



Request for Expression of Interest
Offtake from Haystacks Solar Garden
October 2020

“Solar for all.

Sunny roof not required”

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Summary

Haystacks Solar Garden is seeking an offtaker interested in sourcing its renewable energy from our highly ethical and socially groundbreaking project. The Haystacks Solar Garden is Australia's first large-scale solar garden and will allow access to the benefits of owning solar to Australians currently locked out of solar due to a lack of access to an appropriately sunny roof (eg renters, apartment dwellers, heritage houses).

Expressions of interest are now being invited from corporate entities, brokers or retailers that would like to negotiate the purchase of renewable energy generated from the Haystacks Solar Garden. Located near the village of Grong Grong in the Riverina of NSW, the Haystacks Solar Garden is a pilot project aimed at bringing this exciting new community energy model to the Australian market.

EOI Process

To submit an EOI please complete the Returnable Schedule from Appendix A being sure to answer each applicable question. Once complete please forward the Returnable Schedule to Kim Mallee at the Community Power Agency (contact details below).

Should you have any questions regarding the EOI process please contact Kim Mallee at kim@cpagency.org.au.

The Offtake Agreement

Volume

Haystacks Solar Garden will have a 1MW (AC) capacity with an estimated annual yield of 2.7GWh per annum. Haystacks Solar Garden is seeking interested parties wanting to negotiate the purchase of a significant portion of the annual yield or beyond. Haystacks Solar Garden has partners able to add to the 2.7GWh of generation should an offtaker need a larger or more diverse portfolio of renewable energy generation. EOIs are welcomed from both consortiums of smaller organisations to make up the total volume of generation on offer or from larger organisations that require volumes beyond the volume on offer.

PPA Structure and Term

The Haystacks Solar Garden will be a member owned cooperative ownership model and likely to be made up of 'non-professional' investors. Due to the nature of our membership base Haystacks Solar Garden is seeking as long a term as possible from a Power Purchase Agreement (PPA) to provide security for its members and ensure the pilot succeeds in kickstarting more solar gardens for all Australian's in years to come.

Potential offtake structures proposed for the 2,7000 MWh p.a. are:

1. A Corporate / Wholesale PPA of 10 years (or beyond) - a contract (selling generated energy directly to an end consumer), or
2. A Sleeved PPA of 10 years (or beyond) with a partnering retailer to manage the sale of electricity

Other (less preferred) opportunities include:

1. Partial PPA of an amount less than 2,700 MWh p.a.
2. PPA for the overall project, including an additional 500kW capacity not assigned to solar gardeners (Total 4,000 MWh p.a.)
3. LGC only PPA for volume between 1,000 MWh p.a. to 4,000 MWh p.a.

Construction is expected to commence in March 2021 with a planned operational start date of July 2021. Flexibility around the commencement date of the PPA can be arranged to align with an organisation's existing contracts if necessary.

If purchasing your energy directly from a renewable energy project is new to your organisation, Haystacks Solar Gardens has an experienced team of project partners to guide you through the process. If your organisation is experienced in the nuances of setting up a PPA with a generation project directly we are flexible and open to alternative proposed structures by negotiation.

Large Generation Credits (LGCs)

LGCs are available for purchase by negotiation from the Haystacks Solar Garden project. LGCs can be bundled into the PPA price or sold separately depending on the needs of the applicant.

Price

Haystacks Solar Garden is a pilot project providing a groundbreaking solar ownership model to the Australian energy market. This is not a typical PPA offering and does require a price premium to enable its success. Unashamedly Haystacks Solar Garden seeks a bold offtaker that values community owned energy and is interested in igniting change in the Australian energy sector for social and environmental good. Figure 1 below shows indicative PPA prices in the market this year compared with other community owned solar project PPA's and a price range guide for the Haystacks Solar Garden PPA.

