



Sunshine Coast Solar Farm Project

Business Case Summary

May 2016

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Policy perspective: a mandate from the community

- **2009 ‘Regional Energy Opportunities’ Report**
 - Externally prepared
 - Considered: wind, wave, tidal, biogas, gas co-generation, biomass, solar thermal, solar PV and hydroelectric with solar PV most viable
- **2010 (June) – Council adopt ‘Climate Change & Peak Oil Strategy’***
 - Actions (8.3, 8.4, 8.5) include investigating the viability of alternative energy sites in rural areas
- **2010 (December) – Council adopt ‘Energy Transition Plan 2010-2020’***
 - *Action 11: ... allow renewable energy generation as a complement to primary production on rural land*
 - *Action 5: ... implement a clean energy solar program include facilitating large scale energy production and solar power stations*

**Underwent community consultation*

Policy perspective: a mandate from the community

- **2011 Development Application (MCU) for 909 Yandina-Coolum Rd***
 - MCU for a major solar PV utility
 - Negotiated Decision Notice issued August 2011
- **2013 (April) – Council adopt ‘*Rural Futures Strategy*’***
 - Informed/guided by Rural Futures Background Study which identified ‘fuel farms’ may emerge including solar ... as alternative rural area land use
- **2013 (December) – Council adopt ‘*Regional Economic Development Strategy 2013-2033*’***
 - Focus on high-value industries such as ‘Clean Technology’ to generate 100,000 jobs

**Underwent community consultation*

Policy perspective: summary

- **Extensive supporting policy**
- **Policies underpinned by community support for:**
 - Alternative energy
 - Renewable energy in rural areas
 - Identifying viable renewable energy sites
- **Identified Solar PV as most viable renewable energy option**
 - Community uptake of solar PV shows significant support (with 30,000 systems installed)
- **Alternative use for Canelands, such as solar, also supported**
- **Economic development through Clean Technologies identified**
- **Council voted in on a platform of Action and Implementation**

