



Queensland Solar Farm Guidelines

Practical guidance for communities, landowners and project proponents



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Introduction

SECTION 01



1.0

Introduction

Queensland is actively growing its renewable energy sector in order to lower greenhouse gas emissions, attract investment and create jobs.

With an annual average of 8-9 hours of bright sunshine per day (Bureau of Meteorology, Australian Government, 2005), Queensland has access to an outstanding solar resource, which makes the state an ideal hub for solar energy generation. Queensland is already leading the nation in solar rooftop installation, with the capacity installed on rooftops eclipsing the capacity of the state's largest coal-fired power station in 2017.

Significant reductions in the cost of solar panel technology combined with government policy and investment, and loan facilities have accelerated the development of the large-scale solar sector. The investment in this relatively new form of utility-scale energy generation is expected to grow over time, making a significant contribution to Queensland's renewable energy ambitions.

The Queensland Solar Farm Guidelines (guidelines) specifically relate to solar farms comprising commercial scale (typically greater than five megawatts) photovoltaic (PV) solar arrays. Although they can be applied to any scale of solar farm or indeed other renewable energy projects, which are required to undergo a development assessment process.

Benefits of the Guidelines

The guidelines have been prepared to help industry to work with community and stakeholders to achieve positive outcomes as the large-scale solar sector develops.

The guidelines aim to assist communities, landowners and project proponents by providing information about the legislative framework which governs solar farm developments in Queensland, the planning and development process, and practical guidance for effective community engagement practices.

A shared understanding of the process and community engagement expectations will improve transparency and build the capacity of interested stakeholders to participate meaningfully in the development of large-scale solar farms.

The guidelines also establish a clear engagement framework that facilitates ongoing and open dialogue among communities, landowners, project proponents and governments throughout the solar farm lifecycle and associated decision-making process.

More specifically the guidelines will realise the following benefits for each stakeholder group:

From a **community** and **landowner** perspective, the guidelines provide information about the development assessment process, approvals required outside of the planning framework and technical and environmental considerations. The community engagement process also encourages a broader conversation about the direct and indirect impacts and benefits of a project in the local area.

From a **proponent** perspective, the guidelines outline good community engagement practices. The guidelines provide a helpful reference for community engagement objectives, activities and tools at every stage of the project lifecycle. The tools can be applied flexibly, taking into account project scale, location and community expectations. When used by all members of industry, the guidelines provide a benchmark for consistent community engagement practices across large-scale solar farm developments.

Securing a social licence to operate

The notion of a social licence to operate has become widely accepted by developers and community members, particularly in recent years. While intangible, the practical, financial and legal implications are significant. Developers implementing the guidelines have the opportunity to measure and track their social licence to operate, allowing them to benchmark, set targets and improve community engagement performance, while reporting objective figures to communities about this performance.

Best practice community engagement offers a powerful tool to assist developers to better understand local perceptions of and expectations for engagement, thereby reducing project risk and increasing the likelihood of mutually beneficial outcomes.

For the purpose of these guidelines, social licence to operate is defined as:

The general level of acceptance, approval or support, continually granted to a solar farm proponent's proposed or actual project, by local communities and other stakeholders.

To this end, the guidelines highlight the steps a proponent should take at each stage of the project lifecycle to:

- Deliver a robust and consistent approach to community engagement
- Develop effective engagement processes and tools
- Build trust and constructive relations between industry and communities
- Build confidence in communities about the benefits of solar farms
- Improve the solar industry's credibility and reputation



What is social licence?

The general level of acceptance, approval or support, continually granted to a solar farm proponent's proposed or actual project, by local communities and other stakeholders.

- Allow effective community input to solar farm developments.

Social licence is not something that, once earned, is fixed and unchanging. It varies over time in response to changes in the community and developers' behaviour. It is therefore something that has to be renewed and earned every day and a goal towards which the industry should constantly strive.

Only genuine dialogue and willingness to understand and respond to community expectations will enable successful solar farm development in the long-term.

The guidelines include principles, frameworks and approaches which offer individual proponents, and the Australian solar industry, the tools to earn and strengthen their social licence to operate through genuine community engagement.

Using these Guidelines



The guidelines are structured as follows:

Section 2 – Planning and approvals: Outlines government approvals required for a solar farm and the assessment process for applications.



Section 3 – Stages of solar farm development: Provides an overview of the entire solar farm project lifecycle and the associated technical, environmental and social considerations at each stage.



Section 4 – Community engagement: Outlines community engagement principles and practices to help the solar farm industry build, strengthen and maintain its social acceptance. This section also recommends community engagement objectives, activities and tools that can be applied at each stage of a solar farm's lifecycle.



How do solar farms work?

Although there are a number of solar technologies that capture the sun's energy in various ways, the guidelines specifically relate to solar farms comprising large-scale commercial (typically greater than five megawatts) photovoltaic (PV) solar arrays. These solar farms are of a similar technology to the solar panels that many households have on their roofs across Queensland.

Solar farms consist of a collection of PV solar arrays and ancillary infrastructure that produces electricity on a commercial or utility scale. The exact make-up of a solar farm can vary for each project depending on the constraints of the site, the chosen technology and the desired end-use of the electrical output. A typical large-scale solar farm is illustrated below.

Solar panels

PV solar arrays are made up of solar panels attached to a mounting structure. Each solar panel contains a number of PV solar cells that convert sunlight into electric current using semi-conductive materials. This is known as the photovoltaic effect.

Land

A solar farm requires approximately two to three hectares of land per one megawatt of power generation.

Ideal sites have a relatively flat topography, suitable geological conditions, a low risk of flooding, and lower ecological and agricultural value.

Solar panels

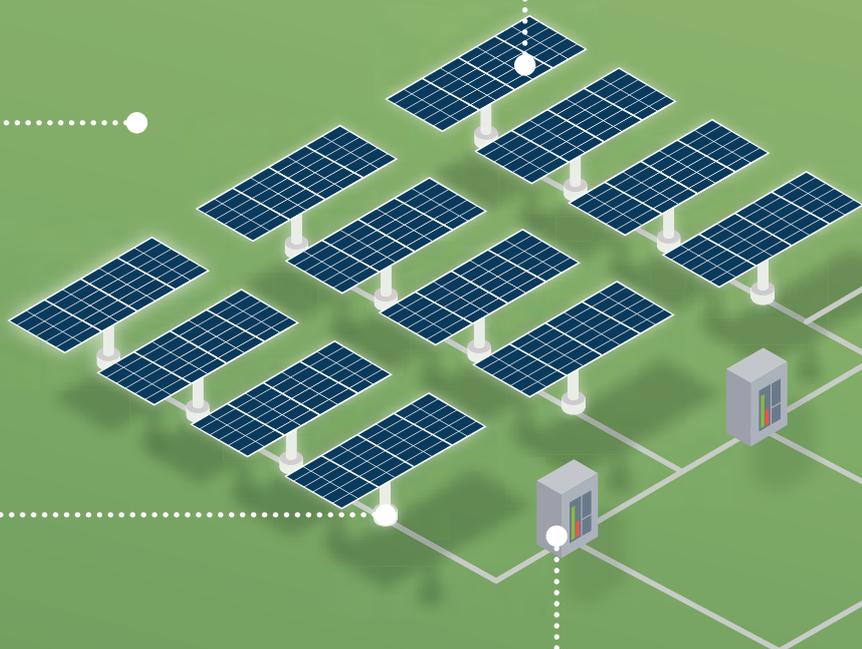
Australian solar farms generally use the following technology types: fixed arrays, dual-axis trackers and single-axis trackers.

- Fixed arrays are set at a calculated position to provide an optimal output. The panels are orientated in a position favouring the morning, midday or afternoon sun.
- Dual-axis trackers are mounted on a system that tracks the sun across the sky, as the elevation changes throughout the year. Dual-axis trackers require larger spacing than fixed arrays to reduce inter-shading.
- Single-axis trackers follow the sun as it crosses the sky in one direction, but do not adjust for seasonality. This system achieves more output than fixed arrays, and may use less land than dual-axis trackers.

Inverter system

The electric current produced by the solar panels is typically direct current (DC), which is also the type of electricity held in battery storage. The inverter transforms DC to alternating current (AC) before connecting into the electricity grid.

The number of inverters depends on the size of the solar farm and the inverter rating. In most cases, multiple inverters are placed throughout the solar farm. These are often contained within a shipping container and delivered to site as one unit.



Energy generation

The final output of the solar farm will vary depending on the strength of solar irradiance present at the area.

Energy storage

- Electricity produced by a solar farm must be consumed as it is generated, unless it can be converted into other forms of stored energy.
- Large-scale battery storage is a relatively new technology. As technology evolves, battery storage design and operation is likely to change and may become more economical and efficient to use as part of large-scale solar farm development.

Substation or transmission

- Solar farms can be connected to the grid via a local substation or overhead transmission line infrastructure.
- The grid connection will need to be located in a section of the network with available capacity to export the electricity to the National Electricity Market.
- Proximity to a grid connection is an important consideration for the location of solar farms.

Battery storage

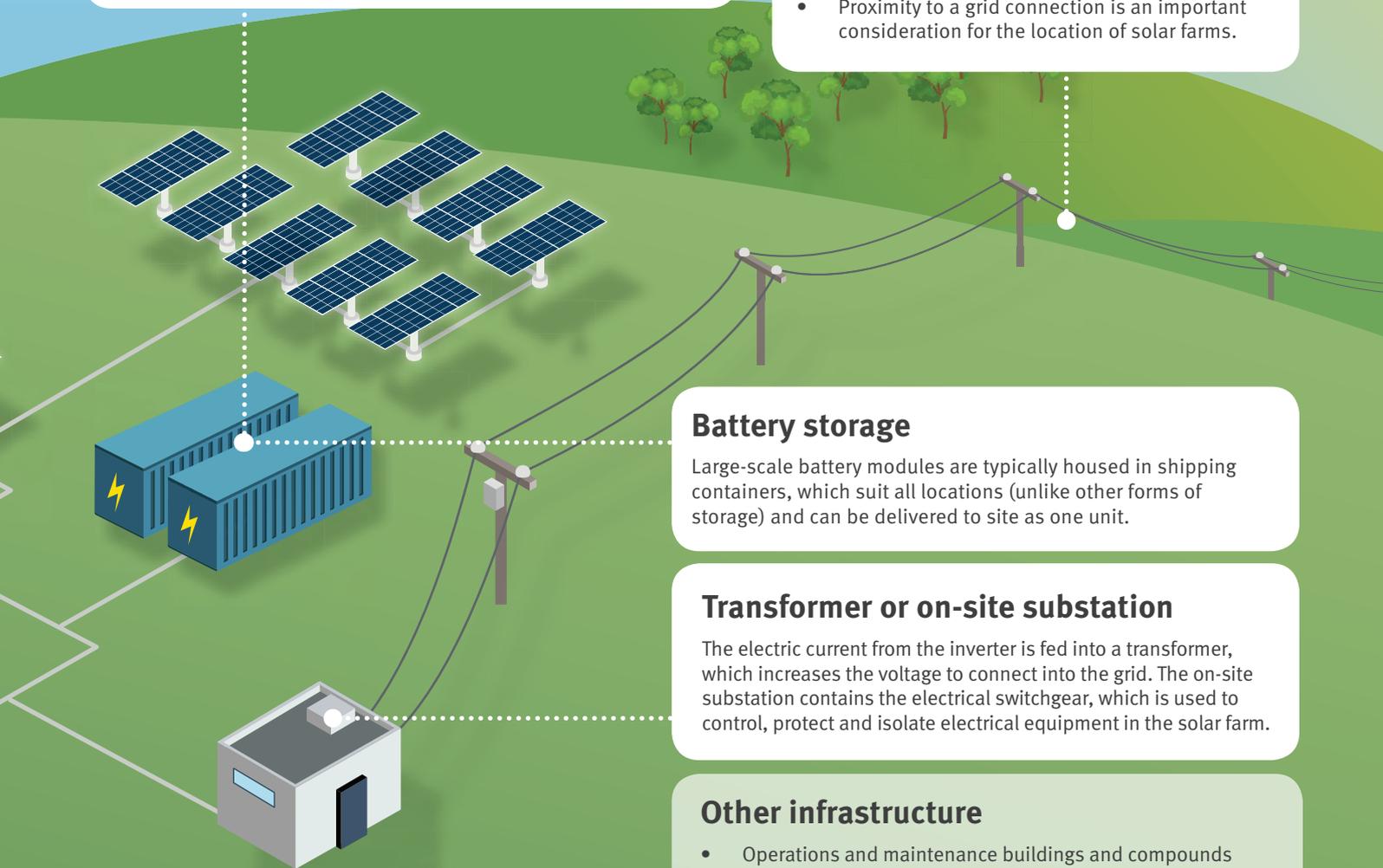
Large-scale battery modules are typically housed in shipping containers, which suit all locations (unlike other forms of storage) and can be delivered to site as one unit.

