\$12.2m	\$12.5m

Results are theoretical and based on anticipated generation and actual historical half-hour pricing data over the modelling period. These results are in no way an indication of future performance of the Project. EBITDA is at the Project level, and therefore before corporate overheads.

### Model Information:

- Based on historical NEM pricing data
- Assumption that the Project had been in operation over the full 36 month period to 28 February 2017



## **Environmental Benefits**

- 145,000 MWh of renewable energy per year
- Equivalent to powering 26,484 homes
- Will offset 120,000 tonnes of CO<sup>2</sup> per year
- Equivalent to removing approximately 33,000 cars off Australian roads



The Kidston Solar Project Animation

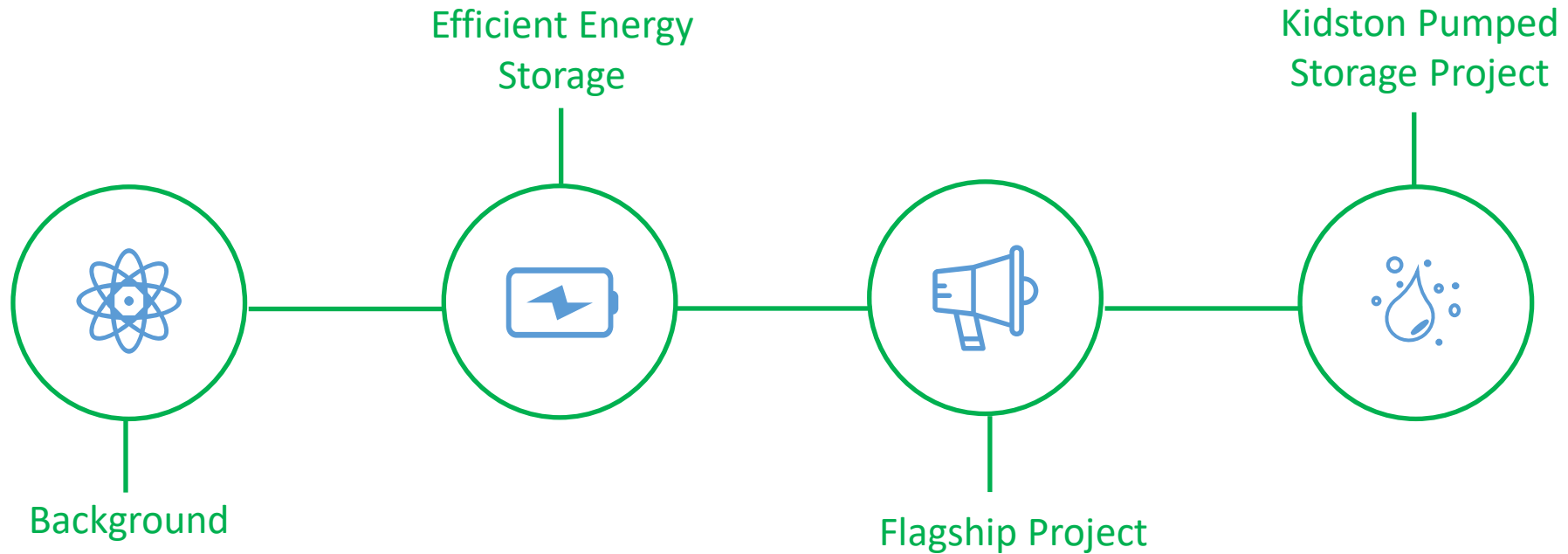
## **Financial Benefits**

- Strong and stable cash flow from Q4 2017
- Revenues circa \$16.8M & project EBITDA \$15.2M had the Project operated during the year ended Feb 2017
- Revenue underpinned by 20-year Queensland Government Guarantee (energy floor price)
- Long life project (more than 30 years)
- High solar yield & low project costs
- Plans to expand by an additional 270MW during Kidston Solar PV Project Phase Two
- Investment and jobs for far north Queensland
- Co-location with large scale hydroelectric energy storage

ARENA



# The Kidston Pumped Storage Hydro Project





## Background - What is Pumped Storage Hydro?



- Large volumes of water stored in an upper reservoir (i.e. potential energy)
- Water is released from the upper to the lower reservoir, passing through a turbine & generator system which generates energy
- Energy can be generated instantly, meaning periods of high consumer demand can be easily targeted
- Water is then pumped back from the lower to the upper reservoir during low demand periods when prices are lower

?