Project walk through

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Financial Analysis

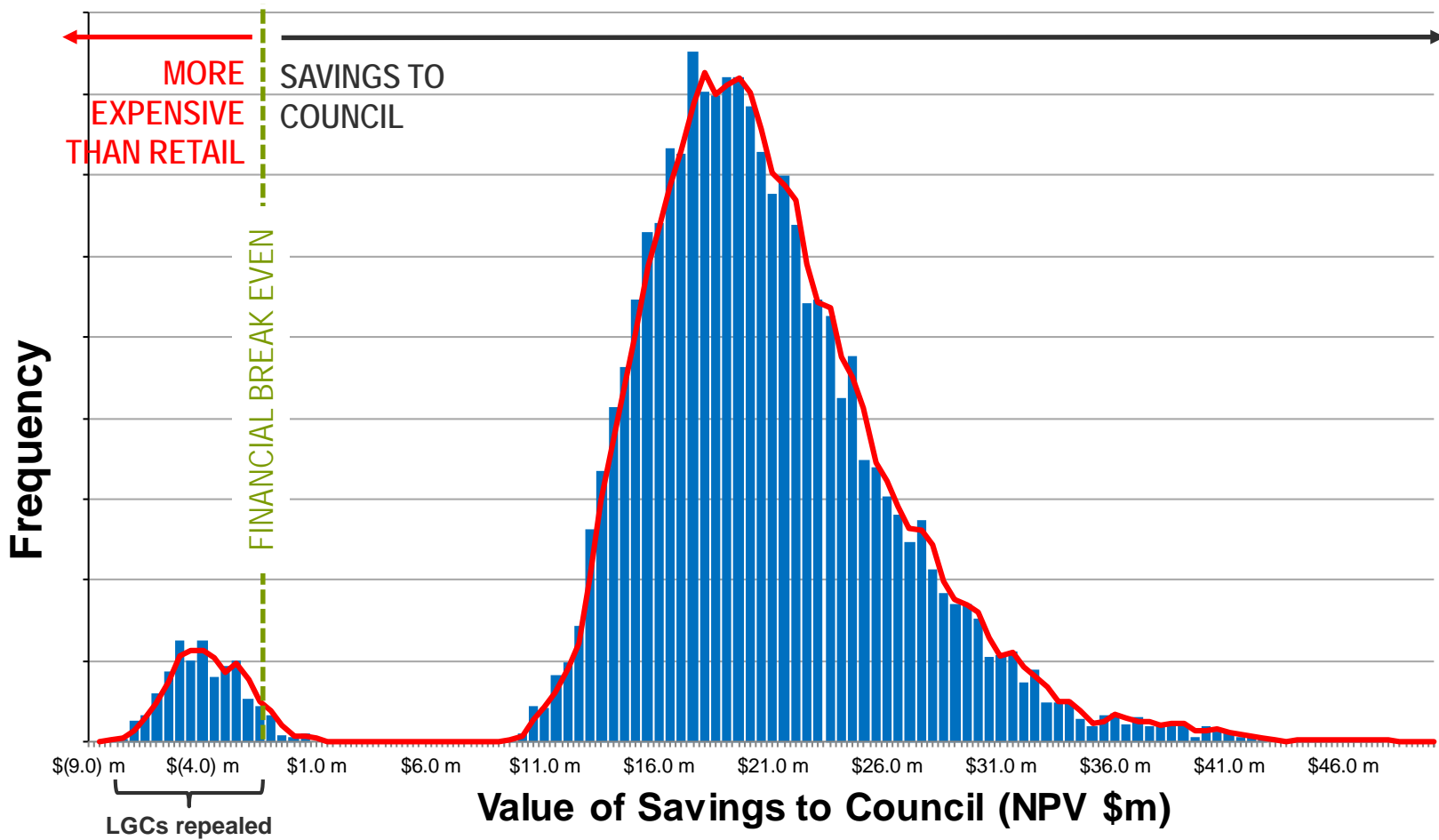
Cost Component	BAU 30 Year NPV \$ million
Energy Charges	\$(78.7) m
Carbon Charges	-
Electricity Network Charges	\$(132.8) m
Service & Maintenance	\$(98.5) m
Other Charges	\$(9.4) m
TOTAL	\$(319.2) m

Does solar PV make financial sense for Council?

Type of Cost	BAU NPV \$millions	Project NPV \$millions	Diff \$millions
Energy Charges	\$(78.7) m	\$(35.4) m	\$43.3 m
Carbon Charges	-	-	-
Network Charges	\$(132.8) m	\$(132.8) m	-
ENERGEX Service & Maintenance	\$(98.5) m	\$(98.5) m	-
Other Charges	\$(9.4) m	\$(9.4) m	-
Total electricity costs	\$(319.2) m	\$(276.0) m	\$43.3 m
Total Project Spend	-	\$(50.4) m	\$(50.4) m
Operating cost	-	\$(10.6) m	\$(10.6) m
Large scale generation certificates	-	\$22.6 m	\$22.6 m
Electricity Export	-	\$12.8 m	\$12.8 m
Solar farm terminal value	-	\$4.4 m	\$4.4 m
Total costs	\$(319.2) m	\$(297.1) m	\$22.1 m

Testing our assumptions

Solar Farm Project Simulation (10,000 Trials)



