Aldoga Solar Farm: Frequently Asked Questions



31 July, 2024

www.community.acciona.com.au/aldoga

About this document

Aldoga Solar Farm is a renewable energy project under construction by ACCIONA Energía. The site is located 20 kilometres North West of Gladstone. Following information sessions and participation in recent community events, we have collated a large number of questions – and have now compiled responses with technical input from colleagues in our community, business development, environment & planning, engineering & construction and operations teams.

How to navigate

We have grouped your questions by theme to make it easier to explore, with a contents page and hyperlinks taking you to the responses – just click on the question or category you are interested in.

Getting in touch

We want to stay in touch and continue to listen to community – you can find out more about the project at our online community hub www.community.acciona.com.au/aldoga. You can also get in touch by email at Aldoga.au@acciona.com, by phone on 1800 283550 or by visiting the Community Hub at level 1, 72 Goondoon Street, Gladstone.

July 2024

Please note that the responses provided are to the best of our current knowledge, and are subject to change over time, as the project progresses, consultation continues, and more information is gathered through further studies and assessments.

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Question	Response
ABOUT ACCIONA ENERGÍA AND THE ENERGY MARKET	
Where is ACCIONA Energía from?	ACCIONA Energía is a Spanish company and the largest 100% renewable energy company in the world. With over 20 years' experience in Australia our 'build, own and operate' model sets us apart as a developer that works closely with landowners, neighbours, and the community to deliver integrated solutions.
Is it true that more energy and CO2 emissions go into building solar farms than the clean energy it produces?	ACCIONA Energía is collecting the data specific to the Aldoga Solar Farm and will be able to supply this information soon. Based on other ACCIONA Energía projects with an operating life of 25 – 30 years, typically the payback is around one year. Based on this, the solar farm will likely produce over 20 times more clean energy than the energy used to create, operate, maintain and decommission it. This represents a saving of over 20 times the carbon emissions that it will have created in its lifetime.
Where does the energy go?	ACCIONA Energía has signed a 15-year, 380 megawatt Power Purchase Agreement with Stanwell Corporation, a publicly owned energy company. This represents 100% of the output from the Aldoga Solar Farm. Stanwell plans to supply this power to the proposed Central Queensland Hydrogen Project.
PROJECT LOCATION	
Why was this location in Aldoga chosen?	ACCIONA Energía was successful in a competitive tender process for acquiring the right to lease the Aldoga land from the Minister for Economic Development Queensland.
Why is the Aldoga Solar Farm designed as separate areas, not one footprint?	The solar farm has been designed based on topographical constraints and to reduce any environmental impacts. The design aims to reduce the impact upon riparian zones, maintain wildlife corridors, habitat quality and habitat connectedness within the project area and Mount Larcom.
Are there any biosecurity issues associated with a solar farm near other farms?	The solar farm has an approved Biosecurity Management Plan which outlines ACCIONA Energía's commitments to minimise the introduction or spread of weed and pest species throughout the construction and operation of the solar farm. Measures to minimise the introduction of new invasive species include the requirement for all vehicles and machinery to arrive onsite biosecurity clean. This clean means that all potential seed matter and soil must be removed from equipment prior to arriving onsite. All components that arrive in Australia via the port are subject to stringent biosecurity inspection and measures prior to being transported to site.

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Question	Response
CONSTRUCTION AND TIMELINE	
When will the project be complete?	The construction phase of the project is due for completion in Q2 of 2025. The commissioning and operational phases are anticipated to follow in the first half of 2026.
How is the solar farm constructed?	Typical construction activities for a solar farm include: • Site establishment: erecting of temporary buildings such as a site office, development of a laydown area to receive materials and equipment and fencing to create a secure perimeter for the site. • Site preparation: vegetation clearing and earthworks, stormwater management works and creation of access roads. • Material delivery: in this case predominantly from the Gladstone Ports via heavy vehicles regulated by the Traffic Impact Assessment guidelines. • Construction: erection of solar panels supported via a system of piles and mounting frames. The installation of mounting frames is typically achieved through driving poles into the soil to provide foundation support. The mounting structures are attached to the piles and the solar panels installed onto the mounting structures. Overhead lines are constructed to transport power from the solar farm substation to the Powerlink Substation for the power to be transferred into the grid. • Grid connection studies and commissioning: The central substation is connected to the external energy transmission grid.
How long until the earthworks and other heavy machine movements stop?	The road infrastructure, which is currently utilising heavy machines, will be completed by October 2024, though throughout construction there will be ongoing road maintenance as required.
Where do the solar panels come from?	The solar panels are sourced from JA Solar and are a Bifacial Double Glass High Efficiency Mono Module. They are manufactured in China.
How long will the solar farm operate for?	It is anticipated that the farm will operate for at least 30 years.