CS Energy (QLD Wivenhoe 500MW)

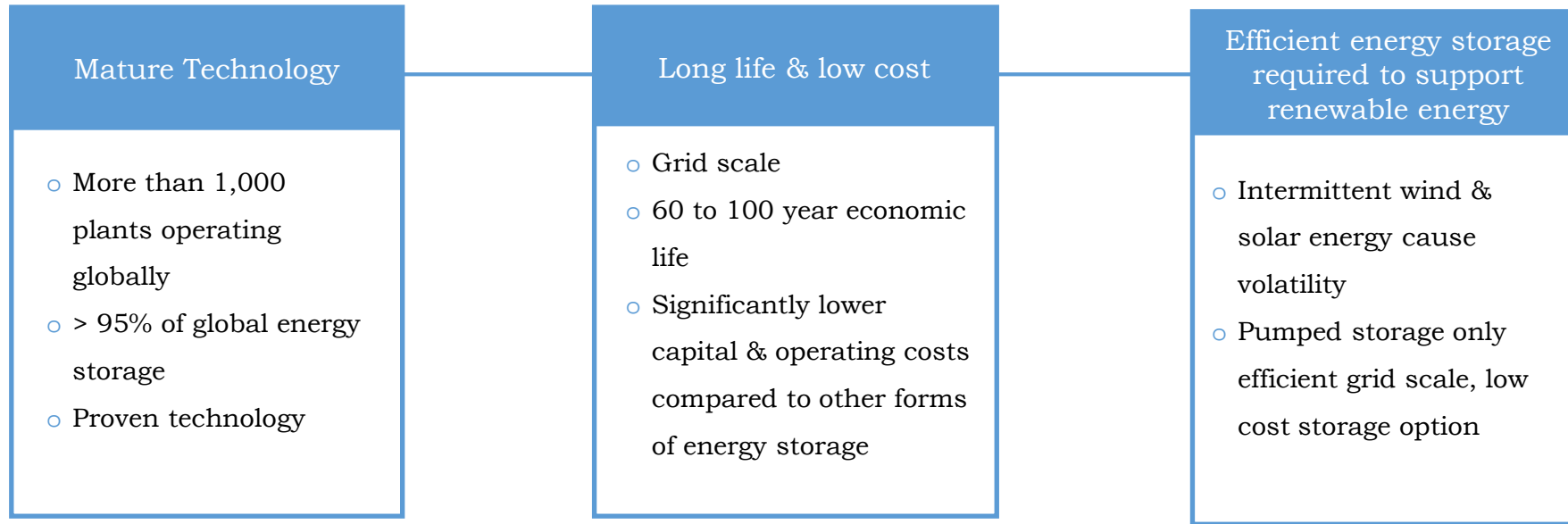


Origin Energy (NSW Shoalhaven 240MW)