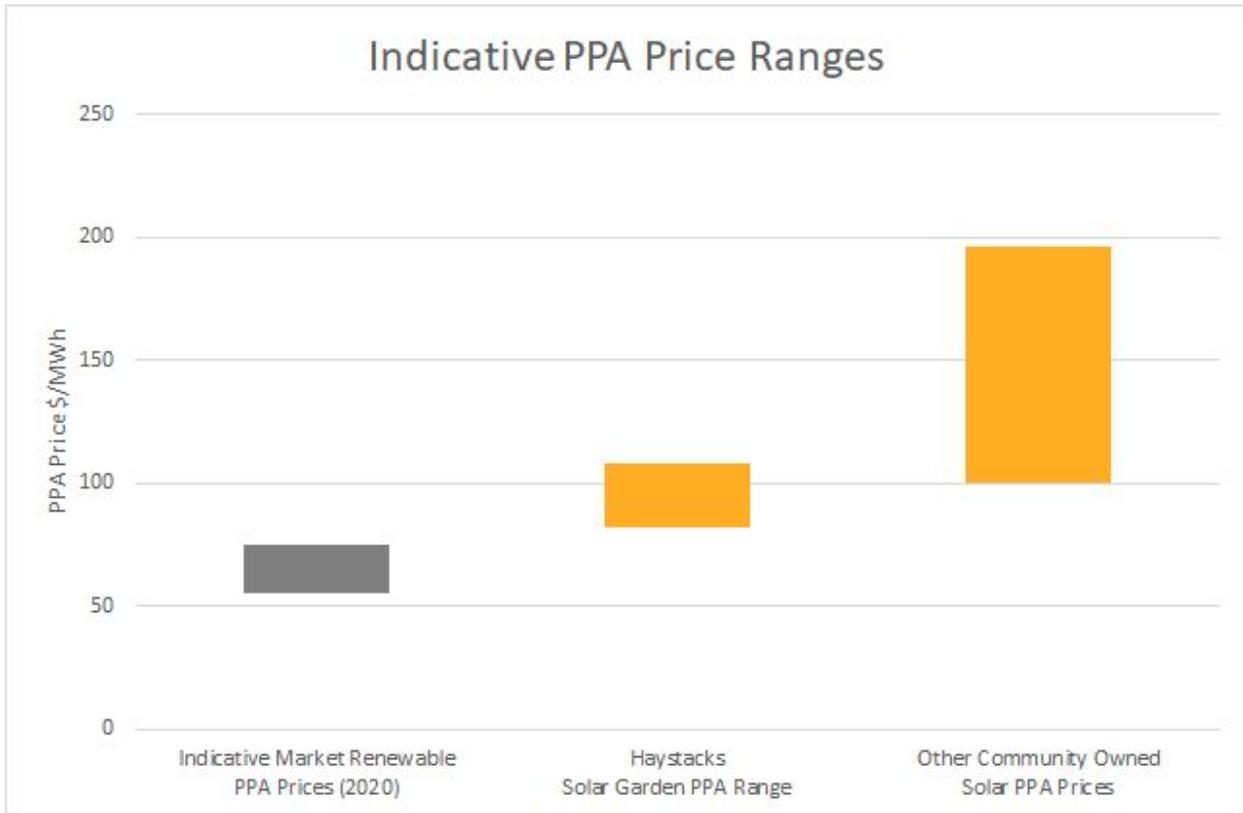


Figure 1 - Indicative PPA Price Ranges

Applicants that progress to the shortlisting of this EOI process will enter a negotiation phase to determine a mutually agreeable price for the PPA. The price is openly acknowledged here to be higher than a standard PPA offering as it values the premium social licence, social access and highly innovative nature of this project. Due to its smaller scale, this PPA will be accessible to a greater number of organisations, than typically enter into an offsite solar PPA.

The Project

What is a Solar Garden?