Transformer or on-site substation

The electric current from the inverter is fed into a transformer, which increases the voltage to connect into the grid. The on-site substation contains the electrical switchgear, which is used to control, protect and isolate electrical equipment in the solar farm.

Other infrastructure

- Operations and maintenance buildings and compounds are established during construction and may vary in size, depending on the requirements of the solar farm.
- Access tracks allow vehicles to move around the site, undertake construction and conduct maintenance activities.
- Internal electrical reticulation, typically laid in trenches, connects the solar panels.
- Sites typically include security fencing and vegetation screening on the perimeter.







Got a concern?

If you have any feedback or concerns regarding a solar farm proposal or development, you are encouraged to get in touch with the project proponent directly. Your feedback can provide valuable information to assist the proponent to improve its planning, construction or operations.

Developers should clearly communicate and make available a contact telephone number and email address from the early stages of project development and proactively encourage feedback and enquiries from the community. A community member should also be able to provide feedback free of charge, either through a toll-free (1800) telephone number or through the proponent's project web site.

Should the project be at a very early stage and public enquiry channels have not yet been established, or if the developer is unresponsive to requests for information, community members may consider contacting the relevant local council to seek further information.



Planning and approvals

SECTION 02



2.0

Planning and approvals

Legislative framework

In Queensland, solar farms are assessed and generally determined by local councils via development applications lodged under the *Planning Act 2016*. As each site is unique, there is the potential for particular matters, environmental values or legislative requirements to trigger the involvement of, most commonly, the Queensland Government and, occasionally, the Australian Government.

It is important to note that planning issues relevant to a particular project will vary between sites.

There are a number of strategic planning documents which may be relevant to a particular project including regional plans, the State Planning Policy, and local planning schemes which provide planning policy for the assessment of these issues. In the case of the State Planning Policy, it does not prioritise one state interest over another at a state-wide level. It is the responsibility of local government to identify relevant state and local interests, determine how to balance these interests and how best to integrate these interests into a local planning scheme.

For a state as large and diverse as Queensland, there may be differences in how planning issues are dealt with. Local government is encouraged to apply alternative, innovative approaches that meet their local and regional circumstances.

Local Government

In most cases, the local council is the planning authority responsible for assessing a solar farm development application using the assessment benchmarks in the local Planning Scheme. The local council will act as the Assessment Manager for the development application and other approvals that may be required (e.g. reconfiguration of a lot applications and operational works permits for earthworks, roadworks or other civil engineering activities).

It is the role of the local council to set the preferred strategic direction for solar farms. This is established through the Planning Scheme prepared and adopted for a particular local government area. The Planning Scheme outlines the strategic intent for the local government area and the assessment benchmarks that development applications will be assessed against. The planning scheme can be used by proponents and the community to understand the matters that need to be addressed in any development application for a solar farm.

Queensland Government

There are a number of ways in which the Queensland Government can become involved in a solar farm project.

Firstly, under Queensland's planning system, the Queensland Government, through the State Assessment and Referral Agency (SARA), assesses development applications which may affect a matter of state interest (e.g. impacts to state transport corridors or state heritages places). For solar farm development applications, SARA will typically act as a referral agency. Under the *Planning Act 2016*, a referral agency can direct the Assessment Manager (typically the local council) to impose conditions of approval or refuse a development application.

Proponents can determine if their proposal triggers referral to SARA by referring to the *Planning Regulation 2017*. Common SARA referral triggers include development on land in proximity to a state-controlled road or native vegetation clearing. SARA acts as the decision maker for the state and coordinates its assessments through its regional offices, drawing from technical advice provided by relevant state agencies. Development applications are assessed against the relevant assessment benchmarks in the State Development Assessment Provision (SDAP).

There may be a requirement to obtain approval(s) from other Queensland Government departments for matters which sit outside of the planning and development assessment framework. For example, a project will require a clearing permit, issued by the Department of Environment and Heritage Protection, under the *Nature Conservation Act 1992*, if clearing activities include endangered, vulnerable or near threatened plants.

Also, matters related to land owned by the Queensland Government, or securing tenure over land held under lease, may require agreement from the Queensland Government. In certain circumstances this may also include resolving matters of native title under the *Native Title (Queensland) Act 1993*.

Finally, project proponents have a duty of care under the *Aboriginal Cultural Heritage Act 2003* to provide effective recognition, protection and conservation of Aboriginal cultural heritage. This can cover areas of cultural significance, objects and artefacts and evidence of Aboriginal history and heritage. Proponents are legally required to maintain a duty of care and consultation with the local Aboriginal party is recommended.

Australian Government

Planning and environmental approval at a federal level may be needed when projects are deemed to potentially affect Matters of National Environmental Significance (MNES) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The EPBC Act enables the Australian Government to assess a project under a national scheme of environment and heritage protection and biodiversity conservation. The EPBC Act focuses solely on the protection of MNES. The states and territories have responsibility for matters of state and local significance.

The nine MNES are:

- World Heritage properties
- National Heritage places
- Wetlands of international importance (often called ‘Ramsar’ wetlands after the international treaty under which such wetlands are listed)

- Nationally threatened species and ecological communities
- Migratory species
- Commonwealth marine areas
- The Great Barrier Reef Marine Park
- Nuclear actions (including uranium mining)
- A water resource, in relation to coal seam gas development and large coal mining development.

If desktop or site-based investigations identify the potential for a significant impact on MNES, or the impacts are unclear, the proponent will refer the project to the Australian Government Department of the Environment and Energy (DoEE). DoEE will assess the project and determine whether it should be considered a ‘Controlled Action’ (i.e. that is, deemed to significantly affect MNES) or ‘Not a Controlled Action’. Where a project is considered to be a ‘Controlled Action’, the proponent will undertake further site-based assessment to identify options to avoid, minimise or offset the aspects of the project that impact on protected matters under the EPBC Act.

Stage	Description
Pre-application	<p>Prior to submitting an application, proponents are encouraged to undertake a pre-lodgement meeting with the Assessment Manager. Pre-application meetings can also be requested with SARA where a development application affects a matter of state interest.</p> <p>This step gives the proponent a better understanding of the specific site issues and allows the Assessment Manager to identify information that will be required when making their decision.</p>
Development application	<p>The development application is submitted and checked for completeness to ensure that all required information is provided (e.g. land owner consent, application fee and supporting information). The Assessment Manager issues a confirmation notice to the proponent once the application is accepted as properly made.</p>
Referral	<p>If referral is required, the proponent must refer the development application to the relevant referral agency once the compliance notice is received. The referral agency can recommend conditions of approval and, in particular circumstances, can direct the Assessment Manager to refuse an application.</p>
Information request	<p>During assessment, the Assessment Manager may formally request more information from the proponent to clarify any aspect of the application or provide further advice where areas of concern are identified.</p>
Statutory public notification	<p>Some applications must undergo statutory public consultation. If the application is classified as impact assessable by the local planning scheme, the proponent must place a sign on each road frontage, a public notice in the local paper and provide notification to adjoining landowners. Community members can then make submissions about the application. The Assessment Manager must take into account the matters raised in all properly made submissions (that is, a submission lodged before the closing date that complies with the <i>Planning Act 2016</i>).</p> <p>Not all applications are required to undertake statutory public notification and this will vary based upon the categories of development and categories of assessment established in the local council planning scheme.</p>
Decision	<p>Following the completion of statutory public notification (if required) and receipt of all referral agency responses, the Assessment Manager determines the application by undertaking an assessment against the relevant assessment benchmarks in the planning scheme and, where applicable, any other relevant matters in the <i>Planning Act 2016</i>.</p> <p>In some circumstances, the recommended decision can be signed-off by a delegated officer, or the decision may be referred to a planning committee, enabling local councillors to make a decision on the development application. An application can be ‘approved’, ‘approved subject to conditions’, ‘approved in part’ or ‘refused’. If a decision to approve an application is made, it will likely be accompanied by a range of conditions for the future construction and operation of the solar farm. In some instances a condition of approval is applied that limits the solar farm use of the land for 20 or 30 years from the commencement of the use. A change application would be triggered if this condition is to be amended to extend the operational life of the solar farm.</p>
Appeal	<p>Should a development application be approved, there is a period of time within which the applicant can request to negotiate conditions imposed by the development approval. If the application is refused by the council, the proponent is able to lodge an appeal with the Planning and Environment Court.</p> <p>Submitters are entitled to appeal the decision of an impact assessable development application if they made a properly made submission during the public notification period.</p>

Table 1: Development Assessment Process

Development assessment

A solar farm is considered to be a form of development that constitutes a material change of use, for which a development permit is typically required. While local councils are able to vary the category of development in their local planning scheme, solar farms are most commonly classified as assessable development, for which a development approval is required.

The process for securing a development approval for a solar farm involves lodging a development application with the relevant local council. A summary of the key stages of the development assessment process are outlined in Table 1.

Planning Act 2016

A development approval under the *Planning Act 2016* is the primary government approval needed for a solar farm. This application will generally be made to the local council who will assess the development application against the assessment benchmarks in its planning scheme.

The development assessment process:

- Establishes the suitability or otherwise of the land use
- Controls the nature of the development in terms of design, layout and appearance
- In some circumstances, provides an opportunity for the public to lodge a submission to the proposal
- Imposes conditions (where an application receives approval), which are to be complied with during construction and/or operation.