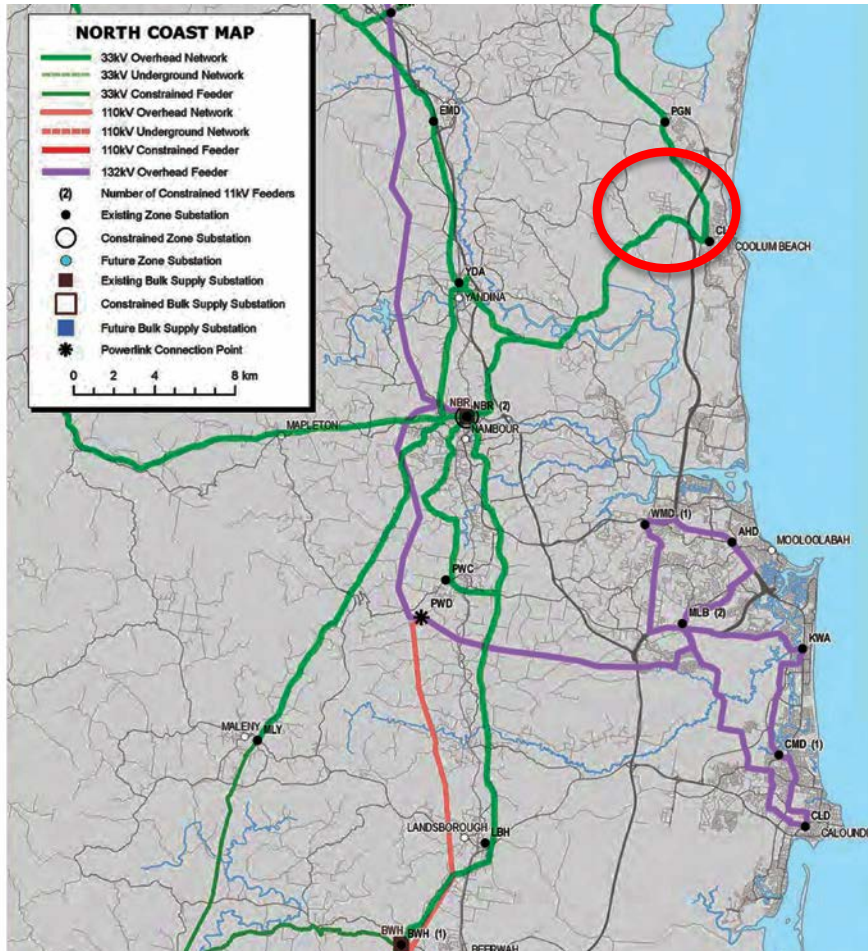
Why not rooftop solar at Council facilities?

- **Council explored rooftop solar**
 - Commissioned an external report by Auzion Alliance - March 2012
 - Looked at 10 Council buildings/six Council land sites - extrapolated results
- **In total rooftop solar only meets 5-10% of Council's electricity requirement**
 - With some sites being NPV negative
- **Some Council facilities are simply not suitable for rooftop solar**
 - By virtue of their consumption/layout – eg Aquatic Centres
 - Structural advice from Council's Facilities Management Unit
- **Council has implemented rooftop solar on 24 buildings**
 - 158kW installed capacity