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Question	Response
When and where will you be working in each of the sections, and when will you be completing each section? Specifically, the areas closest to The Narrows Road?	Construction is currently occurring across all areas of the solar farm, with different areas being at a different stage of their development. • The North-Western section is due for completion by December 2024 and includes trackers, modules and electrical installation. • The South-Western section is due for completion by March 2025 and includes trackers, modules and electrical installation. • The Central sections are due for completion by November 2024 and includes trackers, modules and electrical installation. • The Eastern sections are due for completion by April 2025 and includes trackers, modules and electrical installation.
Is the solar farm going to impact traffic on the Narrows Road or Cullen Road?	ACCIONA Energía has redesigned access to the site to exclude the use of The Narrows Road and Cullen Roads.
Was there a fast tracking of the Solar Farm approval because it is in a State Development Area?	No, there is no fast-tracking of projects. Approvals that have been required include the Environment Protection and Biodiversity Conservation (1999) approval, and the Material Change of Use (MCU) approval.
Where are the employees and contractors for the construction and operation of the solar farm coming from?	At ACCIONA Energía we want to make sure that the benefits from our renewable energy projects flow directly into the communities and regions where we operate. We actively prioritise opportunities for local people through training and employment. The project and its contractors are committed to ensuring that a minimum of 10% of the project's work hours are undertaken by local workers within a 125km radius of the site. It is anticipated that long term operational roles will be filled predominately by local people.

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Question	Response
NOISE IMPACTS	
How will construction noise, vibration from piling and dust be managed?	Dust: Some construction activity may create dust but this will be mitigated and proactively managed through measures such as watercarts and chemical suppression in accordance with a site-specific Environmental Management Plan. Noise and vibration: Many mitigation measures are being implemented throughout the project to minimise potential impact of noise and vibration to nearby sensitive receivers such as landowners and native fauna. These measures are outlined in the Environmental Management Plan, but includes controls such as, limiting work to daytime hours where possible, targeted scheduling of noisy/vibrating works, using physical barriers where required, and regular maintenance of machinery.
Are operating solar farms noisy?	Solar farms generally emit minimal noise. Potential sources of noise include inverters, and transformers which are typically contained inside buildings in the middle of the development to reduce noise to the surrounding environment. Overall, the project will create very little noise during operations.
Do you measure and monitor the noise levels of the solar farm?	Monitoring will be undertaken on a project as required. The project's Construction Environmental Management Plan outlines measures to be implemented during construction and operations to reduce potential noise impacts to people and fauna. These measures include: working during day time hours where possible, machinery maintenance, scheduling noisy works appropriately and providing respite.
What are the noise levels from the inverter stations?	There are approximate 80 PCUs (Power Conversion units), commonly referred to as inverter stations, across the site. The acoustic emission at 100% load is 57 decibels at 10m; fewer decibels than a normal conversation which is approximately 60 decibels.
VISUAL IMPACTS	
Will the solar farm produce glare?	Solar panels work by absorbing ultraviolet radiation into their cells and are coated with anti-reflective materials, so that glare is minimised.
Will the solar farm produce light at night?	There will be minimal lighting around the project substations. This lighting is required by legislation. The solar panels and tracking system do not have any lights.

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Question	Response
Does the solar farm produce radiation?	Studies show solar panels generate low levels of non-ionising radiation which are non-harmful. Equivalent exposure is emitted from items such as mobile phones, TV reception and microwaves.
FIRST NATIONS	
Has ACCIONA Energía engaged with Traditional Owners?	ACCIONA Energía is committed to cultivating meaningful and respectful relationships with First Nations peoples. We foster a culturally and socially inclusive environment to enable equitable participation throughout the project lifecycle from development to operations. We have been meeting with the Traditional Owners and Registered Aboriginal Parties for the Country that the project site resides on.
How do you manage impacts on the Cultural Heritage of the site?	Cultural heritage on the project is managed through a Cultural Heritage Management Plan (CHMP) which was established prior to work commencing. This plan was created between ACCIONA Energía and the Traditional Wwners' groups the Bailai, Gurang, Gooreng Gooreng, Taribelang Bunda People. The CHMP outlines the measures ACCIONA Energía will follow to mitigate impacts on Cultural Heritage at the Aldoga Solar Farm. The site was surveyed by the Traditional Owners and archaeologists to determine what Cultural Heritage items existed within the project area. The survey results were used to develop proposed mitigation measures to reduce the any impact including: • Salvage and relocation of items prior to and during works (referred to as monitoring) • Avoidance of cultural items through redesign of project infrastructure to prevent any impact on culturally significant areas.
OPERATIONS	
What maintenance does the solar farm require?	The solar farm will require regular electrical maintenance, landscaping and cleaning of the modules.
What job opportunities will there be when the project becomes operational? What type of jobs?	There will be 10 - 12 jobs during the operational phase, including field technicians, site managers, cleaners, land management personnel, and others.
When will you be recruiting for the operational role, and how will you let people know?	Staged employment intakes will occur once the project is near completion. All project updates, including recruitment, will be posted on the Community Hub (www.community.acciona.com.au/aldoga) to keep the community informed of available roles.