Common forms of assessable development for a solar farm include:

- Material change of use (solar farm use)
- Reconfiguration of a lot (including a subdivision by lease exceeding 10 years)
- Operational works (earth works or native vegetation clearing).

Development assessment process

The development assessment system under the *Planning Act 2016* sets out a standard process to ensure development applications are assessed and decided consistently and transparently.

The Planning Act 2016 and Development Assessment Rules should be referred to for detailed process questions and issues. Alternatively, advice should be sought from a town planning professional.

Landowner consent

Importantly, for a development application to be accepted as properly made, it must be accompanied by the consent of the registered landowner. Obtaining landowner consent is typically achieved through negotiation. If the proposal includes state-owned land, then owner's consent needs to be obtained from the Queensland Government. There is a specified process for obtaining consent for state-owned land, which is administered by the Department of Natural Resources and Mines.

Other Regulatory Approvals

Solar Farms require a range of other regulatory State and Federal approvals which relate to the connection of the project to the grid or accreditation as a renewable energy provider. Such approvals include:

- A generation authority application with the Regulator (currently the chief executive of the Department of Natural Resources, Mines and Energy) is necessary in line with the requirements set out in the *Electricity Act 1994* (Qld). A generation authority is required before a generating plant can be connected to a transmission grid or distribution network. The Regulator seeks public submissions during the approval process for a generation authority, and also considers the project's development approval.
- Accreditation as a large-scale renewable energy generator by the Clean Energy Regulator in line with the requirements set out in the *Renewable Energy (Electricity) Act 2000* (Cth). Accreditation is required to enable the solar farm to generate and trade large-scale generation certificates under the Federal Large-scale Renewable Energy Target. The CER will consider a project's compliance with the conditions of its development approval during the accreditation process.





Code assessable versus impact assessable development and appeals

The category of assessment for a solar farm in a local planning scheme determines if public notification is required. It also dictates whether submitter appeals can be brought to the Planning and Environment Court.

Solar farm developments fall into one of two categories of assessment – **code assessable** or **impact assessable**. This decision is made by the local council.

- **Code assessable** applications are not required to carry out public notification under the *Planning Act 2016*. Stakeholders, including the community, can still make a submission to the council about the proposed development, however council does not need to consider these submissions in making its decision and there are no rights of appeal. Councils assess these applications against the relevant codes in the planning scheme and having regard to any relevant matters under the *Planning Regulation 2017*.
- **Impact assessable** applications are determined to have a degree of ‘impact’ that requires a greater level of assessment and a statutory public notification and submission process. Applications are assessed against the assessment benchmarks in the planning scheme, and any other relevant matters as described in the *Planning Act 2016*. **Impact assessable** applications must undergo public notification, typically for a minimum period of 15 business days.

When undertaking public notification, proponents must inform particular stakeholders about the opportunity to provide comment by:

- Placing notices on the site informing the public
- Issuing a letter of notification to the owners of adjoining properties
- Publishing a notice in a locally circulating newspaper.

Public submissions may be in support of, or against, the proposed development.

- **Appeals.** There are a number of processes available to proponents and communities to apply to the Planning and Environment Court to have a decision reviewed.
 - **Proponents** are entitled under the *Planning Act 2016* to appeal a decision to refuse (or deemed refusal) an application or specific conditions of an approval. The proponent must make the application to the court within the required period of time after a decision.
 - **Communities** and general members of the public are entitled under the *Planning Act 2016* to appeal a decision for an **impact assessable** application provided their submission was properly made. A properly made submission is one that is signed, states the name and address of the submitter(s), states the grounds of the submission, and is lodged with the Assessment Manager by the closing date for submissions. The local government must consider all properly made submissions and notify each submitter once a decision has been made. The submitter must make the application to the court within the required period of time after the decision.
- **Other appeals.** Under the *Judicial Review Act 1991* and *Planning Act 2016* there are specific circumstances where a proponent and community can seek a judicial review of a decision to the extent it is affected by a jurisdictional error.

A wide-angle photograph of a solar farm at sunset. The solar panels are arranged in long, straight rows that recede into the distance. The sky is a mix of orange, pink, and blue. The overall scene is peaceful and industrial.

Stages of solar farm development

SECTION 03



3.0

Stages of solar farm development

All large-scale solar farms go through six distinct stages of development – **site selection, feasibility, detailed assessment, construction, operation and end of life management.**

Understanding these stages can prepare stakeholders so they know what to expect at each stage from project proponents, and how they may become involved.

Stage one: site selection

Proponents generally begin a project by investigating an area's potential for a solar farm. They will seek to identify:

- A site with the fundamental characteristics required for operating a solar farm
- Any technical, environmental or cultural heritage issues or constraints
- Proposed site boundaries and potential site access
- A site area suitable for further investigation, as part of the feasibility stage.

Technical considerations

The site selection process involves desktop studies to determine site suitability. The site selection requirements may differ from project to project, but the key technical criteria proponents consider include:

- High solar irradiation and suitable climatic conditions including annual rainfall, cloud coverage and temperatures, which may impact on operations
- Close proximity to a suitable grid connection point with capacity to accept the solar farm output. Due to the high cost of building transmission lines, contemporary solar farms typically seek to be sited within 2 kilometres of a grid connection with ample capacity. This distance may be increased where solar farms are very large. Information regarding prospective areas for solar farm development is available from Powerlink and the Australian Energy Market Operator.
- Suitable land, which is relatively flat, has a low risk of flooding, suitable geological conditions, and where possible avoids important agricultural land (typically defined as Agricultural Land Classification Class A and B).

At this stage, the proponent should also investigate the potential environmental and planning constraints that could affect the viability of the solar farm, including:

- The cultural significance and ecological values of the proposed site (e.g. listed or endangered flora and fauna species that may be present)
- Any local, state and federal assessment requirements and approval triggers that apply to the proposed site
- Visual amenity and proximity to sensitive receptors (e.g. residential properties) or urban areas.

Based on the outcomes of the desktop assessments, the proponent should then develop a project approvals plan, which maps out the proposed project delivery timeframes.

Social considerations

Understanding the unique social context (or social baseline) of a community is critical to understanding community attitudes towards large-scale solar and contributes to the success of the solar farm development. Social context considerations include:

- Land availability and ownership
- Community sentiment and values
- Surrounding land use
- Perceived impacts and benefits
- Cultural heritage.



What the community can expect

This is the first stage of the project and involves the proponent undertaking desktop studies to identify a potential solar farm site. Engagement during the site selection stage focuses on gathering information about the key stakeholders and the social context of the site to guide the solar farm through the development lifecycle and achieve mutually beneficial outcomes for the proponent and the community. Key engagement tools may include:

- Face-to-face engagement with key stakeholders such as landowners, local council and elected officials
- Baseline community survey.

For this reason, proponents should first research the social context of the site, mapping and profiling stakeholders to understand who might be affected by the solar farm development. This may include stakeholders who have interest in or influence over the site or project.

At the site selection stage it is not possible for a proponent to provide certainty that the project will proceed and engagement is likely to be limited to key stakeholders, such as local councils and landowners. Through early engagement with these stakeholders, the proponent will gather information to inform site suitability and prepare for future stages, if the project proceeds.

Good practice engagement with key stakeholders at this stage may include face-to-face briefings to provide clear and transparent information about the status, potential impacts (e.g. change to scenery or traffic issues) and benefits (e.g. opportunities for local jobs and supply contracts) of the project.

Based on the social context of the site and the dependent upon the level of certainty and confidentiality of the project, at this stage it may be appropriate to engage with the local community.

The examples of the types of engagement with key stakeholders at site selection stage may include:

Stakeholder	Nature of engagement at site selection
Local councils	Engagement with local councils, including elected representatives, will provide the proponent with a greater understanding of the social context, alignment between the project and council objectives, community sentiment and access issues.
Queensland Government	The presence of any State interests should be established, including any matters which might trigger referral of a future development application to Queensland Government as part of the assessment process. This information should be used to determine potential constraint and assessment matters for the site.
Landowners	Engagement with landowners will focus on securing access to a suitable site if the project moves forward. As large-scale solar farms typically require a large envelope of land, multiple landowners may be involved. Land use agreements may not be established at site selection stage, but consent from the owners of the land needs to be received prior to the proponent submitting a development application to the local council.

Table 2: Engagement Activities: Site Selection



Stage two: project feasibility

At the feasibility stage, the proponent will determine the physical and financial viability of the project to provide confidence that the site is suitable and the project can be practically achieved. This typically involves:

- Developing a preliminary site layout to inform the development process
- Reaching formal agreement for site access, lease or purchase with landowners
- An increased physical site presence to undertake technical feasibility studies (e.g. geotechnical investigations, topographical surveys, flora and fauna surveys)
- Developing an approvals strategy to avoid, minimise, mitigate or offset the constraints and issues identified at the site selection stage.

Technical considerations

Technical studies are undertaken to determine the feasibility of the project. The objective of these is to:

- Inform the project layout and design (i.e. a concept layout of the PV panels and ancillary infrastructure) including site access
- Consider how the solar farm might be able to integrate with existing land uses, identifying potential issues, opportunities and possible mitigation strategies
- Inform the approvals strategy by further refining the understanding of the site's technical, environmental and planning constraints
- Outline the performance characteristics of the large-scale solar farm.

These technical considerations will inform the preparation of the proponent's development application. At the conclusion of the technical studies, the proponent may be able to identify if the project will have an impact on MNES. At this stage, a referral under the EPBC Act to the Australian Government DoEE may be undertaken by the proponent.

Social considerations

Project feasibility can be greatly influenced by the level of community acceptance. As the project becomes more visible, the proponent will need to communicate proactively with stakeholders to provide information about the project and its activities, and in order to establish, build or maintain social acceptance.

Engagement with key stakeholders at the site selection stage will have provided the proponent with a preliminary understanding of the project's stakeholders, the social context of the site, potential issues and concerns, and the ways in which the proponent may contribute to community outcomes and development. Engagement at the feasibility stage will provide the proponent with a detailed understanding of the issues critical to the community.

At this stage, a Community Engagement Plan should be developed to provide a framework for engagement across the project lifecycle. This typically includes:

- Contextualising the communication and engagement approach according to local conditions, traditions, preferences and principles to best meet the needs of the community
- Identifying those aspects of the project that may be influenced by the community (e.g. mitigations for community issues such as visual amenity), engaging with the community about those issues and seeking feedback
- Developing and communicating an enquiries, complaints and conflict resolution procedure.