Unique aspects of Council's project

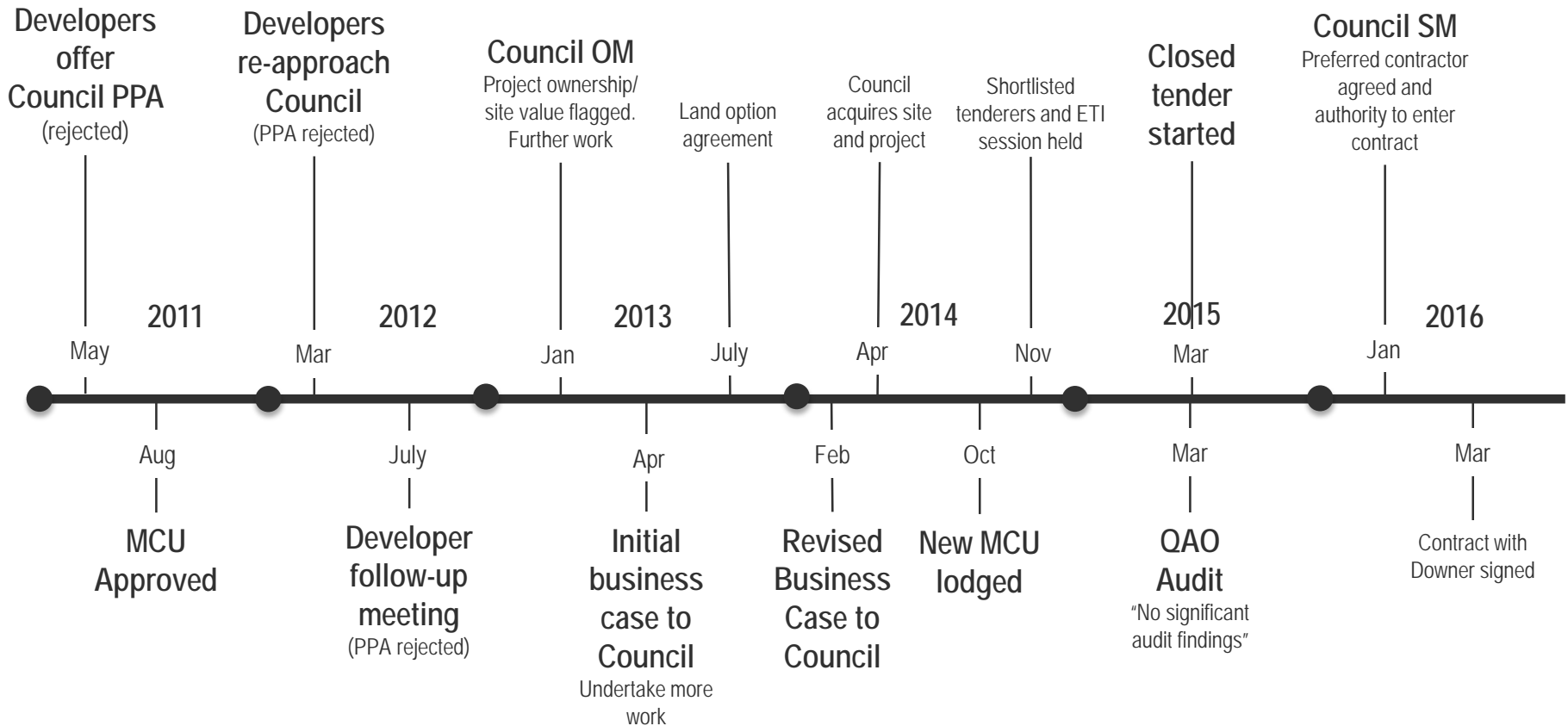
- **Council is its own customer**
 - Removes margin and credit risk making it cheaper
- **Not a selective use of capital**
 - One way or another electricity usage is going to cost ~\$60 million
- **Low financing costs**
 - Borrow at lower rates and for longer than commercial equivalents
- **Long-term view**
 - Commercial enterprise is looking for a return sooner; Council can be patient
- **Social benefits**
 - Educational benefit not realised by commercial players
- **Economic benefit**
 - Direct and indirect region specific investment benefits do not help external investors

Why the Valdora site?

