

Large-Scale Solar Energy Guideline

This document answers frequently asked questions about large-scale solar energy development in NSW and the revised Large-Scale Solar Energy Guideline.

Preparation and application of the guideline

Why has the NSW Government revised the guideline?

The NSW Department of Planning and Environment released the original Large-Scale Solar Energy Guideline in 2018 to guide the assessment of solar energy developments of state significance.

Since then, the industry has changed due to advancements in technology and there is now more solar energy development across NSW to support a transition to renewable energy and net zero emissions.

More guidance was needed to deal with emerging issues and to ensure that the assessment of impacts is as clear and transparent as possible.

What types of solar development does the guideline apply to?

The guideline applies to large-scale solar development that is State Significant Development. Generally, this is projects with a minimum capital investment value of \$30 million.

Although large-scale solar energy projects are the focus of the guideline, we encourage applicants, councils, and planning panels to consider the broad objectives and principles in the guideline when preparing, assessing and determining solar energy development applications (DAs) for regionally significant development.

The guideline does not apply to domestic solar systems.

When does the guideline apply?

The guideline applies to all projects, effective immediately, unless:

- an applicant has been issued with the Secretary's Environmental Assessment Requirements (SEARs) before the publication of the guideline and lodges a DA and Environmental Impact Statement (EIS) before the end of January 2023
- an applicant lodged their DA and EIS before publication of the guideline.

How did the department consult the public in preparing the guideline?

The department publicly exhibited the draft guideline for a 70-day period from Friday 17 December 2021 to Friday 25 February 2022.

We received 52 submissions from stakeholders including individuals, local councils, community organisations, special interest groups and government agencies. The department carefully considered the issues raised in submissions and made several changes to the guideline in response.

The department has briefed various stakeholders on changes to the guideline throughout the drafting process. We have presented information at several community events where members of the public could ask questions and or raise concerns.

Agricultural land use

Will the Agriculture Commissioner's review of the agricultural and renewable energy sectors affect the guideline?

In March 2022, the Minister for Agriculture and Minister for Energy determined that the NSW Agriculture Commissioner should lead a task force to begin a review of policy settings related to the growth of the renewable energy and agricultural sectors.

At the time of publication, it is not clear if the review or the Agriculture Commissioner's final recommendations will affect the guideline. The department will carefully consider the findings of the Agriculture Commissioner's review when it is completed and will further amend the guidelines in response to this review, if required.

Why doesn't the guideline prevent solar development on important agricultural land?

Work on the guideline has found that the overall risks and demand for agricultural land is very low. There are also a range of factors that limit the locations that are suitable for solar development.

While the guideline does not explicitly prevent development on important agricultural land, it encourages applicants to avoid the use of this land. If avoidance is not possible, applicants must demonstrate that they have made all reasonable efforts to avoid this land and that there would be no significant localised and regional impacts, including on supply chains.

Has a soil survey of the project site always been required?

Yes, it is standard practice for the department to request that applicants of large-scale solar energy projects complete a soil survey to determine the soil characteristics and the potential for erosion to occur. This request is often made through the SEARs.

However, there has been limited guidance on how soil surveys should be completed and presented in an EIS. This has resulted in inconsistent soil surveys and soil information across large-scale solar energy projects.

The guideline seeks to provide guidance to applicants when completing a soil survey and prescribes certain circumstances where the applicant must complete more analysis (referred to as soil verification).

Does the guideline consider State-Significant Agricultural Land mapping?

At the time of publication, the NSW Department of Primary Industries has not finalised its State-Significant Agricultural Land (SSAL) mapping and the NSW Government has yet to decide how the SSAL mapping might be used in the planning system.

Consequently, the SSAL mapping does not apply. The guideline relies on existing datasets including Land and Soil Capability (LSC) mapping and Biophysical Strategic Agricultural Land (BSAL) mapping.

You can view LSC mapping on the NSW Government's [SEED portal](#) and download BSAL data from the [department's website](#).

Do solar panels pose a threat to livestock?

There is limited evidence to suggest that solar panels pose a threat to livestock. There are many examples where large-scale solar developments have successfully co-located with existing agricultural practices, including sheep grazing, both in Australia and internationally. Solar panels can offer shade for sheep, protection from the elements and green pasture during droughts.

Waste management, circular economies and embodied emissions

What is embodied carbon?