The nature of engagement with key stakeholders at the feasibility stage may include:

Stakeholder	Nature of engagement at feasibility
Local councils	The information gathered during the feasibility stage will be used to inform the project's development application. At this stage, the proponent may have a pre-lodgement meeting with the local council to seek assessment guidance and inform the development application. The proponent may also provide advance notice of communication and engagement activities to the local council.
Queensland Government	Depending on conditions present on the site, involvement with one or more Queensland Government Department may be required. A pre-lodgement meeting via the State Assessment and Referral Agency (SARA) will assist in confirming the principle assessment issues.
Landowners	Engagement with landowners will continue to focus on securing access. A land access agreement will be required to undertake technical studies on the site. The proponent and landowner may continue or complete commercial negotiations to finalise an agreement for the life of the project. As part of securing access, the proponent will also have detailed discussions with landowners to consider the compatibility of the proposed solar farm in the area and the need for undertaking specific design, construction or operational mitigation measures.
Traditional Owners	Engagement with Traditional Owners will focus on identifying, managing or otherwise excluding areas of cultural heritage value. The proponent and Traditional Owners may need to continue or complete negotiations to finalise a cultural heritage management plan (CHMP) for the life of the project.
Community	Engagement with the local community and other interested stakeholders at the feasibility stage is aimed at raising awareness of the project, building a respectful relationship, and responding to the community's issues and concerns. At this point, a proponent may seek to engage with the landowners of adjoining properties to inform them of the project. The proponent may share detailed information about the project including the concept layout. The proponent should seek to establish social licence for the solar farm development.

Table 3: Engagement Activities: Feasibility

Typically at this stage, the proponent will engage with the wider community. As it is still not certain if the project will proceed, proponents may need to manage information sharing until a firm commitment to proceed with a particular site and project has been made.

Guided by the Community Engagement Plan, the proponent could engage with the community in any number of ways appropriate to the local context of the site (e.g. information sessions, one-on-one engagement, and community reference groups). Active engagement at this stage will assist in identifying issues of interest (e.g. native vegetation and biodiversity, landscape and visual amenity, glint and glare, property values, local economic and community benefits). Based on the feedback from this engagement, the proponent may need to undertake further investigations, where appropriate, and provide the findings of these to the community.

The proponent should select mitigation strategies that respond to community feedback and clearly document how these strategies have been developed. Based on the size of the community, and the level of interest which the project stakeholders hold, involvement in the decision-making process may be open to the general public, or limited to a community reference group.

Communication at the feasibility stage will explain what the project is about; describe the potential benefits, roles and responsibilities; the goals of the feasibility stage; the integration of the project into the existing land uses and community; and what the future might hold for the community if the project moves forward. Communication will also provide advance notice of any site activities, describing the nature and importance of the activities and possible associated impacts.

Consent to access the proposed site for technical studies, and to secure access for the life of the solar farm, will be negotiated with the landowner. There are several types of contractual agreements which are possible with landowners.

Any agreement should consider the allocation of obligations and responsibilities throughout the project life cycle between the landowner and proponent. For example, it should detail the condition in which land is returned to the landowner following the closure of a solar farm. Independent legal advice should also be obtained by a landowner before entering into any agreement.

The table below provides a summary of the most common agreements, the stage at which they are typically executed and the benefits for both the proponent and the landowner.

Type of Agreement	Project Stage	Duration	Benefits for the proponent	Benefits for the landowners
Access agreement	Site selection Feasibility	Typically 1 to 3 years	Site access is obtained for technical feasibility studies Exclusivity and confidentiality is assured	Relatively small revenue (one-off or annual) Flexibility to opt-out
Option to lease	Feasibility Detailed assessment, planning and approvals	Typically not limited in time, valid until the lease option is activated by the proponent	Secured leasing option provides certainty Site access is obtained for technical feasibility studies Exclusivity and confidentiality is assured	Annual financial revenue Ongoing access to and use of the land
Lease	Construction Operation	Typically 20 to 25 years	Secured lease of the land for the life of the solar farm	Annual financial revenue Opportunity to extend lease or re-use the land following decommissioning
Land purchase	Construction Operation	N/A	Ownership of the land	One-off revenue
Easement	Construction Operation	Typically 20 to 25 years	Easement for cables, lines and access roads	One-off revenue

Table 4: Types of land tenance and access agreements



What the community can expect

The community can expect to be engaged by the proponent as part of assessing the feasibility of the project on the basis of a range of site, technical, legal, financial and community considerations. In order to gain a comprehensive understanding of the community context and local issues the proponent will engage with the broader community. As it is still not certain at this stage that the project will proceed, the proponent will carefully manage the information shared and disclosed. Key engagement tools may include:

- Project website, telephone and email address
- Project flyers, notices and newsletters
- Public displays, information sessions or drop-in sessions
- Community reference groups
- Face-to-face engagement with key stakeholders.



Cultural Heritage Management Plans

Throughout Queensland, Aboriginal and Torres Strait Islander cultural heritage sites and places are protected by state legislation which is intended to provide effective recognition, protection and conservation of Aboriginal and Torres Strait Islander cultural heritage.

Cultural heritage is defined as anything that is a significant area, object or evidence of archaeological or historical importance for the Aboriginal or Torres Strait Islander people. Cultural heritage can occur on any site, and it is the proponent's legal responsibility to ensure that a cultural heritage duty of care is applied by ensuring that any activities do not harm Aboriginal or Torres Strait Islander cultural heritage. A cultural heritage management plan (CHMP) is the main tool for achieving this outcome.

In Queensland, the process to develop and seek approval for a CHMP is set out in the *Aboriginal Cultural Heritage Act 2003* and *Torres Strait Islander Cultural Heritage Act 2003*. Prepared in consultation with Traditional Owners, the CHMP is used to avoid or minimise harm to cultural heritage including actions should a new artefact or object be discovered.

There is statutory process for the development and approval of a CHMP. This includes:

- A statutory one month notification of an intention to develop a CHMP
- A three month period to consult and negotiate the terms of a CHMP
- Approval of the plan by the Cultural Heritage Unit at Department of Aboriginal and Torres Strait Islander Partnerships.

This process should be followed even if a voluntary CHMP is being prepared. Consideration should also be given to the time and costs of Traditional Owners in contributing to the preparation of CHMP.

Stage three: detailed assessment, planning and approvals

The detailed assessment, planning and approvals stage is the final stage of the large-scale solar farm lifecycle before the development application is lodged, the proponent will have established the project is both commercially and technically viable before proceeding through the development assessment process.

At this stage, the proponent will:

- Complete detailed technical studies to support the development of a solar farm design
- Finalise the solar farm layout (i.e. the intended layout of the PV panels and ancillary infrastructure), including site access and screening, with consideration of the expectations, needs and concerns of the community
- Prepare and lodge the development application with the local council and planning authorities. This will follow the development assessment process outlined in Section 2.

Technical considerations

At this stage, the proponent will complete detailed assessments of technical, environmental and planning constraints and identify the ways in which these constraints will be managed or mitigated to inform the development application. This may include:

- **A grid connection application** with the network service provider in line with the requirements set out in the National Electricity Rules. The general alignment and infrastructure associated with the future grid connection may be subject to change.
- **Impact assessments**, such as glint and glare assessments or visual amenity assessments, to properly understand the potential impacts and propose an appropriate design response or mitigation measures. These assessments are not required for all development applications as they are determined based on proximity to surrounding sensitive receptors, such as urban areas or airports.
- **Land use assessments** to determine the existing land use both on the proposed site and surrounding area. This includes identifying features such as powerline easement corridors, future road corridors, future urban growth areas, areas of local environmental significance or important agricultural land.
- **A detailed assessment of ecological values** that builds upon the desktop studies conducted during the site selection and feasibility stages. Where environmental matters are present, impacts should be systematically and consistently addressed through a range of federal, state and local legislation and policy.
- **Traffic assessments** that consider both construction and operational volumes. Traffic management measures will also be considered to allow safe access to the site. This will include consideration of heavy goods vehicles, potential for impacts on local roads and maintenance and repair regimes.
- **Flooding and stormwater management plans** that consider existing overland flow pathways, discharge points and changes that may arise as a result of development on the

site. The purpose of these plans is to ensure that there is no worsening of stormwater quantity or quality for any downstream properties.

- **A decommissioning plan** specifying how decommissioning will be undertaken after the operational life of the development is complete.

At the conclusion of the detailed assessment, planning and approvals stage the proponent will lodge the development application with the local council and relevant planning authorities and await determination. Depending on the complexity of the site, and the mechanism through which the development application is assessed, the assessment process can take approximately six to 12 months.

Social considerations

At this stage of the development process, the project has passed through feasibility and the proponent should be confident that the project can be practically achieved. However, before the development application is lodged, the proponent should seek to resolve, or otherwise respond to, the critical issues raised by the community during earlier stages. This is important because, at this stage, community support for large-scale solar projects is reliant on the proponent's ability to establish, build and maintain social licence by:

- Keeping all stakeholders updated about the progress of the solar farm development
- Utilising various tools and approaches that engage the community across the various levels of the International Association of Public Participation (IAP2) Spectrum¹ specific to their needs as identified in the Community Engagement Plan
- Sensitively responding to the needs and expectations of the local community about the construction and operation of the solar farm
- Communicating the opportunities for the community, including benefits to the local economy and businesses, that will be realised at the construction and operations stages.

Guided by the Community Engagement Plan, which considers the specific social context of the site and wider community, the proponent should engage with the community to gain general acceptance, approval or support of the project. At this stage, it is likely that communication and engagement will increase and various tools and channels will be adopted to engage the community such as information sessions, one-on-one engagement, and community reference groups.

Communication should outline the basis for the decision-making process and opportunities for the community to contribute and provide feedback. The proponent may then undertake engagement activities to demonstrate the ways in which it has influenced the final design of the site.

The proponent may also consider developing a local industry participation plan or social sustainability plan, outlining their commitment to delivering local economic benefits during the construction and operational phases, such as jobs and training, procurement and spending, and social benefits, such as community development and sponsorships.

There is typically a period of reduced activity for the project once the development application is submitted to the local council and planning authorities. Proactive, regular communication during this time can dispel any false perceptions that the project has stalled or is not proceeding and maintain community confidence. At this stage, communication may also explain the next steps for the project and the potential implications for community, including the ways in which communication and engagement will be maintained during future stages. Following the submission of the development application, the proponent may be required to undertake a statutory public notification process should the council determine the project to be impact assessable development.

The nature of engagement with key stakeholders at detailed assessment, planning and approvals stage may include:

Stakeholder	Nature of engagement at detailed assessment, planning and approvals
Local council	The proponent will confirm with the local council whether the project is code or impact assessable. The development application will then be prepared and submitted to the local council and any other relevant planning authority once the relevant technical assessments have been completed. The proponent may also provide advance notice of communication and engagement activities to the local council, ensuring opportunity has been provided to participate in the decision-making process.
Queensland Government	If required, the development application will be referred Queensland Government via SARA. The application should include assessment of the relevant State development assessment provisions (SDAP).
Landowners	If a land use agreement for the life of the project (such as Option to Lease, Lease or Land Purchase) has not been secured, this will be finalised prior to the lodgement of the development application. The land use agreement will formally record any specific design, construction, operational or decommissioning requirements.
Community	Engagement with the local community and other interested stakeholders at this stage will focus on resolving, or otherwise responding to, community issues. The proponent may involve the community in the decision-making process and collaboratively develop mitigation options in consultation with broad or narrow sections of the community. Impact assessable applications must undergo public notification, which typically occurs for a minimum period of 15 business days. This provides an opportunity for the community to make either a positive or negative submission on the proposed development.