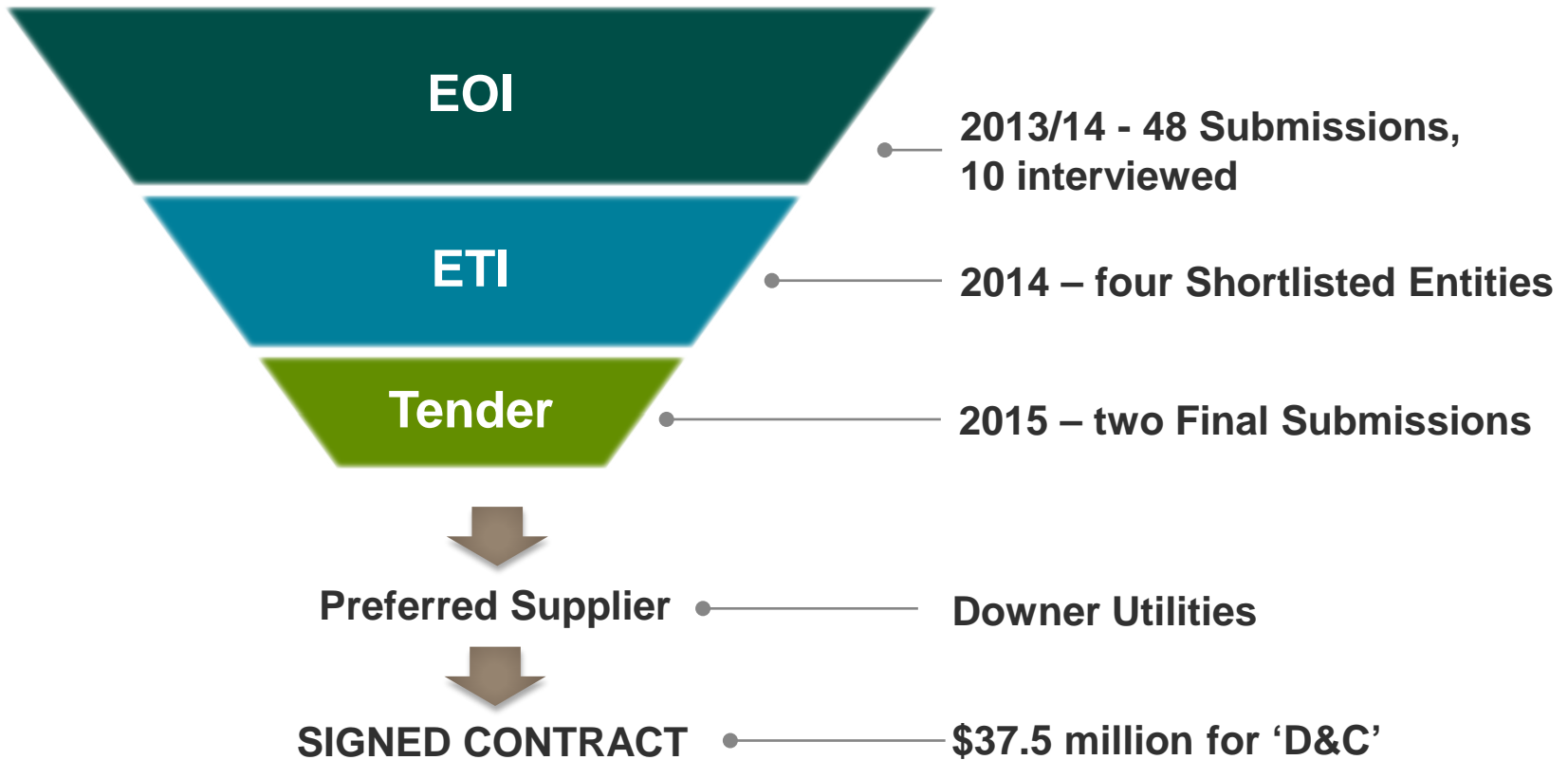


- **33kV line critical for connection**
 - Close proximity - \$1m per km to connect
- **Needs to connect at the ‘right point’ on the 33kV line**
 - Network/line must have adequate capacity to absorb power injection from farm
- **Other crucial criteria**
 - Protected land removed (eg water bodies, conservation areas)
 - Urban and rural residential ‘footprint’ removed
 - Big enough (>30 ha)
 - Flat (<5% slope)
 - Available
- **One real viable location**
 - Yandina-Coolumb Rd powerline

