

# Sunshine Coast Solar Farm

Powering our future



## Frequently asked questions

### **Why is council planning to build a solar farm?**

Just like Sunshine Coast residents who have collectively installed more than 30,000 rooftop solar photovoltaic (PV) arrays for their urban and rural residences or workplaces in the past five years, Sunshine Coast Council has been carefully weighing up its renewable energy options in a bid to save ratepayers from ongoing electricity cost increases and to reduce Australia's carbon footprint.

Following extensive research, council has chosen solar power as the most sustainable future energy option, which offers millions of dollars in savings to council over a 30-year period. It also reduces the exposure to future increases in electricity costs. Unlike the residents of the Sunshine Coast, council does not have adequate roof space to install the number of solar panels required to offset ongoing electricity requirements of the community facilities and services it provides. One example is the numerous aquatic centres across the region. These are an important community asset – and one of the biggest users of electricity, with insufficient roof space on which to install solar panels. So, an alternative centralised and grid-connected farm is the best renewable energy solution for council. The power generated from a grid-connected farm will then be capable of indirectly providing electricity to all council sites including its community facilities such as these energy intensive aquatic centres. Any additional renewable energy generated will be exported into the grid. This solution not only delivers great outcomes for ratepayers, it also supports council's vision to be Australia's most sustainable region – vibrant, green, diverse.

### **Where is the solar farm located?**

The solar farm is being built at 909 Yandina-Coolum Road, Valdora (more formally described as Lot 3 on SP219490).

### **Why is this a good site for a solar farm?**

The location is critical, and a substantial investigation revealed this site had a number of key characteristics to build a utility scale solar farm. Most importantly, it is in close proximity to a 33kv Energex line capable of receiving the solar farm's power output. This site is already zoned as a suitable site for a renewable energy facility in the Sunshine Coast Planning Scheme 2014. The site selection was very carefully guided by specific qualities of the location. The site is flat and large enough to develop a scale of solar farm which can generate a reliable output to match council's annual power needs; has the optimum solar perspective with limited impacts on the community and was available for purchase.

### **What activity will occur while the solar farm is being built?**

The build phase of this project is expected to be completed mid-2017 and the impact on local residents will be minimal. There will be an increase in traffic along the Yandina-Coolum Road with construction vehicles travelling to the site however there should be no major disruptions to this road while construction is occurring.

### **Who is building the solar farm?**

Downer Utilities Australia Pty Ltd (Downer) has been contracted to build the solar farm. Energex will build the infrastructure to connect the solar farm to the distribution network. Council has engaged electricity retailer Diamond Energy.



### **How many local jobs will be created, both in construction and once the site is established?**

It is anticipated that the construction phase of the solar farm will generate up to 60 local jobs. Once the solar farm is operational, maintenance will be undertaken by the solar contractor. Downer and council have developed a local industry participation plan to ensure that local businesses and workers are appropriately supported to become involved with the project. Council hopes to leverage the solar farm to develop a 'Clean Tech' hub in the region. This hub provides opportunity to further develop this industry sector, encourage increased external investment in the region, and help drive increased and sustainable employment.

### **What are the project's timeframes?**

The design, build and commissioning phase of similar projects of this size typically take about 12 months. It is anticipated that the project will be completed by early 2017.

### **How much will the solar farm cost?**

The project will cost \$50.4 million, with the key components including the contracted design and build cost (\$37.5m), site related costs (\$4.3m), the Energex connection (\$2.5m), approvals and consultancies (\$2.7m), a Research and Development/Visitor Centre (\$1m) and buffering works (\$0.5m).

### **How much will the solar farm cost ratepayers to maintain?**

The Sunshine Coast Solar Farm is structured in such a way that there will be no ongoing net cost to ratepayers. The revenue generated by the project will more than offset any associated financing costs to build the farm and ongoing costs to operate and maintain the facility. In fact, the project is expected to generate revenue for council given surplus electricity can be exported back into the grid and the solar farm is expected to generate more electricity than required by council. The positive financial dynamics of this project were crucial in determining whether the project would be supported by Council.

### **Are there going to be issues with glare from the solar panels?**

Solar panels are designed to absorb the sun, not reflect it. Also, as a condition of the approved development application, all coatings on cables and structures must be anti-reflective. As the site will be closed at night time, there will be no lighting at this time and no glare.

### **Will there be landscape buffering around the site?**

Landscaping will include a 10 metre wide vegetation buffer along the site frontage. There will also be buffering down the entire length of the southern boundary.

### **What happens to the solar farm after the 30-year life expectancy of the project expires?**

Council is optimistic that the solar farm will continue to provide green energy past the current 30-year forecast period. Any removal, recycling or decommissioning of plant and equipment from the site will be undertaken with zero or better environmental impact, maintaining the positive environmental impact of the overall project. Council is keen to ensure the environmental positives gained by producing emission-free electricity are not undermined as part of the decommissioning phase.

### **What measures have been taken to protect the solar farm infrastructure from potential flooding?**

A comprehensive flood study, based on the most up-to-date information, was undertaken by an industry leading consultancy in conjunction with council. The infrastructure solution developed has been specifically tailored for cane land sites. Special attention has been given to the mounting structure, electrical infrastructure, civil infrastructure, drainage and operational issues. All key components will be raised above the 1:100 flood level with most at 4.2m. The highest recorded flood level is 3.4m in 1992.

### **Why must the project connect to a 33kV overhead line?**

Any overhead electricity line smaller than 33kV is not capable of taking the output from a large farm and supply electricity adequate in volume to satisfy council's electricity needs. The size of line above 33kV requires more sophisticated connection assets when linking to the Energex grid. This would be much more costly – more than 10 times the cost of connection to the 33kV line – and would consequently make the solar farm financially unviable.



### **Why has the solar farm size gone from 10MW to 15MW?**

Council's research demonstrates that significantly more environmental and economic value can be gained by building a solar farm that has a greater peak output. Improvement of panel efficiency has also reduced the amount of additional footprint required from the original 10MW solar farm proposal.

Energex has also indicated that 15MW is the maximum capacity that can be sustained on the 33kV overhead line next to the site at Valdora. Also, given a proportion of the solar farm project costs are fixed (such as land and grid connection asset costs), building a larger farm allows more value to be released as more electricity is generated per unit of fixed cost. This increases the savings to council to ratepayers. It also has environmental benefits by increasing solar energy output.

### **Will the solar farm contribute to the Sunshine Coast's renewable energy targets?**

In 2010, Sunshine Coast Council adopted the Sunshine Coast Energy Transition Plan 2010-2020 which set a target to reach 100 MW of low carbon energy generation capacity by 2020. The Sunshine Coast Solar Farm will provide a clear and direct response to the key actions included in the Energy Transition Plan, with an anticipated generation capacity of 15 MW when solar panels are installed over 24 of the site's 49 hectares. According to Energex, the combined total generating capacity of rooftop solar PV installations on the Sunshine Coast is greater than 125MW (as at 2015). Combining the community's rooftop solar PV generation with the Sunshine Coast Solar Farm generation (125 MW + 15 MW) will mean that, by 2016, at least 140 MW of solar electricity generation will be located on the Sunshine Coast.

### **What happens to any surplus energy generated?**

Any additional electricity generated at the solar farm will be exported back into the grid, thereby creating a potential revenue stream for council.

Updated August 2016

#### **More information**

Visit council's website and search, 'Sunshine Coast Solar Farm' or email council's Sunshine Coast Solar Farm Project Team  
[solarfarm@sunshinecoast.qld.gov.au](mailto:solarfarm@sunshinecoast.qld.gov.au).