Table 5: Engagement Activities: Detailed assessment, planning and approvals.

What the community can expect

The planning and approvals stage includes the detailed design of the solar farm project and consideration of community expectations and issues. The proponent will undertake targeted community engagement up front to allow the community to have their say and inform the design of the project. Technical specialists will also visit the site to undertake detailed studies that will be submitted with the development application. The development application and supporting material will generally be published on the local government’s website and may also be made public on the project website. Key engagement tools may include:

- Stakeholder surveys or deliberative polling
- Face-to-face engagement with key stakeholders
- Community reference groups
- Public displays, information sessions and/or drop in sessions
- Proposed site layout and concept design
- Community forums, focus groups and/or workshops
- Public submissions and response (depending on the application’s level of assessment)
- Public enquiries telephone line, email address and/or website for enquiries, complaints and feedback.





What is Financial Close?

Large-scale solar projects may rely on finance from a lender or investor to enable construction. Financial close refers to a point in the development process that marks the completion of all project and financing agreements for the successful funding of a project. Financial close usually occurs when:

- Planning and environment permits are obtained
- Connection to the grid is approved by the network service provider
- Off-take agreements between the energy producer and the buyer are in place
- Economic estimates for the capital expenditure, production and generation meet the requirements of the lender, investor and proponent.

Lenders and investors have high expectations for quality and often require independent project information during the process to understand risk. Independent due diligence analysis is undertaken on behalf of the lending party. Projects with a sound and thorough development process are more easily financed, whereas projects that are insufficiently developed and presented may incur higher finance costs due to the inherent risks of the investment.

The timeframe to complete this process will vary from project to project and can be drawn out if the due diligence process was insufficient or agreement cannot be reached between the proponent, lender or investor. During this period, the proponent should endeavour to keep key stakeholders informed of the project status.

The construction stage of the project will typically only proceed when finance has been secured to allow engagement of contractors who will build the solar farm. This is usually under an Engineering Procurement Contractor (EPC) arrangement.



The role of management plans

Proponents prepare a range of management plans to control activities at different stages of the project life cycle which should be referred to by staff throughout the project. Management plans are not always public documents, however proponents are encouraged to make them available to the community. Examples of management plans prepared by proponents include:

- **Health and Safety Management Plan:** This document would consider risks to site staff both during construction and operation of the facility. It will detail standard operating procedures for key tasks or known high risk activities and includes site induction procedures.
- **Cultural Heritage Management Plan:** This plan describes protocols and processes for managing known existing cultural heritage features or new features encountered during construction, including engagement with Traditional Owners.
- **Operational Environmental Management Plan:** This document identifies and manages potential impacts upon existing environmental features and specifies appropriate mitigation and control measures during the operation of the solar farm.
- **Construction Management Plan:** This plan details the on site and off site activities in terms of overall construction methodology, timeframes and procedures for managing and minimising traffic, noise, dust, stormwater, erosion and sediment control, waste and other local impacts during construction. It may also include workforce accommodation if on a remote site.
- **Community Engagement Plan:** This plan outlines the community engagement approach and activities throughout the project including the nature, method and frequency of communication, feedback procedures, the establishment of community reference groups and other planned engagement tools and activities.

Stage four: construction

Upon receiving all necessary approvals for the solar farm, the construction phase will begin. This stage represents the peak period of on-site activity across the life of the solar farm. Construction timelines vary depending on a number of factors, such as location, size and capacity, but typically range from six to 24 months. The size of the construction workforce will also vary, but can range from 50 to 300 on-site staff.

Technical considerations

Construction of a solar farm is a large-scale operation. It will typically include a high volume of deliveries in order to bring solar panels and other infrastructure to site. Similarly, there will also be ground preparation, site clearance and other earthworks. Although construction activity is temporary, it is worth highlighting the general nature of construction and the types of activity that may be seen on site. Typical construction activities include:

- **Site establishment:** Site establishment is the first activity to occur. Temporary buildings will be installed to provide a site office and workshop and will be positioned to minimise direct impacts on neighbouring properties. An area will be established to store materials and equipment. Temporary fencing may be installed to delineate the site.
- **Site preparation:** Following site establishment, the site will be cleared and prepared for construction. This may include vegetation clearing, earthworks, stormwater management works and the creation of access tracks.
- **Materials delivery:** Equipment will be delivered throughout the construction period. Solar panels are delivered in packs via heavy goods vehicles but typically do not constitute an oversized load and would not normally require special escort or road permits.
- **Construction:** The solar panels are 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.
- **Transmission infrastructure:** Solar farms require internal electrical reticulation of the panels via a system of transformers that link to a central substation. Many solar farm operators place infrastructure such as a transformer or switch equipment within a shipping container module, which means it may be delivered as a prefabricated module.
- **Grid connection and commissioning:** In this final construction stage, the central substation is connected to the external energy transmission grid. This is typically via the 132 KV (or higher) high-voltage grid. Quality and safety checks are undertaken before commissioning.

The local council usually requires the proponent to prepare a Construction Environmental Management Plan (CEMP) to address:

- Risks and significant environmental aspects

- Actions to be taken (including mitigation)
- Performance targets (where appropriate)
- Monitoring processes during the construction of the solar farm.

A CEMP will also capture the conditions of approval imposed by the local council and planning authorities and outline the commitments to ensure they are effectively communicated and complied with throughout construction. The CEMP is generally not made available to the community by the proponent.

The proponent will also be required to develop and implement an Occupational Health and Safety Management System (OHSMS) during this phase in preparation for operations, using the international standard for safety management OHSAS 18001: 2007. An OHSMS typically includes:

- Adequate training of staff
- Risk management
- Safe work guidelines
- Emergency management plans
- Incident management and reporting.

Projects are subject to the Queensland Work Health and Safety Act 2011 (the WHS Act) and the Electrical Safety Act 2002 (the ES Act) and their associated regulations, the Work Health and Safety Regulation 2011 (the WHS Regulation) and the Electrical Safety Regulation 2013 (the ES Regulation) to ensure the safe construction and operation of the project. Project developers should engage early with relevant authorities such as the Office of Industrial Relations and the Electrical Safety Office to ensure that the proposed OHSMS is compliant to Queensland requirements and adequate for the project.

Social considerations

The construction stage is where the majority of change to the use of the land occurs and, whilst this stage typically contains the most impacts for the community, it also provides the most opportunity for mutual benefits. The critical elements of engagement by proponents at this stage include:

- Providing regular, proactive information about construction activities, including timeframes, possible impacts, mitigations and project contact details
- Monitoring, evaluating and reporting on potential community impacts as a result of construction
- Engaging with the community transparently, particularly in relation to complaints handling and management
- Demonstrating commitment to community wellbeing through the implementation of social sustainability activities (e.g. community development funds, partnerships and sponsorships)
- Contributing to the local economy by implementing a local industry participation plan (e.g. local suppliers, subcontractors and workforce, training and education).

The economic benefits to the community of having a solar facility situated locally is realised during the construction phase. At this stage of the development process, the proponent should have a local industry participation plan in place. This may include the establishment of an online procurement and employment portal outlining the opportunities for local businesses to participate in the construction of the project. Communication and engagement with local suppliers and the workforce may also increase during this time (e.g. local industry information sessions/briefings, tender briefings).

Engagement with the community at this stage should focus on communicating and mitigating temporary impacts caused by construction activity, such as increased traffic, construction noise or vibration and other general site activity. At this stage, the proponent may review and update the Community Engagement Plan to ensure that project information is being provided to all interested stakeholders, using the appropriate tools and via the community’s preferred communication channels.

The project communication channels, which should include a variety of communication options, will play an important role at this stage by allowing the community to provide continuous feedback about engagement activities, construction activities and impacts, issues and risks. This two-way communication allows the proponent to refine their engagement approach and tools, respond to community concerns and mitigate potential issues.

Enquiries or complaints made by the community through these channels should be managed using an established protocol to ensure that all representations are responded to in a timely way. The Commonwealth Ombudsman’s *Complaint Handling: Better Practice Guide* (2009) is a good resource for proponents designing their complaints management processes and procedures.

While project websites, telephone numbers and emails are important to provide updates to communities on the project’s development, engagement at this stage should also increase in intensity and frequency. For example, the proponent may establish and advertise a public display centre, host regular information sessions or public meetings, strengthen the role of the community reference group for gathering feedback and communicating with communities, organise visits to the site, establish a social sustainability committee or partnerships for community development.

Both media and local council can greatly influence community sentiment and impact a project’s social licence to operate. At this stage, it is beneficial for a proponent to increase engagement with the media in order to provide clear, complete and timely information, manage emerging issues and build awareness of the project’s benefits. Equally, it would also be beneficial for the proponent to engage in proactive and up-to-date communication with the local council to provide relevant and timely information.

The nature of engagement with key stakeholders at the construction stage may include:

Stakeholder	Nature of engagement at construction
Local council	Following planning approval, the proponent will continue to liaise with the local council to ensure the project meets any specified planning conditions. The proponent may also engage in proactive and up-to-date communication with the local council to provide relevant and timely information, including providing advance notice of communication and engagement activities and notifying of emerging community issues or concerns.
Landowners	If the use of the land is secured under a lease agreement, the proponent will continue to engage with the landowner. Proactive and up-to-date communication with landowners is crucial to provide them relevant and timely information but also for gaining feedback that can improve performance.
Traditional Owners	The proponent may engage further with Traditional Owners as part of social sustainability, local industry participation or diversity initiatives. Similarly, the proponent may be required to engage with Traditional Owners if any cultural heritage issues arise in accordance with the agreed CHMP.
Community	Engagement with the local community and other interested stakeholders at this stage will focus on providing advance notification of potential construction impacts and how they will be mitigated. The proponent may also engage with the community as part of social sustainability or local industry participation initiatives.

Table 6: Engagement Activities: Construction

What the community can expect

The construction stage is the busiest period of activity on site and can last from six to 24 months. The community can expect that the proponent will proactively identify, communicate and mitigate temporary impacts caused by construction activity, such as increased traffic, construction noise or vibration and other general site activity. Key engagement tools may include:

- Face-to-face engagement with directly affected stakeholders
- Construction notices, letters and advice
- Community reference groups and/or social sustainability committees
- Public displays, information sessions, drop-in sessions and/or visitor centres
- Project enquiries telephone line, email address and/or web site for enquiries, complaints and feedback

Stage five: operations

Once construction is complete, the solar farm is commissioned and the operational stage commences. The solar farm may be operated from an on-site premise or from a remote off-site location. The proponent will manage and maintain the solar farm for its operational lifespan. The workforce associated with the operation of a solar farm is small, typically between five to ten staff.

Technical considerations

The proponent will maintain the site and the solar PV panels to ensure optimal output. Ongoing performance monitoring of the impact of the solar farm on the electricity grid connection will also be undertaken, as this is generally a requirement of the Network Service Provider and the Australian Energy Market Operator.