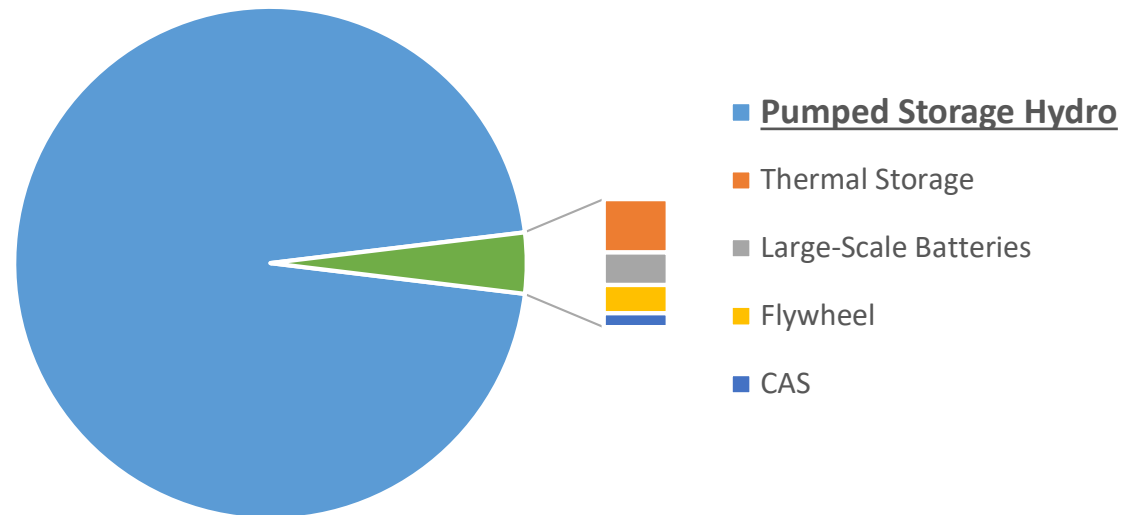


Snowy Hydro (NSW Tumut 3, 1500MW)

# Efficient Energy Storage - Pumped Storage Hydro



Source: International Energy Agency





The Kidston Site

## **The Kidston Site**

- 250MW nameplate capacity for 6 hours continuous generation
- Current focus is revenue contracting & project/partners finance
  
- Two large adjacent pits & elevated waste rock dump
  - 52ha & 54ha respectively
  - Lower Reservoir 270m deep
  - Approximately 400m apart at surface
  
