



Proposed Infrastructure SEPP amendments: Electricity generating works or solar energy systems

Explanation of Intended Effect

August 2021



Published by NSW Department of Planning, Industry and Environment

dpie.nsw.gov.au

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Subtitle: Explanation of Intended Effect

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Introduction

State Environmental Planning Policy (Infrastructure) 2007 (the Infrastructure SEPP) facilitates flexible and orderly planning pathways for essential infrastructure in NSW, including electrical infrastructure. It provides regulatory certainty and efficiency and clarifies the approval process and assessment requirements for infrastructure proposals.

These proposed amendments to *State Environmental Planning Policy (Infrastructure) 2007* (the Infrastructure SEPP) aim to provide:

- a planning pathway for household scale solar battery systems
- clarifies definitions, so large-scale solar farms are identified as ‘electricity generating works’ and permissible only in prescribed zones
- new time restrictions on exempt development for wind monitoring towers associated with the monitoring of wind farms.

The proposed amendment would mean that household scale solar battery systems, which store electricity from household rooftop solar panels is exempt development, and will not require development consent. At present, these systems are not differentiated in the planning system and as such, there is no clear planning pathway for them other than development with consent.

The proposed amendment clarifies the Infrastructure SEPP, so large-scale solar farms are identified as ‘electricity generating works’ and only permissible in prescribed rural, industrial or special use zones. This amendment will separate other solar energy uses into the definition ‘solar energy system’, which can be carried out in any zone. These systems are smaller scale and generate electricity for their own use.

The proposed amendment would also extend the 30-month period in which development for the purpose of wind monitoring towers associated with wind farm developments can be regarded as exempt development (i.e. they would not require development consent) to a to a 60-month period. The proposed amendment would also introduce provisions to require wind monitoring towers to be removed within six months if the wind farm development application is withdrawn or refused.

Current planning pathways

The Infrastructure SEPP outlines the planning rules for works and facilities, including the following planning approval pathways.

Table 1 Infrastructure SEPP planning pathways

Pathway	Description
Exempt development	Relates to very low impact development. If proposed works meet all development standards identified in Infrastructure SEPP, approval may not be needed. Generally, applies to minor renovations or works.
Complying development	Applies to larger building works than exempt development. Complying development is a combined planning and construction approval for a straightforward development that can be determined through a fast-track assessment by a council or accredited certifier.
Prohibited development	Applies to projects that are not permitted. An application cannot be lodged for prohibited development.

Pathway	Description
Development with consent	Refers to a development that will need approval. Of the different types of consent, council approvals under Part 4 of the EP&A Act are the most common. Development with consent may also apply to regional or State significant development applications.
Development without consent	Applies to projects undertaken by councils or NSW Government departments or agencies. These projects can only be approved by a public authority following an environmental assessment, as per Part 5 of the EP&A Act.

Relevant sections of the Infrastructure SEPP

The proposed amendments relate to Part 3, [Division 4](#) of the Infrastructure SEPP, which details the planning approval pathways for infrastructure relating to electricity generating works, and solar and wind energy systems. This division aims to facilitate the efficient development of electricity and solar infrastructure in NSW.

The delivery of this infrastructure can be improved through the proposed amendments. The amendments will appropriately define electricity generating works, and solar and wind energy systems and ensure contemporary and clear approval pathways.

The Infrastructure SEPP contains seven aims to facilitate effective delivery of infrastructure in NSW. The proposed amendments are consistent with the following aims:

- Aim (a) - *The proposed amendments improve regulatory certainty and efficiency through a consistent planning regime for infrastructure and the provision of services.*
- Aim (b) - *The proposed amendments provide greater flexibility in the location of infrastructure and service facilities.*
- Aim (d) - *The proposed amendments identify the environmental assessment category into which the development falls (including identifying development as exempt development).*
- Aim (g) - *The proposed amendments provide opportunities for infrastructure to demonstrate good design outcomes.*

Previous amendments to the Infrastructure SEPP

In 2020, Infrastructure SEPP, Division 4, 'Electricity generating works or solar energy systems' was amended to provide a planning pathway for industrial scale batteries by adding 'electricity storage' to the definitions of 'electricity generating works' and 'electricity transmission or distribution networks'. At the same time, the amendment removed capacity thresholds for some solar energy system provisions.

At that time, household scale solar battery systems were relatively new technology, without agreed standards to guide compliance. As this information has become available, work has proceeded to respond with relevant amendments.

Amendment 1 - Planning pathway for household scale solar batteries systems

What are household scale solar battery systems?

Solar power is an increasingly popular form of alternative energy. It uses photovoltaic and silicon solar panels to convert radiation into power. Declining battery costs and improved technology, such as lithium-ion batteries, have driven the uptake of solar battery systems.