A solar garden allows any energy customer to participate in and benefit from owning solar without needing to own or have access to a sunny roof. The solar panels are located off-site and with an energy customer purchasing a 'virtual plot' to represent their share in energy production. This in turn is translated into a financial saving on their electricity bill through partnership with Enova Community Energy as the retailer distributing the credit derived from the PPA. Solar gardens are made viable by installing a central solar array in a location that optimises both solar radiation and aspect coupled with the economies of scale.

The Haystacks Solar Garden cooperative will be made up of 333 members each with a virtual 3kW plot. Figure 1 below illustrates how a solar garden works.

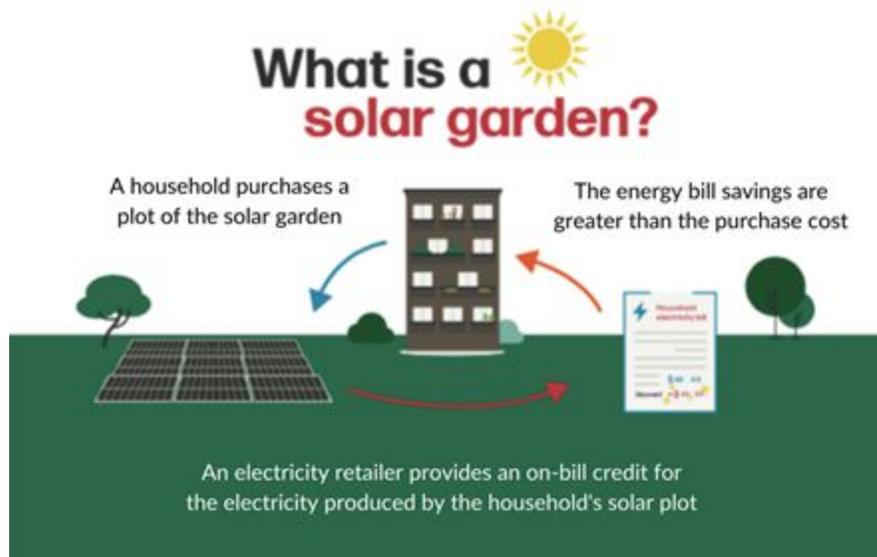


Figure 1. What is a solar garden?

Why a Solar Garden?

Research has shown that nearly 35% of Australians are locked out of owning solar on their own homes. The rooftop solar boom that has taken off over the last decade has not been of equal access to all Australians and there remains a large sector of household investment untouched in the domestic market. Every effort must be made to transition Australia's energy sector to 100% renewables to help meet the UNFCCC Paris Agreement and limit global warming to 2 degrees celsius. Solar Gardens are a pivotal innovation to further progress the domestic ownership of solar and continue the growth in the renewable energy sector. Not only do Solar Gardens unlock previously untouched solar investment they bring together a collaboration between consumer, retailer, generator and offtaker for a collective purpose and shared story.

The Project Team



Sydney-based community renewable energy co-op making energy that puts people first. Pingala helps communities and businesses access the benefits of renewables through building and investing in their own renewable energy projects.



Australia's leading experts in supporting community groups to own, design and benefit from renewable energy projects. Community Power Agency works towards driving a faster and fairer transition to a clean energy future through capacity building, innovation, expertise and advice.



Specialised consultancy firm at the forefront of innovation as Australia transitions its energy sector to distributed renewable technologies. Komo are providing solar development services to the project



Enova Community Energy (Enova) is Australia's first community-owned energy retailer. Haystacks Solar Garden has partnered with Enova Energy to provide the on-bill credit service for the Co-operative members and to facilitate a PPA with an offtaker.

Support from the NSW Government

The Haystacks Solar Garden Project is supported by a grant from the New South Wales Regional Community Energy Fund. The Regional Community Energy Fund provides grants to community energy projects that create innovative and/or dispatchable renewable energy and benefit the local community.

Haystacks Solar Garden was successful in the first round of grants which have been awarded to seven projects, worth approximately \$15.4 million. These projects will unlock nearly 17.2MW in electricity generation and up to 17.9MW/39.3MWh of energy storage, leveraging approximately \$36 million in private investment.