The proponent should develop and implement an Operational Environmental Management Plan (OEMP), and this is often required as a condition of approval on the development permit. The OEMP will address all significant environmental aspects of the solar farm operation, which may include specific monitoring of issues identified during the early stages of development. The OEMP typically includes:

- System and operational monitoring
- Site management and maintenance responsibilities
- Bio security, pest control and weed management
- Complaint handling procedure
- Emergency response plan
- Waste management plan

Social considerations

The solar farm is now part of the social context of the area and engagement tends to shift as the solar farm becomes part of the community in which it is operating. At this stage, engagement should focus on maintaining positive, mutually beneficial relationships with the community.

The development or continuation of social sustainability initiatives, such as investment programmes, partnerships, sponsorships, educational programmes or other collaborative activities are normally the foundation of engagement during the life of the solar farm. Proponents should establish evaluation and reporting systems to account for and communicate their economic, social and environmental performance in the community. If a community reference group was established during an earlier phase, it is likely that the role of this reference group may change at this stage to focus on the role that the proponent can play in the community.

Some communication channels and engagement activities from earlier stages may be continued to ensure that any issues or concerns that arise can still be responded to appropriately. The proponent will likely maintain the project website, telephone number and email for enquiries and complaints. Other engagement activities may be appropriate for the operations phase as the objectives of engagement are likely to have significantly changed. The solar farm project Community Engagement Plan should be updated accordingly.

During the operational life of the solar farm, engagement with media can help proponents enhance the reach of its messages while being more proactive in the management of issues. Similarly, engagement with the local council can help proponents improve communications and identify more opportunities to maximise contribution to community development.

The nature of engagement with key stakeholders at operations stage may include:

Stakeholder	Nature of engagement at operation
Local council	Engagement with the local council can help proponents improve communications and identify more opportunities to maximise contribution to community development.
Landowners	Periodic engagement will occur with landowners in accordance with the land use agreement.
Traditional Owners	Engagement with the local community will focus on social sustainability and long-term community involvement.
Community	Engagement with the local community will focus on social sustainability and long-term community involvement.

Table 7: Engagement Activities: Operation



What the community can expect

Once constructed the operator will shift focus to the operations and maintenance of the solar farm. The community can expect that the operator will maintain partnerships and relationships with stakeholders and the community. The operator will also monitor, evaluate and report community engagement activity and performance. Key engagement tools may include:

- Community reference group and/or social sustainability committee
- Field trips/site visits and open days (educational and community)
- Project website with dashboard reporting solar farm performance
- Public enquiries telephone line, email address and/or website for enquiries, complaints and feedback.

Stage six: end of life planning and management

The operational lifespan of a solar farm typically ranges from 20 to 30 years depending on the climatic conditions of the site, the maintenance regime employed and any maximum timeframe for the use conditioned in the planning approval. It could therefore be several decades before the proponent is required to make a decision about the ultimate future of the solar farm. End of life management acknowledges that there are options and decommissioning may not be the only outcome. At the end of the solar farm's operational lifespan, the proponent will decide to:

- Continue to operate the solar farm based upon existing infrastructure and technology combined with appropriate upgrades necessary to meet relevant safety standards at that time;
- Refurbish and upgrade the solar farm, taking into account new solar technology available at that time; or
- Close the project and decommission the solar farm by removing the solar panels, infrastructure and remediating the land as agreed with the landowner. This should also include planning to reclaim, recycle or dispose of materials and waste generated during the decommissioning process.

Depending on the option selected at the end of the project life, further planning and project approvals may be required. This may include approval of a decommissioning plan by the local council. Scenarios that may need to be considered include:

- Preparation and lodgement of a decommissioning plan with the local council if required by condition of the original development permit;
- Discharge of obligations under any lease agreement regarding the condition of land that must be achieved before it can be returned to the landowner; and
- Lodgement of a new development application for the refurbishment and upgrade of the solar farm if the layout, operation and appearance would substantially change.

Technical considerations

End of project life decisions will be driven by a number of factors including the condition and residual life of the infrastructure, advancements in solar technology or the ability to extend lease agreements with landowners.

If a refurbishment or upgrade of the solar farm is to take place, there is likely to be a need to review the original development permit for the project and potentially obtain additional development permits depending upon the nature and extent of project changes occurring. The extent of the changes and impacts will determine the scope of the issues that need to be investigated at that time. The detailed technical considerations are outlined in the project feasibility and detailed assessment, planning and approvals stages outlined earlier in the guidelines.

Decommissioning takes place at the end of a solar farm's operational life but it should be considered in early developmental stages. This is an important matter for landowners who are considering a lease for a solar farm. The lease agreement

should clearly allocate responsibility for decommissioning activities, condition of the land which must be achieved before it is returned to the landowner and may need to include a dispute resolution process. It is recommended that landowners obtain independent legal advice before signing and lease or land sale agreements.

Decommissioning activities should include:

- Removal of infrastructure from the site
- Recycling or re-use of the PV modules and other infrastructure
- Disposal of components
- Stabilisation of land and soil remediation
- Revegetation works
- Returning the site to its previous use.

Social considerations

Community engagement will continue to have a role in the project end of life decision making process. A social baseline study, updated stakeholder mapping and analysis, and a stage-specific Community Engagement Plan will provide the proponent with an understanding of, and ability to appropriately respond to, the social context at the time that end of life decisions are being made.

Key stakeholders, such as landowners, neighbours and council should be engaged early in the planning process for any decommissioning or refurbishment. As part of any consideration to decommission, refurbish and upgrade a solar farm. The main issues at this stage will include the proposed changes to the solar farm, options to mitigate any impacts and the assessment process and timeframes. It is also an opportunity for the proponent to work together with the community to address any known issues with the existing operational solar farm.

If the solar farm is to be decommissioned, similar to the construction stage, engagement should seek to communicate project changes, timeframes and minimise any impacts for communities. The operator of the solar farm should inform communities about the process of decommissioning, its steps and the potential impacts well in advance of the closure of the solar farm. The closure of a solar farm provides an opportunity for the proponent and the community to work together to update the project's decommissioning plan. The decommissioning plan should:

- Set out the arrangements that will be put in place to manage the social, economic and environmental impacts of the closure
- Provide a register of the project commitments regarding social and environmental mitigations so that these can inform the development of specific plans and procedures for implementation
- Detail the resource management strategy including recycling and reclamation
- Provide a framework for compliance that will provide stakeholders with an assurance that closure commitments are being met.

The proponent may also set social objectives and targets that align with the decommissioning plan and any rehabilitation requirements, with particular reference to:

- Land use and amenity
- Minimising potential impacts to the local community and Traditional Owners
- Developing and implementing capacity-building programs, to address community needs and foster resilience to change.

Existing community reference groups or social sustainability committees may contribute to the collaborative development of a decommissioning plan, or the proponent may establish a new group or undertake engagement with the broader community.

Proponents should work closely with landowners, the local council and relevant government authorities at this stage to ensure any rehabilitation requirements, as part of the land use agreement or development permit, are met. The project website, telephone number and email will normally be maintained during decommissioning to ensure that any issues or concerns that arise can still be responded to appropriately.

The nature of engagement with key stakeholders at the end of life management stage may include:

Stakeholder	Nature of engagement at decommissioning
Local council	Engagement with the local council and relevant government authorities regarding end of project life decisions. This should focus on determining which permit conditions need to be discharge in the event of decommissioning or whether new development permits are required, if the project life is to be extended. Engagement with the local council may also involve seeking input into the development of a decommissioning plan that supports the community if the project is to close.
Landowners	Engagement with landowners is a critical step in defining the end of life plan for the project. If the development is to continue in some form, extensions to lease agreements would be required. If the development is to be decommissioned, a decommissioning and rehabilitation plan will be required.
Community	Engagement with the local community will focus on collaborative development of a refurbishment or decommissioning plan that supports ongoing social and economic sustainability.

Table 8: Engagement Activities: Decommissioning



What the community can expect

As the solar farm approaches the end of its life, the proponent will begin to plan for the future of the site. The solar farm may be decommissioned and the land remediated, or be refurbished/ upgraded (subject to necessary agreements and approvals) for continued operation. If the proponent seeks to refurbish the solar farm, a new development or change application may need to be made. The community should expect that the proponent will engage with them as they formulate plans for the future of the site and provide opportunities for the community to comment on the social, economic and environmental aspects of the decommissioning or refurbishment. Key engagement tools may include:

- Face-to-face engagement with directly affected stakeholders
- Community reference groups and/or social sustainability committees
- Public enquiries telephone line, email address and/or website for enquiries, complaints and feedback
- If the operational life of the solar farm is to be extended, any statutory notification requirements as part of a planning approval or change application.



Community engagement

SECTION 04



4.0

Community engagement

Benefits of community engagement

Effective community engagement is crucial to the planning and development of any major project, and solar farms are no exception. Community engagement is the process through which a solar farm proponent interacts with stakeholders, such as landowners and community members, to generate project awareness and inform decision-making. Community engagement, when done well, is a positive experience that benefits proponents and communities alike.

Engagement goes beyond simply informing stakeholders about project progress, decisions and actions or meeting the minimum statutory requirements for public notification (if required). It should provide opportunities for stakeholders to share local knowledge and values, communicate their interests and needs, and shape improved project outcomes. This is regardless of whether a project is required to undertake statutory public notification.

It is recognised that community engagement does not always achieve consensus. However, it should provide genuine opportunities for community input from the outset of a project when there is a real chance to influence and inform project decision-making.

Strong community engagement can generate mutual benefits for project proponents and communities. Establishing respectful relationships can support clear and effective information-sharing leading to the early identification and mitigation of risks for both proponents and the community. Social and economic benefits can often be realised earlier by the local community while the proponent benefits from better design and project management outcomes. Effective community engagement can also improve development applications and reduce financial and legal costs.

Each of these considerations has implications for the ultimate success of a project.

Community engagement across the solar farm lifecycle

Solar farms are a long-term investment in Queensland's future energy security. The project life of solar farms is typically 20 to 30 years, after which they may be decommissioned and removed, or potentially refurbished or upgraded. The level of social licence earned by a proponent throughout the lifecycle of a solar farm has the potential to be a significant contributing factor when assessing the ongoing viability of using the infrastructure beyond its original term.

Community engagement can make good projects great by ensuring they are delivered in line with community expectations and local circumstances. Effective engagement facilitates ongoing and open dialogue among communities, landowners, project proponents and governments throughout the solar farm lifecycle and associated decision-making process.



Figure 1 Community engagement across the solar farm lifecycle

Community engagement should be undertaken at every stage of the solar farm lifecycle. Communities begin to form perceptions and attitudes toward projects long before construction begins. Proactive and early community engagement can reduce uncertainty for communities and mitigate risks for solar farm proponents. Unsuccessful experiences in project development can be the result of inadequate, poorly timed engagement with communities in the early project stages.

Approach to engagement

There is no single, one-size-fits-all approach to community engagement. A successful approach is one tailored to respond to site conditions, community sentiment and context. It should be sensitive to stakeholder understanding of the project and the community’s preferred ways of being engaged.

The Guideline’s suggested approach draws on the International Association for Public Participation’s (IAP2) Core Values and Public Participation Spectrum. This methodology has been widely adopted by community engagement practitioners, project proponents and governments, within Australia and internationally, as part of delivering infrastructure and other projects. It is widely accepted as a benchmark for good community consultation.