- Site substantially rehabilitated since mine closure in 2001
- Water license in place for top up water
- Site 100% owned by Genex Power
- Site covers 1,237ha
- Technical feasibility completed
- Significant capital cost savings utilising mine infrastructure





## Generating Mode

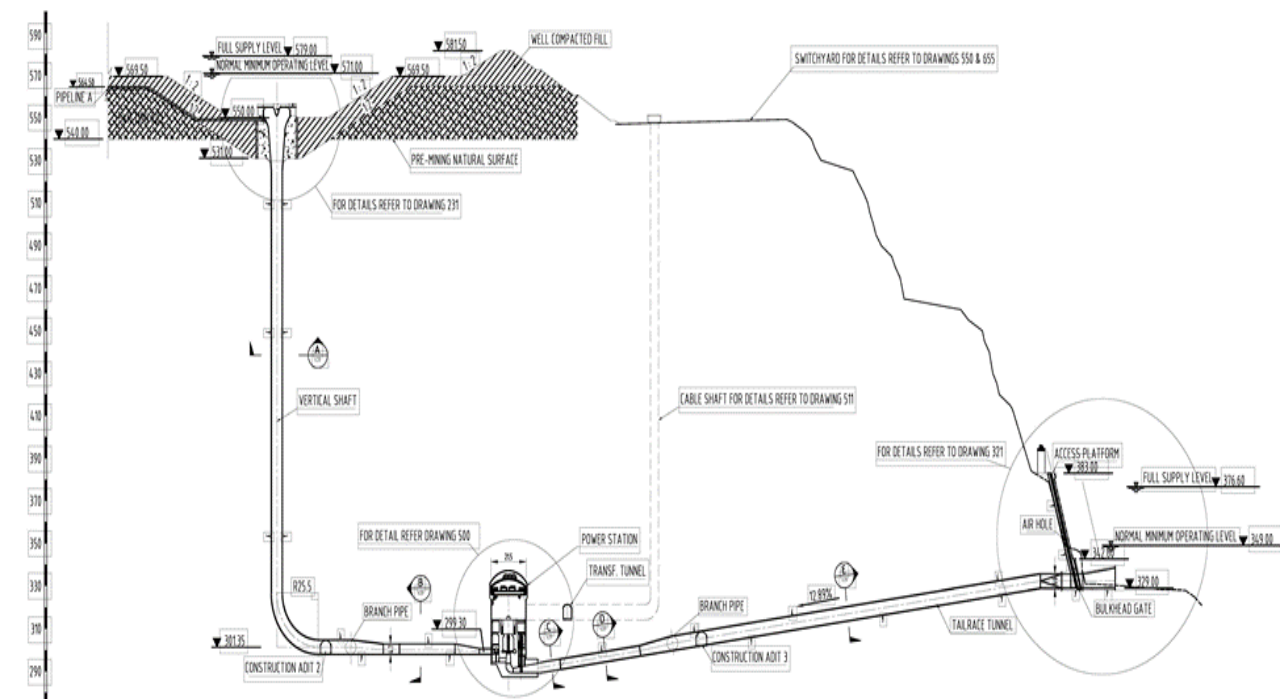
- During daily peaks
- Wholesale prices at their highest
- Water is released from upper reservoir to lower reservoir to generate electricity