The Opportunities

Using Energy Procurement for Social Good

It is not every day that our organisational energy procurement decision has the power to fundamentally change the Australian energy market. Many organisations have come to see the environmental and often financial benefits of sourcing their energy from renewable energy sources but a pilot project such as Haystacks Solar Garden can do so much more. As a first of its kind and driven by a team to spread this model throughout Australia, Haystacks Solar Garden will be a significant catalyst for social change in the solar and community energy sector. If ever there was an opportunity for an organisation to effect radical change in the energy sector through their purchasing decision - this is it.

Media Exposure

Both the innovative nature of this project plus the outstanding community engagement skills of the project team have created a number of opportunities for both regional and national media coverage. By joining the Haystacks Solar Garden project team as offtaker your organisation will have opportunities to share in this excellent exposure and can be tailored for your own target audiences needs.

To date the Haystacks project has been featured in the following outlets:

- ABC - Fight for Planet A
- Channel Nine News
- NSW Country Hour
- The Fifth Estate
- The Land
- QLD Country Life
- One Step off the Grid
- Renew Economy
- The Irrigator
- Narrandera Argus
- The Daily Advertiser
- Fairfax
- Solar Quotes
- The Byron Shire Echo
- PV Magazine
- Clean Technica

First of Many

Solar Gardens are prevalent in both Germany and the USA and offer the opportunity for customers to own solar off-site and receive reductions on their electricity bills. Many communities and organisations have approached the Haystacks Solar Garden project team with enquiries to create further solar gardens. Haystacks is just the beginning of many more solar gardens and needs the vision and commitment of a partnering offtaker to make it a success. The first large scale solar garden of many represents a clear marketing and branding opportunity for the offtake organisation in enabling an innovative ownership model for solar to households not yet developed.

Regional Development

The Haystacks Solar Garden is pioneering the midscale solar development for regional land owners in an innovative development strategy that aims to help farming enterprises. This model accesses the benefits of solar by combining systems that don't interfere with agricultural operations and a trusted, local ownership model that landowners can be a part of themselves. It also diversifies on-farm income streams.

The development of this project seeks to create regional jobs during the construction and maintenance through choosing components that local technicians can service and then continue to keep energy dollars local by providing returns to its owning cooperative members. The Haystacks Solar Garden team are working collaboratively with Narrandera Shire Council to enable local contractors and indigenous corporations to have opportunities to participate and provide economic development for the area. Furthermore, the Haystacks Solar Garden will deliver capacity building opportunities for regional communities to further develop community owned energy projects beyond Haystacks.

Community Owned and Connected

Large businesses are increasingly requiring energy supply contracts to incorporate community owned energy projects into the suite of options available from a retailer as they have strong social licence and bridge the gap between energy generator and energy consumer. As a community owned energy project the Haystacks Solar Garden can provide this opportunity as well as annual community activities/events where an off-taker of electricity can meet and interact with the people who provide their power and a chance for Solar Gardeners to understand where their electricity goes.

A key feature of Solar Gardens is to break down the mystery of the National Electricity market by opening up generation to all Australian households and connecting them with community minded energy users. A typical Solar Gardener will be interested in the organisation who is buying power from them and want to help that organisation be prosperous into the future.

Renewable Energy Penetration

Haystacks Solar Garden represents new investment and a development into a 1MW solar array. Each new renewable energy development slowly decarbonises the grid and shifts Australia away from its reliance on fossil fuels and thereby reducing the impact on climate change. By partnering with Haystacks Solar Garden your organisation is directly contributing to the transition to a lower carbon economy.