Embodied carbon refers to the carbon dioxide emissions required to make a product. It includes any carbon emissions associated with the manufacture, transportation, installation, maintenance and decommissioning of a product.

Embodied carbon is distinct from operational carbon, which refers to the amount of carbon emitted during the operational phase of a project.

Do solar panels contain embodied carbon?

Yes, solar panels contain embodied carbon. A large portion of this embodied carbon comes from upstream processes including raw materials extraction, materials production, manufacturing and installation.

Solar panels and other forms of renewable electricity generation have significantly lower levels of both operational and total embodied carbon than traditional forms of electricity generation (such as coal-powered electricity sources). Renewable energy sources, including large-scale solar, are therefore critical to help to reduce reliance on fossil fuels and achieve the NSW Government's target of net zero by 2050.

What is the NSW Government doing to encourage recycling and re-use of solar panels?

The NSW Government is committed to reducing waste from large-scale solar energy. It has developed a grants program to support collaborative projects that trial better re-use and recycling of solar panels in a circular economy framework.

The department will continue to work with the NSW Environment Protection Authority to improve options to recycle and re-use solar panels over time.

Do solar panels contaminate soil?

The metals in solar panels (including lead, cadmium, copper, indium, gallium and nickel) cannot be easily released into the environment. This is because metals such as cadmium telluride (CdTe) or cadmium sulfide (CdS) are enclosed in thin layers between sheets of glass or plastic within the solar panel. Because of this, the use of metals in solar panels has not been found to pose a risk to the environment.

To readily release contaminants into the environment, solar panels would need to be ground to a fine dust.

Decommissioning and rehabilitation

Why doesn't the guideline make applicants pay a bond to the department?

The department's policy is that the applicant should be responsible for decommissioning a project (that is, removing solar panels and related infrastructure) and rehabilitating the site. The department requires all solar infrastructure to be decommissioned and project sites to be returned to how they were before the solar project as part of its conditions of development consent.

We acknowledge that there may be situations where this obligation may fall to the landowner, mainly because the conditions apply to the land rather than any party. This is reasonable because the landowner is a financial party to solar projects.

The department's view is that if a financial assurance (a bond) is held for a project, then the host landowner should hold it, not the Department, and is essentially a commercial matter between the applicant and the landowner.

Other

Why doesn't the department provide more guidance for the expected value of infrastructure contributions?

The NSW Government is delivering an unprecedented investment in infrastructure to keep our communities connected and our economy moving. To support this investment, the department has developed a reform package for infrastructure contributions, which is the system by which developers contribute to the cost of infrastructure for communities.

At the time of publication, the department is still finalising the infrastructure contributions reforms package. If necessary, the department will update the guideline to reflect the reforms once they are finalised.

Do large-scale solar energy developments affect the land value of neighbouring properties?

There is no evidence to suggest that large-scale solar developments affect the land value of neighbouring properties.

While the department acknowledges that effects on land value (positive or negative) are of great concern to the community and landholders, this is not a planning issue and is outside the scope of what the consent authority can consider in making a determination on a DA.

Does large-scale solar energy development affect the insurance premiums of neighbouring landholders?

The department has heard anecdotal evidence that solar energy development can affect premiums for public liability insurance. Insurance issues are not governed by the planning system under the *Environmental Planning and Assessment Act 1979* (EP&A Act), so the guideline does not address these concerns.

Does the DA assessment process consider the employment standards of overseas manufacturers of solar PV panels?

When assessing DAs for large-scale solar development, the department carefully considers the likely positive and negative environmental, social and economic impacts of a development in the locality and considers whether the project would be in the public interest. The matters that a consent authority can consider when determining an application are outlined in Section 4.1.5 of the EP&A Act.

While the department acknowledges that the employment standards of overseas manufacturers are an important ethical issue, this is not a planning issue and is outside the scope of what the consent authority can consider or influence in making a determination on a DA.

How can I have my say about a large-scale solar project in my area?

Once a DA is lodged for a large-scale solar project, the department will exhibit the EIS for at least 28 days. You may make a written submission to the department during this time.

Your submission will be provided to the applicant, and the Department will usually ask the applicant to prepare a Submissions Report that responds to your submission and others.

You can find a list of the EIS that are currently being exhibited for all state-significant developments (including solar) on the [NSW Planning Portal](#).

For more information, contact us at energy.resourcespolicy@dpie.nsw.gov.au.