Project timeline



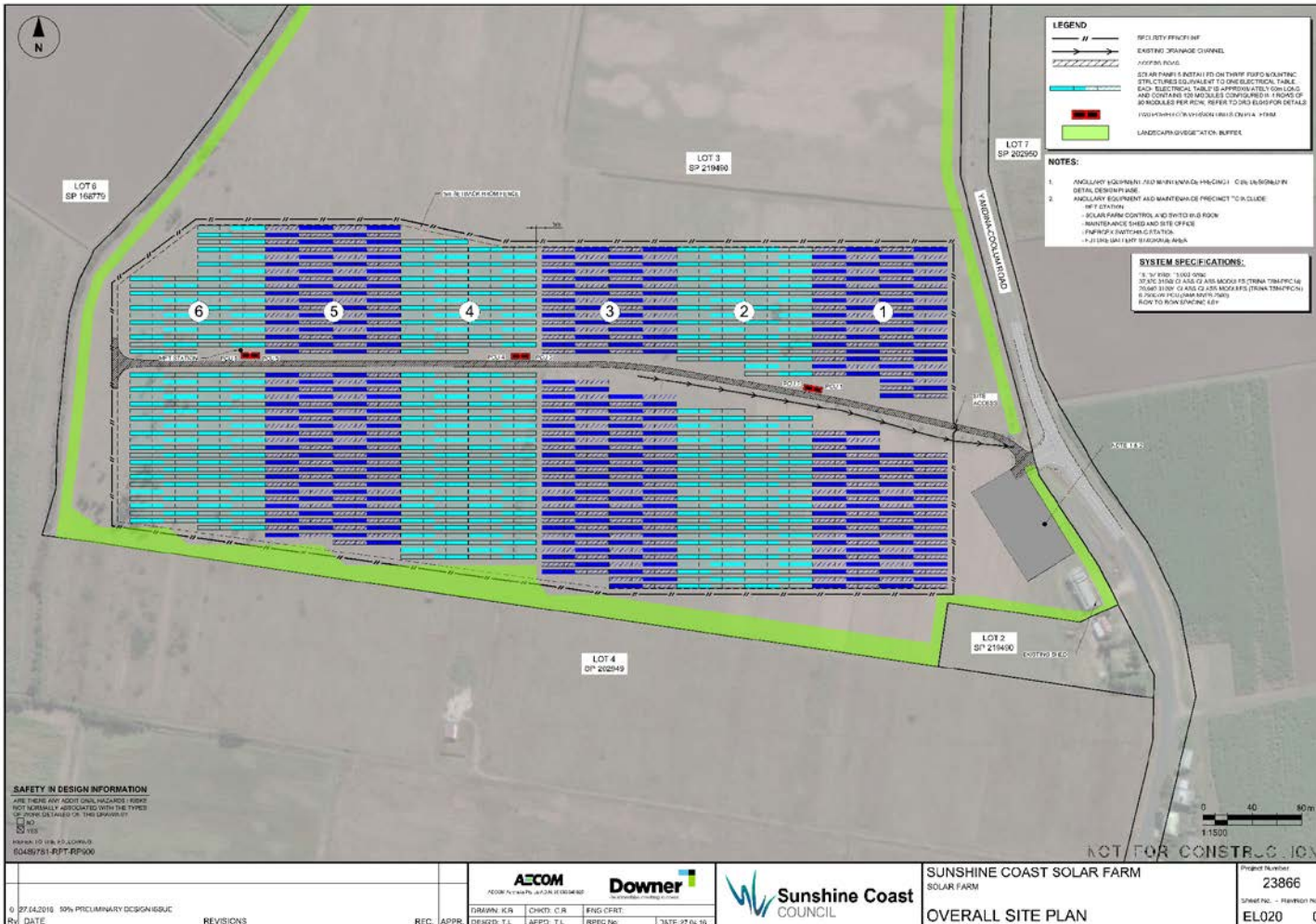
The Tender Process



How the Solar Farm will look – aerial view



Layout Plan



Ocean Vista Drive (1.9km away)



Karnu Drive (4.0km away)



Looking to the future

- **Design and Construction contract is signed**
- **Contractor Downer has possession of the Valdora site**
- **Practical completion of build is expected by April 2017**
- **ENERGEX is fully supportive**
- **Electricity retailer is on board for flexible retail strategy**
- **Two-year Operations and Maintenance contract is signed**

Summary

- **Strong community and policy support**
- **Not a ‘selective’ use of capital**
 - We are paying for electricity one way or another
- **Extensive due diligence**
 - Peer review and extensive industry consultation
- **Staged Council decision-making approach**
 - Numerous meetings/presentations to Council with more planned
- **Significant social and economic benefits**
 - Impact future young residents
 - Drive the development of new economies
- **Tier 1 contractor to build and operate facility**