The IAP2 Spectrum of Public Participation provides a framework for considering the appropriate style of engagement and associated activities to implement at each stage of the solar farm lifecycle. It identifies the level of participation that defines the community’s role in any community engagement program, and shows that differing levels of participation are legitimate depending on the goals, resources, interests and levels of concern that stakeholders hold in the decision to be made.

The Spectrum identifies five levels of possible engagement: *Inform, Consult, Involve, Collaborate and Empower.*

- **Inform:** Providing the community with balanced and objective information to assist them in understanding the solar farm project (including the problem, the alternatives [if any], the opportunities and the solution)
- **Consult:** Obtaining community feedback on the solar farm project and decisions made
- **Involve:** Working collaboratively with the community to incorporate any community issues into the solar farm project approach
- **Collaborate:** Partnering with the community in each aspect of the solar farm project decision-making processes including the development of alternatives and the identification of a preferred solution
- **Empower:** Placing decision-making in the hands of the community.

Further information on the IAP2 Spectrum is available at www.iap2.org.au.

IAP2’S PUBLIC PARTICIPATION SPECTRUM



The IAP2 Federation has developed the Spectrum to help groups define the public’s role in any public participation process. The IAP2 Spectrum is quickly becoming an international standard.

INCREASING IMPACT ON THE DECISION

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

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Figure 2 Public Participation Spectrum, Source: IAP2

Engagement principles

The **IAP2 Core Values for Public Participation** (Core Values) define the expectations and aspirations of the public participation process. The IAP2 Core Values state that public participation:

1. Is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process
2. Includes the promise that the public's contribution will influence the decision
3. Promotes sustainable decisions by recognising and communicating the needs and interests of all participants, including decision-makers
4. Seeks out and facilitates the involvement of those potentially affected by or interested in a decision
5. Seeks input from participants in designing how they participate
6. Provides participants with the information they need to participate in a meaningful way
7. Public participation communicates to participants how their input impacted or changed the decision.

The approach to community engagement centres on achieving good community based outcomes for projects, stakeholders and the community and can be described as **genuine, timely, relevant, transparent** and **inclusive**.

Developing a community engagement plan

Good community engagement is an iterative process, which facilitates relationship and trust building over time. Engagement activities for solar farms should be planned with this in mind, and align with the technical, stage-specific development milestones.

A proactive stakeholder engagement approach includes developing a Community Engagement Plan, tailored to the reality of each community and the specific needs of each stage of the project lifecycle.

- Define the overall aim of the engagement process
- Identify the project's stakeholders (those who have an interest in or influence over the project)
- Select the IAP2 level of engagement which the project seeks to achieve (this can vary between stages and stakeholder groups)
- Include the communication and engagement tools to be implemented at each stage of the project lifecycle
- Provide a clearly defined step-by-step process for community engagement linked to each stage of the project lifecycle
- Provide general and stage-specific key messages that form the basis of all communication collateral developed for the life of the solar farm project
- Establish communication channels and feedback mechanisms for the life of the solar farm project.



Five features of best practice community consultation

A proactive stakeholder engagement approach includes engagement tools and activities that are tailored to suit community needs. This approach centres on achieving good community based outcomes for projects, stakeholders and the community and can be described as **genuine, timely, relevant, transparent** and **inclusive**:

- **Genuine:** Demonstrated commitment to the community engagement process, issues are identified, understood and managed via two-way communication, and communications demonstrate how stakeholder and community feedback has been considered.
- **Timely:** Engagement starts early, and is undertaken at appropriate stages of the project lifecycle.
- **Relevant:** Engagement activities and tools reflect the specific and diverse needs of stakeholders and the community, and the communication approach responds to emerging issues or impacts.
- **Transparent:** The expectations of the stakeholders and community are managed effectively through a transparent approach to defining the negotiables and non-negotiables in any decision-making processes.
- **Inclusive:** Communication and engagement targets all stakeholder groups and demographics. Technical jargon is avoided, and information is presented clearly and concisely allowing stakeholders and the community to provide informed feedback.

There are five key steps for developing a Community Engagement Plan, all of which are interrelated. A successful Community Engagement Plan comprises a cycle of constant learning to ensure continuous improvement, as shown in Figure 3. Understanding these steps can help community members know what to expect of those proposing to establish and operate a solar farm.

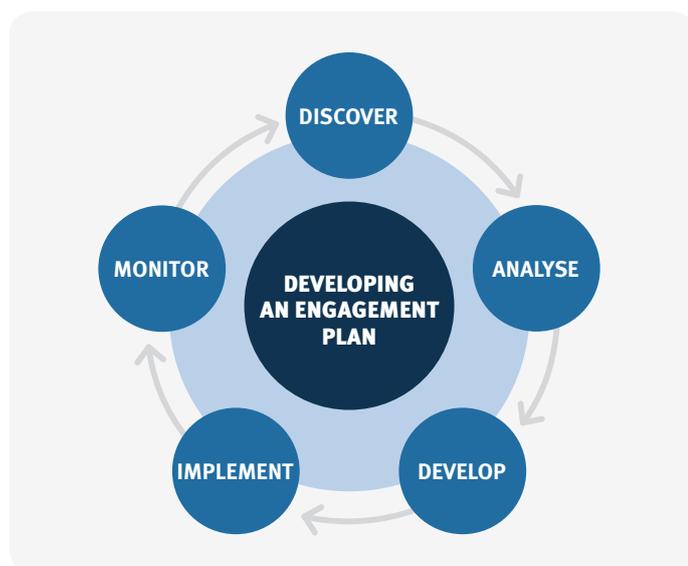


Figure 3 Community engagement cycle

Discover: identifying stakeholders

Understanding the social context of a community is critical to understanding community needs and attitudes towards large-scale solar projects. Tools such as social baseline surveys and stakeholder mapping can help uncover the unique characteristics of an area, the demographic features of the community, and the broader economic and cultural context.

Stakeholders are people, or groups of people, who are directly or indirectly affected by a solar farm project. Stakeholders can also include those who may have an interest in or influence over the outcome of the solar farm development.

Each project will have a range of stakeholders to be considered and engaged with across the lifecycle of a solar farm project. In some cases, consultation with a stakeholder is a legislative requirement, and will form part of the development assessment and project approval pathway. Such stakeholders will be easy to identify and there is typically an established process through which engagement will take place. Other stakeholders may be less obvious, but no less important. These stakeholders need to be identified and their interest in and influence over the project mapped in order to determine the best engagement approach.

Analysing project stakeholders enables them to be identified based on:

- The level of interest in the solar farm project
- The level of influence the stakeholder may have in the decision-making process

Stakeholder	Nature of engagement at operation
Landowners	Contact with a landowner may be one of the first stakeholder engagement activities to take place. The solar farm industry does not have any legislative powers to enter land even for the purposes of preliminary site assessment or investigations. A solar farm proponent will enter into a preliminary commercial agreement to secure access to and exclusive use of the land, which may be subject to a number of conditions, such as development approval.
Traditional Owners	Solar farm sites are often located in rural areas and, in some cases, within areas of low land disturbance. Where this occurs, there is a higher probability of artefacts or Aboriginal sites being discovered. Engagement with the Traditional Owners of the area will be required to ensure that matters of cultural heritage significance are appropriately managed and protected. Appropriate engagement methods should be identified and undertaken by a suitably qualified professional.
Local community groups and businesses	In smaller communities, a large-scale solar development can have a significant impact in terms of economic development, employment, visual amenity and sense of place. Proponents should seek to engage with those who have a connection and interest in the project area and surrounding community. Importantly, there are a number of potential social benefits associated with the expansion of the solar industry, particularly for those in rural or regional locations. Ensuring that these benefits remain in the local community is important for maintaining social licence.
Other interested third parties	Other parties and stakeholders may have an interest in a solar farm project. They may be directly or indirectly affected by a particular phase of the project or be interested in the project as an emerging renewable industry. Being responsive to community interest offers new and creative ways for solar farm projects to be adopted as part of the local community.
Emergency services	Queensland Fire and Emergency Services, in particular Queensland Rural Fire Services, will contribute to developing an emergency response plan and establishing a point of emergency contact for a solar farm site. In rural communities, there is an ongoing threat from bush fire and potentially catastrophic natural disasters such as cyclones. Rural fire services may need specific advice, education and training on how to manage a fire and other emergencies close to a solar farm and, in particular, high-voltage electrical infrastructure.
Electricity network service providers	Powerlink Queensland is the Queensland transmission authority for access to the high-voltage transmission network (typically greater than 110KV). They also manage access to other enabling infrastructure, including sub-stations. Early engagement with Powerlink, and other distributors if required, confirms the general viability and feasibility of establishing a future grid connection.

Table 8: Key Community Stakeholder Groups to consider

- The level of engagement selected across the IAP2 Spectrum, based on the stakeholder's identified level of interest in and influence on the project.

In addition to local authorities, government and statutory bodies, engaging with the following stakeholders is essential for a successful solar farm project. The list is advisory, not exhaustive.

Analyse: understanding needs

Once an understanding of the stakeholder mapping has been developed, the proponent should seek to establish constructive relationships with the community. This is to ensure that any community engagement plan is tailored to suit local circumstances and community expectations.

Engagement undertaken across the lifecycle of a solar farm may change as the proponent responds to the level of interest of stakeholders. Stakeholders, including individuals and groups, may want to participate to varying degrees, and this may change over the course of the project.

Tools

Different communication, information and engagement methods can be adopted throughout each stage of the solar farm lifecycle. These should respond to the needs of stakeholders.

When selecting engagement tools to implement, it is important for the proponent to recognise and consider diversity and accessibility, identify any potential barriers to engaging with the community and ensure the channels selected overcome or minimise these barriers where possible. Potential barriers to consider include:

- The capacity and ability of stakeholders to participate in the engagement process
- 'Hard to reach' stakeholders including younger or older people, minority groups and socially excluded groups
- Geographic and rural isolation
- Access to information and the level of community infrastructure
- Literacy and numeracy levels
- Language barriers.

Various guidance materials exist to assist proponents identify and select the appropriate tools to implement at each stage of the solar farm lifecycle. Some of these resources include:

- The IAP2 Spectrum, which recommends the tools that may be appropriate at each level of engagement
- The Department of Infrastructure, Local Government and Planning's online tool *Ask TOM: Technique options matrix*, which identifies tools that may be appropriate based on the stage of a project, stakeholders level of interest, level of participation across the IAP2 Spectrum, and overall aim of the engagement process.

Develop: building a community engagement plan

A Community Engagement Plan is normally developed by the proponent in the early stages of project development. Plans are 'living documents' that are continually reviewed so they remain relevant, appropriate and responsive to the needs of the community and the various stages of the solar farm project. The IAP2 Quality Assurance Standard provides a process for reviewing a Community Engagement Plan to ensure it meets this industry standard.