## Pumping Mode

- During overnight off-peak & during the day through integrated solar project
- Wholesale prices at their lowest
- Power is drawn from the grid to pump water up to the upper reservoir





Technical Feasibility Design – Cross-Cut View



Technical Feasibility Design – Birds-Eye View



## **Key Metrics**

- Size: 1,500MWh
- Nameplate Capacity: 250MW
- Continuous Generation: 6 hours
- Generators: 2 x 125MW turbines

- Successful completion of the Kidston Hydro Project Technical Feasibility Study
- Focused on capital efficiency per installed MW
- Optimised design uses waste rock dump & existing reservoirs
  - reduction in the water level variance during the generation
  - increase in the average water head
  - elimination of water seepage
  - enables the Wises Pit to be utilised for excess water storage & water balancing
- Ongoing support from Australian Renewable Energy Agency (ARENA)
- Meaningful support from the Queensland State Government as a “Prescribed Project”

Copperfield Dam



Kidston Site

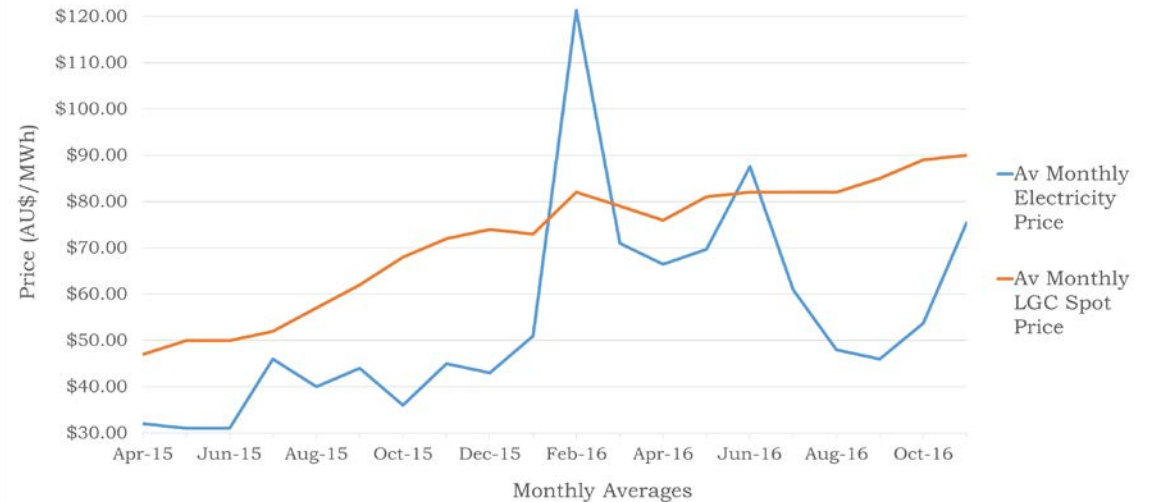




## Wholesale Electricity Prices

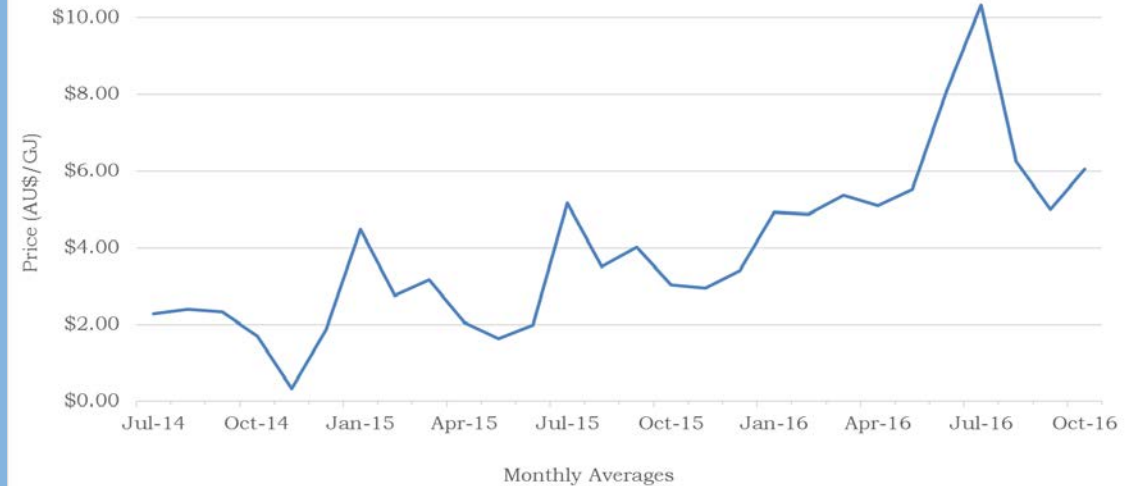
- QLD has much higher peak prices & more volatility compared with other states in the NEM
- Pricing volatility due to generation mix & reliance on gas for peak & shoulder power generation (increasing gas prices due to Gladstone LNG exports)
- QLD wholesale electricity prices expected to increase markedly over the next decade, driven by increasing generation fuel prices, increasing electricity demand & changing generation mix
- Peak & Off-Peak price differential expected to remain significant going forward
- LGC prices have increased significantly following the government decision on the Renewable Energy Target (RET)