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Question	Response
ENVIRONMENT (FLORA & FAUNA)	
How are you going to manage the rats tail grasses that currently exist on the solar farm land?	The giant rats tail grass, and all other identified invasive species, that exist on the solar farm are being managed in accordance with the Department of Agriculture and Fisheries Guidelines during construction. These controls will be continued into operations in alignment with our EPBC and MNES commitments. For areas beyond the project footprint, Economic Development Queensland will remain responsible.
Is there any impact on flora and fauna?	Extensive ecological surveys were conducted prior to works commencing to determine potential impacts and identify any measures to be taken to reduce or eliminate these impacts during construction and operations. Potential impacts to flora and flora are minimised through design optimisation prior to construction commencing. During construction, further micro siting occurs to continue to reduce any impacts. The project also has a number of offset sites secured under the EPBC Act to mitigate the potential impact of the project on certain species.
What are the impacts on local wildlife during construction?	The biggest potential impact to wildlife will be the change to the landscape. During construction, the land will change quickly with the construction of new roads, fences and increased vehicle movements. These changes can disrupt typical animal behaviours. Once animals learn their new surroundings they settle back into normality quickly. For example, the kangaroos are enjoying the short green grass in the slashed panel areas and know where the gates are in the fences to get in and out. Ecologists and fauna spotter catchers are onsite during construction and are supervising the clearing of vegetation.
When operating what impact will the Solar Farm have on the following animals: - Koalas - Possums - Gliders - Turtles - Ducks - Kangaroos - Emus - Snakes	During operations there should be minimal impact on animal populations. The project has been designed to allow animal movements between the blocks of panels, with wildlife corridors connecting Larcom Creek to Mt Larcom. These wildlife corridors, or belts of vegetation, help prevent the fragmentation of habitat by providing a continuous corridor for fauna movements. Special considerations have been made for the protection of gliders, and other species, in the region by using 'Glider Friendly' fence designs which has increased visibility to reduce the risk of entanglement.

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Question	Response
Can animals like sheep or cattle graze at/under the solar panels?	Yes. 'Agrivoltaics' or 'agrisolar' which combine solar technology and agricultural production for a more efficient land use, are becoming more prevalent in Australia and worldwide. 'Solar grazing' is the most prevalent form of complementary land use for large-scale solar farms due to the compatibility with ground-mounted solar PV panels. The integration of solar energy and grazing within a single site provides the opportunity for renewable energy operators and landholders/farmers to work in partnership to maximise the productive use of rural land and reduce operating costs for all parties. Sheep are more commonly used, as cattle can cause damage to the infrastructure.
What happens to the animals that live in the trees and on the land you are clearing?	Prior to any works commencing, preclearance inspections are completed by qualified fauna spotter catchers. Animals that are identified during clearing are relocated, by fauna spotter catchers, to retained bushland within the site area as close as reasonably possible to where they were found. If this is not possible then another species-specific and suitable onsite habitat is found. Fauna are encouraged to relocate themselves, so works may cease in the vicinity of an identified animal and left overnight to allow relocation. If there are ever any animals that are of concern to the fauna spotter catchers, they are taken into the vets for health checks and then onto carers before being released back into the wild as close as possible to where they were found.
IMPACT ON CLIMATE / WEATHER	
Do the solar panels increase the temperature in the local area, or impact the local climate – for example, creating a decrease in rainfall?	A new international scientific study using satellite technologies has discovered that large-scale solar farms have a cooling effect on the land surrounding them, reducing nearby surface temperatures by up to 2.3°C. Reference: *https://reneweconomy.com.au/why-solar-farms-wont-stew-your-fruit-or-boil-your-berries/*
Will the heat from the solar farm affect the local cool breeze, as currently experienced?	No, the local cool breeze will not be adversely impacted by the solar farm.