Site and Technical Details

Site and Location

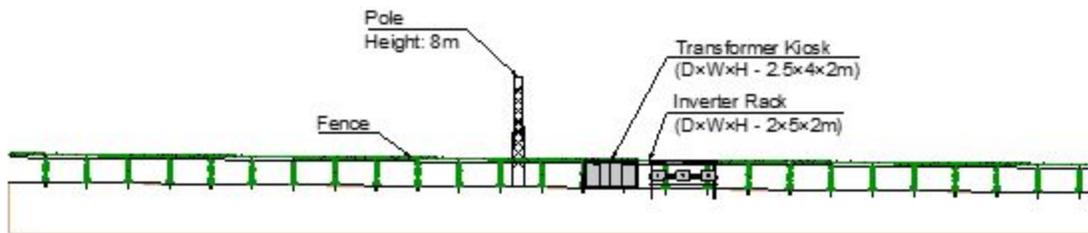
The solar farm is approximately 4 Hectares in size, or 270m x 174m. It is located on a broad acre farm lot, and takes up approximately 2% of the lot. The solar farm is located 4km from the Grong Grong town centre, and 500m from the Newell Highway.



Connection to the Electricity Grid

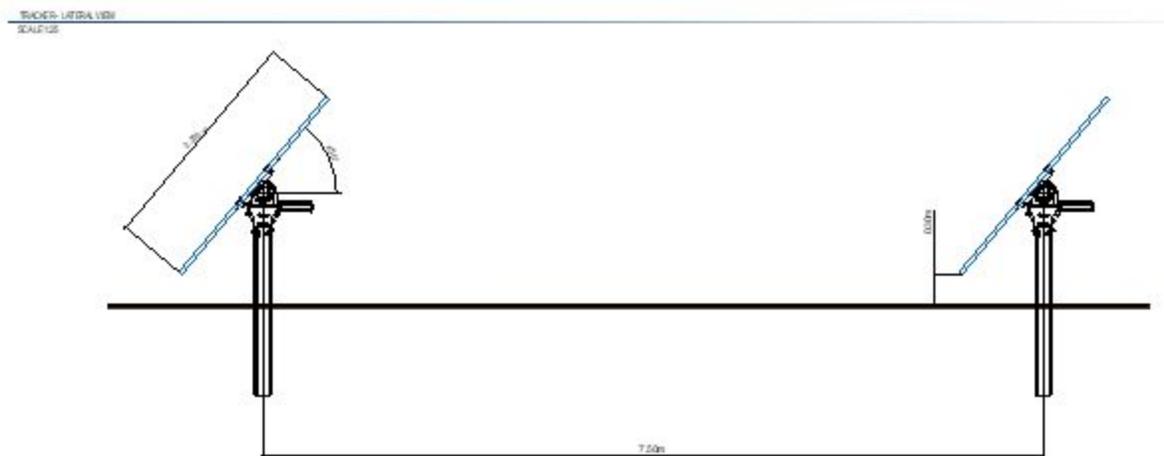
The solar farm will connect to and supply electricity into the Essential Energy grid via the local poles and wires in Gawnes Road adjacent to the solar site. This line is Essential Energy's 11,000 Volt power system.

Three new power poles inside the solar farm will take a new line from the Essential Energy line to the solar farm site. This will be connected to the adjacent Transformer Kiosk 1, and via underground cable trenches up to Transformer Kiosk 2 and 3 towards the North of the site.



Solar Power Mounting System

The preferred design for the solar farm is called a "Single Axis Tracking" solar mounting structure.