Queensland Electricity Prices vs. LGC Spot Prices



Source: AEMO & Green Energy Markets as at 10/11/16

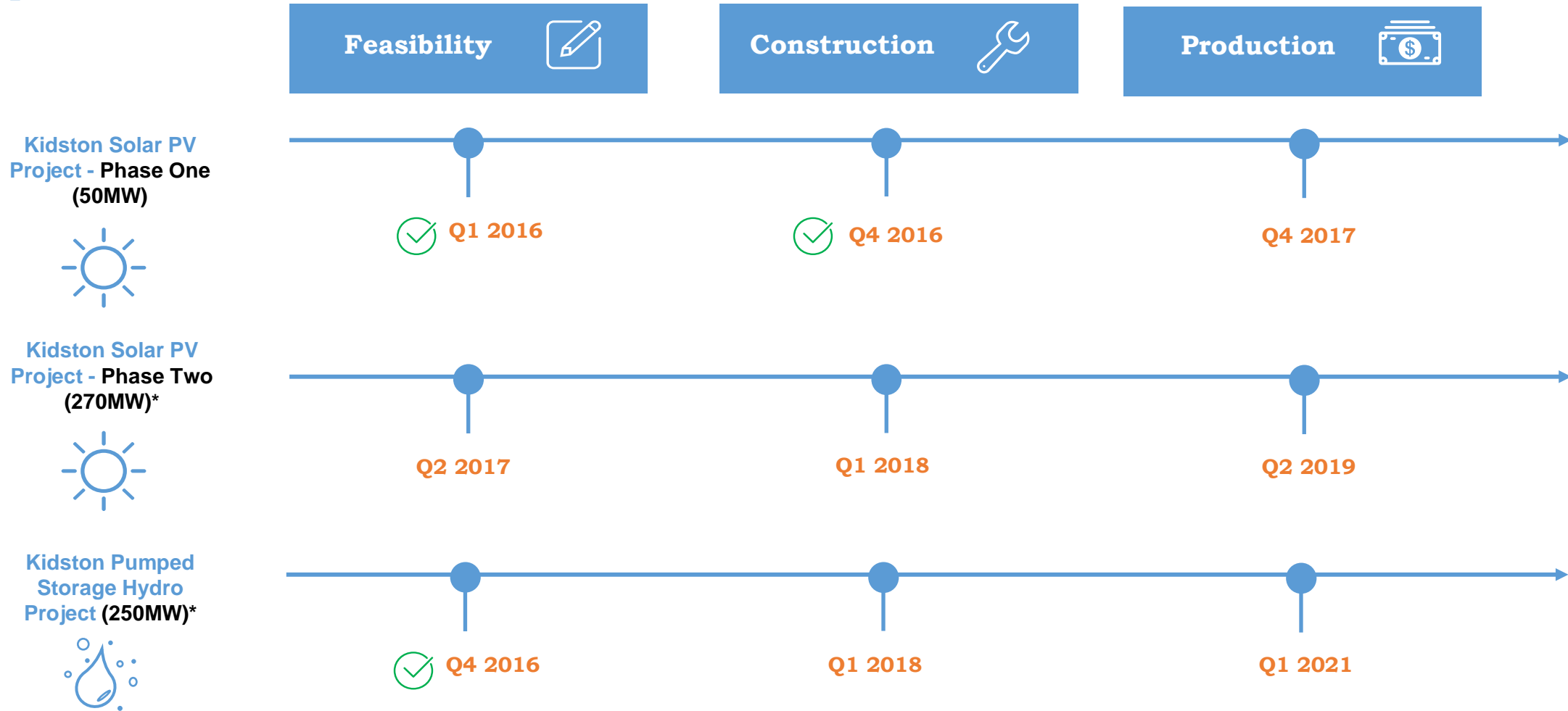
Queensland Gas Price (Average Half-Yearly SSTM)



Source: AEMO as at 10/11/16



# Development Timeline



# Board & Management



**Dr Ralph Craven**  
**Non Executive Chairman**

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



**Simon Kidston**  
**Executive Director**

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



**Michael Addison**  
**Managing Director**

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



**Ben Guo**  
**Finance Director**

- 10 years finance and accounting experience with PWC, E&Y Helmsec and more recently with Carabella Resources



**Alan du Mée**  
**Non Executive Director**

- Former CEO of Tarong Energy
- Former Chairman of the Australian National Generators Forum



**Arran McGhie**  
**COO General Manager**

- 20 years experience in senior project management roles for underground excavation and civil construction projects