Community Engagement Plans should define the overall aim of engagement and reflect community input to date. Clearly defining engagement objectives helps ensure the community and stakeholders understand the context, purpose and outcomes of the engagement process. Determining the overall aim of the engagement will also help identify engagement objectives at each stage of the solar farm lifecycle, anticipated outcomes for the engagement process and determine the scope and depth of the engagement. From the outset, proponents should be clear about the purpose and scope of any engagement process. Community members and stakeholders should be allowed sufficient time to become aware of the process, the opportunities to participate and the possible outcomes of engagement.

Implement: carrying out the plan

Establishing two-way communication channels across the life of the solar farm allows issues to be identified and addressed early, complaints to be managed and responded to, and builds trust and open communication with stakeholders. It is recommended that, at a minimum, a free-to-use from a landline project telephone number is established and that other methods of contact, such as an email address are established, and promoted to stakeholders and the community.

The person or group undertaking community engagement may change over the course of the solar farm project. Early implementation is likely to be carried out by the project proponent while engagement during construction, for instance, may be delegated to the contractor selected to deliver the project. Whatever the circumstances, stakeholders and the community should be kept clearly informed about who is responsible for engagement.

Monitor: evaluate and refine

This step does not signal the end of the Community Engagement Plan. Rather, it should be undertaken throughout the implementation stage to reassess and refine tools and activities under way.

Performance indicators and documentation established in the previous steps provide the basis for continuous improvement. Proponents should establish systems to report on engagement performance, the value created for the solar farm project, and any commitments to improvement.



Managing and responding to complaints

Coordinated complaints management can add value to the development of a solar farm and effective responses will benefit all stakeholders involved with the project. Complaints can:

- Provide early appreciation of possible issues and risks
- Highlight areas of concern with the solar farm development application, construction or operations
- Provide opportunities for a proponent to improve its planning, construction or operations
- Maintain open communication and contribute towards building trusting relationships between a proponent and its stakeholders
- Improve the solar farm proponent's accountability and transparency.

To manage complaints and enquiries, proponents should:

- Use the *Customer satisfaction—Guidelines for complaints handling in organizations (ISO 10002:2004, MOD)* to inform the process
- Reference current and relevant privacy legislation
- Establish a clear complaints management policy
- Establish communication mechanisms to receive complaints and enquiries (as a minimum, a free-to-use telephone number from a landline such as a 1800 number) and ensure these channels are well-advertised to the community
- Acknowledge the complaint promptly
- Assess the complaint and assign a priority
- Involve all necessary members of the solar farm project team to ensure action is taken (if necessary) and an informed response is developed
- Determine if an investigation is required, and if so, establish facts and consider options for complaint resolution
- Respond to the complainant in a clear and informative manner
- Instigate an internal review if the complainant is not satisfied with the response, and provide them with information about external review options (such as ombudsman involvement)
- Establish a process to identify trends, rectify negative





Summary: effective community engagement techniques, activities and tools through the project life cycle

Stage one: site selection

Engagement during the site selection stage focuses on gathering information about the key stakeholders and the social context of the site to guide the solar farm through the development lifecycle and achieve mutually beneficial outcomes for the proponent and the community.

Objectives of engagement at the site selection stage:

- Confirm the general suitability of the site based on desktop studies and local information obtained from key stakeholders
- Establish genuine relationships through transparent engagement with local council, planning authorities, landowners and other relevant stakeholders
- Provide stakeholders with factual information about the status, potential impacts and benefits of the project
- Prepare a realistic project timeframe based on the likely development assessment process
- Be ready to respond to any questions from the community should they arise.

Key activities at site selection stage:

- Desktop research to determine the technical constraints (e.g. physical, environmental and planning) and social context of the site
- Identify, analyse and map the project stakeholders
- Undertake early engagement with key stakeholders to better understand the social context of the site
- Determine the level of confidentiality to be applied to the project
- Develop key messages about the project
- Establish clear lines of communication including accessible means such as a telephone number or email address for enquiries, complaints and feedback.

Key engagement tools at the site selection stage include:

- Baseline community survey
- Face-to-face engagement with key stakeholders such as landowners, local council and elected officials
- Telephone number or email address for enquiries, complaints and feedback.

Stage two: project feasibility

Engagement at the feasibility stage focuses on establishing and building relationships with key stakeholders and the community, providing proactive information about the project and its activities, and engaging with the broad community to understand local context and issues, and appropriately respond to, issues and concerns.

Objectives of engagement at the feasibility stage:

- Establish an understanding of the existing sentiments towards solar farm development in the community
- Establish genuine relationships through transparent engagement with the local community
- Provide stakeholders with factual information about the status, potential impacts and benefits of the project
- Continue discussions with local councils and planning stakeholders regarding the suitability of a site
- Establish a community engagement framework for the life of the project which responds to the specific social context of the community
- Engage with the community to identify issues and concerns, seek feedback about mitigation options and inform the decision-making process.

Key activities at the feasibility stage:

- Develop a Community Engagement Plan
- At the appropriate time, commence engagement with the community and provide concept site and project information
- Establish two-way communication with communities to gather input for the decision-making process
- Develop a database of community issues and concerns
- Consider whether project impacts warrant establishment of a community reference group to facilitate improved engagement and communication with the local community in which the solar farm will operate
- Continue to investigate community issues.

Key engagement tools at the feasibility stage may include:

- Face-to-face engagement with key stakeholders
- Community reference group (where appropriate)
- Information sessions
- Drop-in sessions
- Manned or unmanned public displays
- Advertisement
- Stakeholder letters
- Project flyers or newsletters
- Project website
- Telephone number or email address for enquiries, complaints and feedback.

Stage three: detailed assessment, planning and approvals

Engagement during the detailed assessment, planning and approvals stage focuses on resolving, or otherwise responding to, the expectations, needs and concerns of the community; and providing proactive, regular communication about project progress.

Objectives of engagement at the detailed assessment, planning and approvals stage:

- Keep all stakeholders updated about the progress of the project and the status of the development application
- Collaboratively identify and respond to the expectations, needs and concerns of the local community through involvement in the decision-making process
- Be clear about statutory and non-statutory consultation during the development assessment process
- Communicate the opportunities for the community, including benefits to the local economy and businesses that will be realised at the construction and operations stages.

Key activities at the detailed assessment, planning and approvals stage:

- Keep communities up-to-date with project assessment, planning and approvals progress
- Develop a social sustainability plan, if required
- Prepare for statutory public notification periods, if required, through the development assessment process
- Review and respond to public submissions if they are received during a statutory public notification period.

Key tools at the detailed assessment, planning and approvals stage may include:

- Face-to-face engagement with key stakeholders
- Community forums / focus groups / workshops
- Community reference group (where appropriate)
- Information sessions
- Drop-in sessions
- Public displays
- Proposed site layout and concept design
- Fact sheets
- Media releases
- Advertisements
- Public submissions and response
- Stakeholder surveys / deliberative polling
- Stakeholder letters
- Project flyers or newsletters
- Project website
- Telephone number or email address for enquiries, complaints and feedback

Stage four: construction

Community engagement at the construction stage will focus on proactively communicating and mitigating temporary construction impacts to maintain social licence to operate. At this stage, engagement may also focus on benefits realisation for the community through the implementation of local industry participation and social sustainability plans.

Objectives of engagement at the construction stage:

- Anticipate periods for peak construction activity and provide advance warning to the community of potential disturbances
- Avoid, minimise or remediate negative impacts from construction
- Earn trust and reduce community stress by acknowledging and responding to community interests, issues and concerns
- Demonstrate commitment to the community by contributing to social, well-being and delivering economic opportunities.

Key activities at the construction stage:

- Update the Community Engagement Plan to ensure a proactive, frequent approach to communication and engagement at this stage
- Provide up-to-date information on construction status, including milestones, and likely timeframes through to completion
- Establish a complaints management mechanism and identify key points of contact and responsibility to respond to complaints
- Review construction activity and effectiveness of management plans and update if necessary in response to community issues or complaints
- Implement social sustainability and local industry participation plans.

Key tools at the detailed assessment, planning and approvals stage may include:

- Local employment and procurement strategy
- Construction notices/advice
- Community liaison officer
- Community procurement and employment portal
- Local industry information sessions
- Social sustainability committee
- Face-to-face engagement with directly affected stakeholders
- Community reference group (where appropriate)
- Visitors centre
- Field trips/site-visits/open days (educational or community)
- Information sessions
- Drop-in sessions
- Public displays
- Final site design
- Fact sheets
- Advertisements
- Media releases
- Stakeholder letters
- Project flyers or newsletters
- Project website updates on construction activities and progress
- Telephone number or email address for enquiries, complaints and feedback
- Conflict resolution and escalation procedures.

Stage five: operations

Engagement at the operations phase will focus on maintaining good ongoing relations through active participation in the community. The project should also maintain a local economic contribution through employment opportunities and procurement of services.

Objectives of engagement at the operations stage:

- Become an active member of the community
- Demonstrate commitment to community wellbeing
- Strengthen existing collaborations or develop new partnerships.

Key activities at the operations stage:

- Review and update the Community Engagement Plan for operations
- Maintain or establish partnerships and collaborations
- Monitor, evaluate and report community engagement performance.

Key tools at the operations stage may include:

- Social sustainability committee
- Community reference group (where appropriate)
- Field trips/site-visits/open days (educational or community)
- Solar farm website with dashboards reporting performance
- Telephone number or email address for enquiries, complaints and feedback
- Conflict resolution and escalation procedures.

Stage six: end of life planning and management

Community engagement at the end of life management stage will focus on communicating with key stakeholders about options or proposals for the future of the site, which could include refurbishing the solar farm to extend the operational life or closure and decommissioning of the facility.

Objectives of engagement at the end of life management stage:

- Maintain trust and reduce community stress by acknowledging and responding to community interests, issues and concerns
- Demonstrate commitment to the community by collaboratively developing an end of project life plan which is sensitive to social and economic sustainability.

Key activities at the end of life management stage:

- Develop a Community Engagement Plan for the end of life management stage that provides an engagement framework which responds to the unique social context of the site
- At the appropriate time, commence engagement with the community about the end of project activities and approach
- Keep communities up-to-date with the project's decommissioning progress
- Gather input from stakeholders about decommissioning, social and economic sustainability
- Planning approval requirements associated with refurbishing and extending the operational life of the solar farm.

Key tools at the end of life management stage may include:

- Face-to-face engagement with directly affected stakeholders
- Social sustainability committee
- Community reference group (where relevant)
- Information sessions
- Advertisements
- Media releases
- Stakeholder letters
- Flyers or newsletters
- Solar farm website
- Telephone number or email address for enquiries, complaints and feedback
- Conflict resolution and escalation procedures



Useful resources

Cultural Heritage Management Plan Guidelines, Department of Aboriginal and Torres Strait Islander Partnerships. <https://www.datsip.qld.gov.au/people-communities/aboriginal-torres-strait-islander-cultural-heritage/cultural-heritage-management-plans>

IAP2 Spectrum available at www.iap2.org.au

Information on the EPBC Act referral process: <http://www.environment.gov.au/>

Information on the development of solar farms and other renewable energy projects in Queensland: <https://www.business.qld.gov.au/industries/mining-energy-water/energy>

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