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Question	Response
LAND AND AGRICULTURE	
What % of the solar farm footprint requires clearing?	The total solar farm footprint is approximately 1309 hectares. The site consisted of grassland 56% of which required slashing, and 44% of which required clearing.
Can the land be converted back to agricultural land after the life of the solar farm?	Yes, once all the above ground infrastructure is removed at the end of a project, the land can be returned to use for agriculture.
Why was ACCIONA Energia provided approval to clear land for the solar farm when local farmers are not allowed to chop down trees?	ACCIONA Energía gained and abided by all council, state and federal approvals to clear land and remove vegetation to facilitate construction. The relevant approvals in the case of the Aldoga Solar Farm are: • Environment Protection and Biodiversity Conservation (1999) approval • Material Change of Use (MCU) approval • Protected Plant clearing permit.
WATER MANAGEMENT	
During construction where is water sourced from?	The water needed during construction for dust suppression and road compaction is sourced from two existing dams - one onsite and one on the Fortescue construction site. Existing dams onsite that are being decommissioned through construction are also used prior to being filled in.
Will the water use deplete the underwater table in the area?	No, the project does not intend to extract water from groundwater sources. If required to do so, the project will comply with all relevant water regulations and restrictions and ensure appropriate approvals and licences are obtained prior to commencing extraction.
BUSHFIRE MANAGEMENT	
Do solar panels contribute to heat load and start bushfires?	Solar farms create an effect similar to an “urban heat island,” which is a localised area of increased temperature due to human activities. The localised heat is temporary and restricted to the area immediately surrounding the solar panel. This effect is not extreme and does not lead to bushfires or severe weather events.

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Question	Response
Do you have a bushfire management plan?	Yes, ACCIONA Energía has developed a construction and operational Bushfire Management Plan to identify and mitigate any potential risks. The plan was developed through site surveys to identify the fuel load and topographical conditions which would contribute to the intensity of a potential fire. From this survey a bushfire score is established to determine what mitigation measures are required onsite to reduce both the potential of a bushfire occurring and to mitigate the impact of a fire if it were to occur. Mitigation measures include a bushfire protection zone which extends from the panels, underground cables, Power Collection Units out to a prescribed distance depending on the bushfire score of the area, in which the grass needs to be kept short to prevent the rapid spread of a fire. An onsite static water supply with appropriate connections points for the fire brigade is also available at multiple locations across site.
COMMUNITY BENEFITS	
Will there be a community benefit fund?	A Community Benefit Plan has been developed to consider community investment with 4 programs identified to be delivered annually to support the local community and its grassroot initiatives. These programs are: • Small grants program • Legacy investment program • Research program • Scholarship program.
What will be the community benefits?	The community will benefit from this project in numerous ways including: • Upgrades to Flynn Road • Small grants program • Legacy investment program • Research program • Scholarship program • 10 - 12 jobs during operation, including solar technician and maintenance jobs • Over 350 jobs during construction, with priority given to local employment • Increased economic activity in the local community.

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Question	Response
Who will decide how any community benefits are allocated?	ACCIONA Energía is establishing a Community Engagement Committee (CEC) to provide a forum for open discussion between ACCIONA Energía, the community and other stakeholders on issues relating to the solar farm's construction activities, operations, and community relations and benefits, and to keep the community informed on matters affecting them relating to the Project. The allocation of community benefit funds will be determined through a transparent process involving input from members of the CEC.
How is the project and community benefits information made available to the community?	The Aldoga Solar Farm online Community Hub is the key communication tool used by the project and includes resources such as: • Project factsheet • Project timeline • 'Ask a question' tool • Regular project news updates • General factsheets about solar farms and solar energy • Contact details and a sign-up form. A regular newsletter update is sent out to subscribers highlighting key project milestones. The online Community Hub address is www.community.acciona.com.au/aldoga. Direct contact is also encouraged through email at aldoga.au@acciona.com, by phone on 1800 283550 or face to face at the Community Hub, level 1, 72 Goondoon Street, Gladstone.
DECOMMISSIONING / END OF LIFE	
What happens at the end of the solar farm's 30-year life?	The solar farm will have an end-of-life management plan acknowledging options such as, to continue to operate based on existing infrastructure and relevant technology; to refurbish and upgrade; or close the project and decommission the solar farm by removing the panels, infrastructure and remediating the land. A decision about the most appropriate option will be made closer to the end of the life-cycle of the solar farm. If the project is decommissioned, a Decommissioning Management Plan will be developed and approved by the Office of the Coordinator General prior to the commencement of decommissioning.

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Question	Response
Can you recycle the solar panels?	Solar panels can be recycled and there are several solar recycling companies in Australia. There are also many other elements that can be recycled such as the aluminium frame and plastic junction box, along with many other items also being repurposed through circular economy. Life cycle analysis from other ACCIONA Energía projects show that, depending on the type of construction, between 85% and 99% of the project components can be recycled at the end of life. These components are dismantled by professionals before being recycled.