**Yongqing Yu**  
**Non Executive Director**

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



**James Harding**  
**Executive General Manager**

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



**Justin Clyne**  
**Company Secretary/ Legal Counsel**

- Experienced lawyer & company secretary

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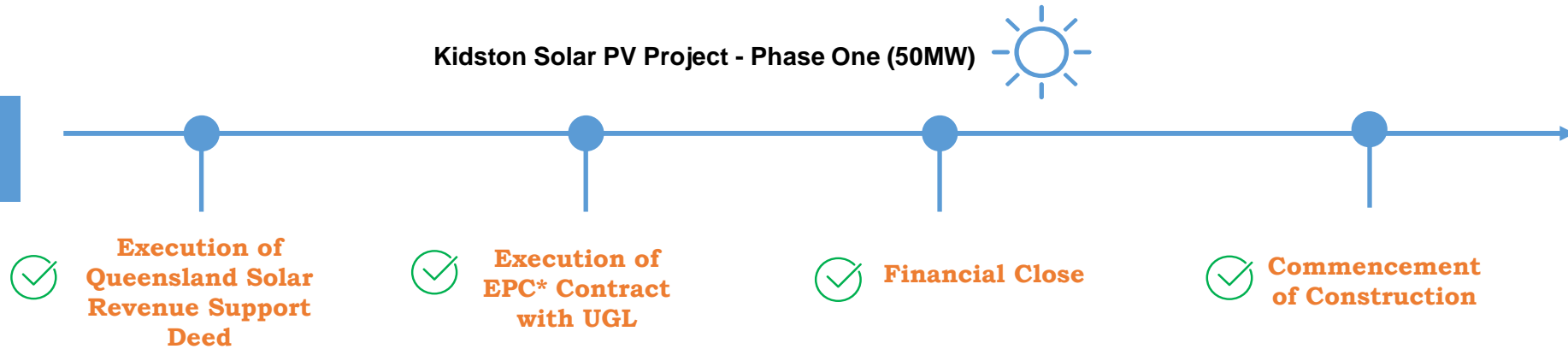


April 2017

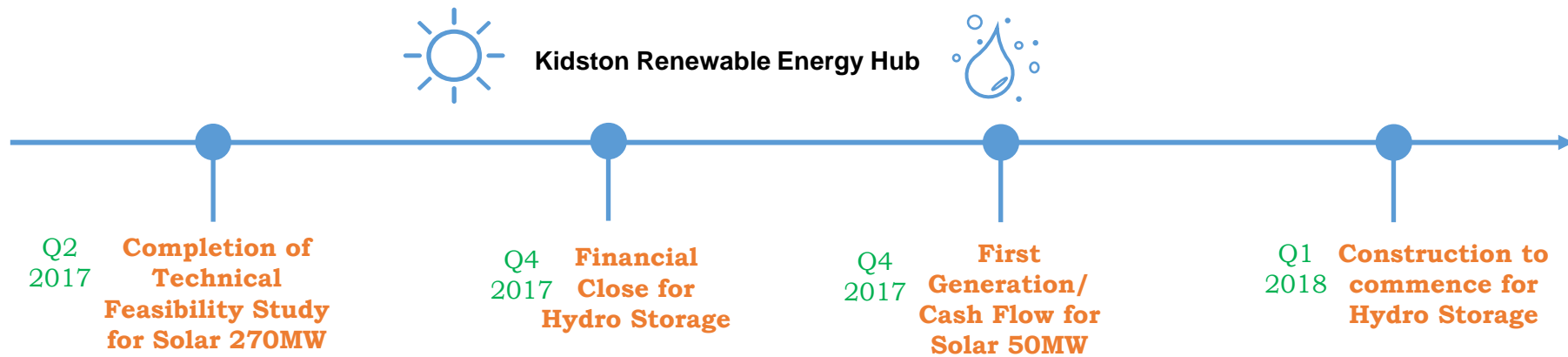


## Appendix A – Active News Flow

### Recent Milestones – (Kidston Solar 50MW)



### Upcoming Milestones



# Appendix B - Australian Solar Projects Comparison

	Kidston	Royalla	Moree	Nyngan	Broken Hill	Barcaldine
MWac	50	24	56	102	53	25
Capacity Factor	>33%	18%	30%	26%	27%	30%
Annual Generation (MWh)	>145,000	37,000	146,180	233,000	126,000	53,500
CAPEX (A\$m)	\$115m	\$50m	\$164m	\$290m	\$150m	\$69m
CAPEX/MWh	\$793	\$1,351	\$1,122	\$1,245	\$1,190	\$1,290
Racking	Tracking	Fixed	Tracking	Fixed	Fixed	Tracking
Household supplied*	>26,484	6,758	26,699	42,557	23,014	9,772

\*Based on average household energy use of 15kwh/day. Source: ARENA

Solar monitoring station at Kidston



## Appendix C - Attractive Solar Generation Profile