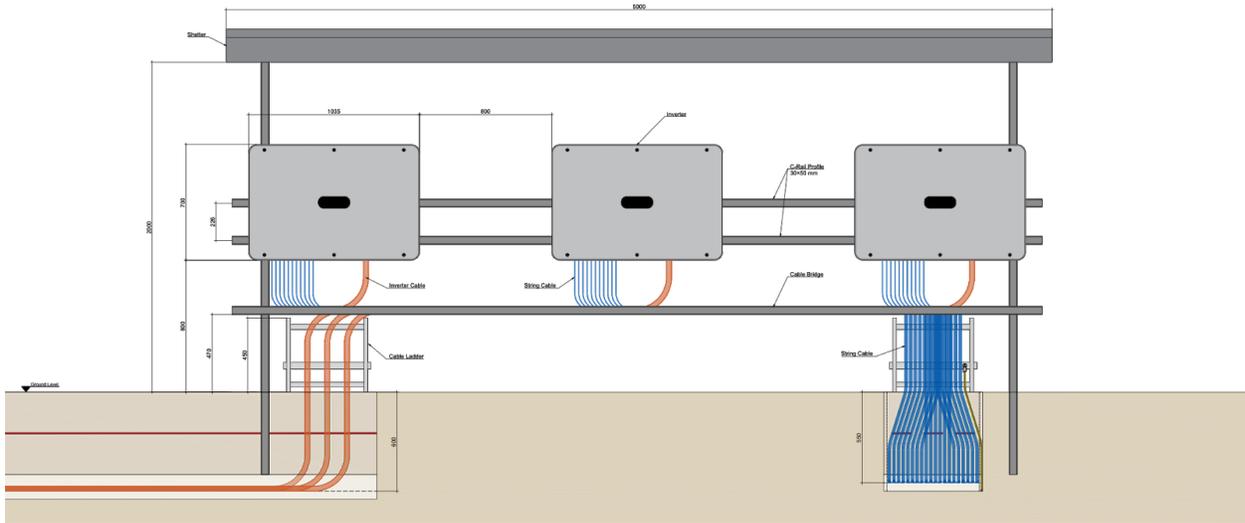
This mounting system has the advantage of rotating the orientation of the solar panel so they face East in the morning and West in the afternoon. This increases production by the solar panels by up to 30% across the year, and helps meet afternoon, early evening and morning peak demands.

The rotating horizontal poles are approximately 41 meters long and hold 39 solar panel modules each. The vertical piles are piled into the ground.

The trackers are spaced apart to minimise shade in the morning and evening. During the middle of the day, the solar panels face upwards (are horizontal) so have reduced production compared earlier and later in the day, except when the sun is higher in summer.

Modules and Inverter

Solar panels produce Direct Current or DC electricity. The role of the solar inverter is to turn that DC electricity into AC electricity at a quality that can be used in the local grid.



Solar inverters are installed on racks, with DC Power in and AC Power out to the Transformer Kiosks. There are a total of 15 inverters for the solar farm. They are generally 1m wide by 0.7m tall, subject to final inverter selection

The solar panel modules capture the sunlight to generate electricity. Larger high power panels are used for solar farms compared to rooftop solar. The modules are 2.2m tall x 1m wide.

Appendix A - Returnable Schedule

Item	Response
1. Name of Organisation and ABN	
2. Type of Organisation: <ul style="list-style-type: none"> ● Corporate offtaker ● Energy services broker ● Energy retailer ● Government ● Other 	
3. Description of organisation's business activities .	
4. Contact Details: <ul style="list-style-type: none"> ● Name ● Email ● Phone ● Website 	
5. Annual energy consumption	MWh
6. Volume of offtake required from this EOI	MWh
7. What price (\$/MWh) range would you place on sourcing your energy from Haystacks Solar Garden?	From: To:
8. Does your organisation require firming outside solar radiation hours?	Yes / No
9. Are you seeking offtake from Haystacks Solar Garden to add to an existing renewable energy portfolio ?	Yes / No
10. When does your current electricity contract end?	DD/MM/YYYY
11. Is your Organisation interested in also purchasing LGC's as part of this PPA?	Yes / No
12. Please attach 12 months of electricity load data if possible and a copy of your latest electricity bill.	

**Return to Kim Mallee at Community Power Agency kim@cpagency.org.au

Contact Details



Kim Mallee
Project Manager, CPA
kim@cpagency.org.au

0409 474 624
8am - 4pm: Tuesdays, Fridays and alternate Mondays

Disclaimer

This project is supported by a grant from the NSW Government's Regional Community Energy Fund. The views expressed herein are not necessarily the views of the NSW Government. The NSW Government does not accept responsibility for any information or advice contained herein.