Solar batteries store energy produced by solar panels for later use. This means the excess solar energy not used at home during the day can be used to charge the battery. When the sun goes down, it is a cloudy day or more energy is being used than the panels produce, the battery will power the home. Solar battery systems also provide the option of storing energy for household use rather than feeding it back to the electricity grid.

A household scale solar battery system typically includes a battery and an inverter, paired with rooftop solar panels. The higher a household's battery capacity, the more solar energy it can store. Not all battery systems provide backup power.

By storing and using more of the energy generated by a solar system, households can draw less energy from the grid, saving money from energy bills. In turn, these systems reduce demand on the electricity network, especially during peak periods, potentially lowering energy prices.

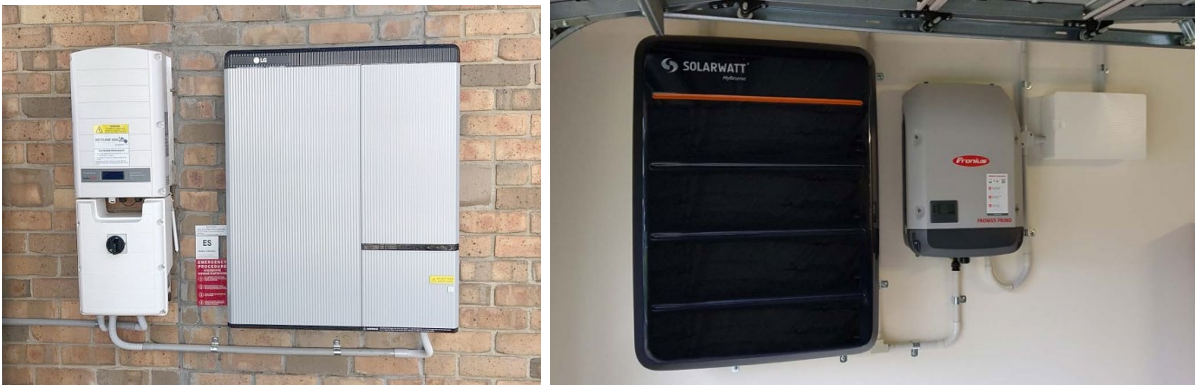


Figure 1: Examples of household solar battery systems

Images courtesy of the Clean Energy Council

Current planning pathway

There is no development assessment pathway for batteries associated with household scale solar energy systems under the Infrastructure SEPP. Consequently, their installation requires a development application, adding time and cost to the installation process.

Proposed planning pathway

As noted in Table 1, a development considered to have minor or no impacts on the environment can be classed as exempt development. The proposed amendment will include household scale solar battery systems as exempt development under Division 4 Electricity generating works or solar energy systems (clause 39) of the Infrastructure SEPP.

Development consent will not be needed if installation meets all development standards. These standards require the consideration of matters such as lithium battery safety, separation distances to other households and battery location. The proposed amendment will provide an efficient pathway for households wanting to install a solar battery system.

Any household solar battery systems that can be considered as exempt development must comply with the following:

1. AS/NZS 5139.2019 Electrical installations – Safety of battery systems for use with energy conversion equipment.

The Standard sets out general installation and safety requirement for solar battery systems. The safety of battery systems for use with power conversion equipment follows a different format to other electrical standards. Compliance with the Standard will ensure the implementation of appropriate control measures.

2. Clean Energy Council approved with only listed batteries installed.

A lithium-based battery system and battery energy storage system are listed as meeting the standards under Clean Energy Council's Battery Assurance Program. This includes meeting the Australian and international standards of the lithium battery safety standard of AS IEC 62619:2017.

View the Clean Energy Council approved and listed batteries at <https://www.cleanenergycouncil.org.au/industry/products/batteries>

3. Accredited person to install the solar battery system

Battery installation and design must be undertaken by someone appropriately accredited by the Clean Energy Council. The Council accreditation program recognises electricians who have undertaken the necessary training to take care of the installation.

4. Notify Fire and Rescue NSW

Prior to installation, households must notify Fire and Rescue NSW that a solar battery system will be installed.

5. Maximum number of batteries

Each household can only install one solar battery system at a maximum of 20kW to be considered as exempt development. Installation over this amount will require development consent, due to fire hazard considerations.

Installation not meeting these standards requires development consent.

The average household battery capacity ranges from 6kW to 13kW. The above standards will ensure households can install market ready batteries quickly and safely.

The standards acknowledge the danger of batteries (especially lithium batteries) that are not installed used and looked after properly.

Furthermore, batteries must be located in a safe place, such as a well ventilated area or away from sources of heat, including direct sunlight.

A house with solar panels and a DC-coupled battery storage system

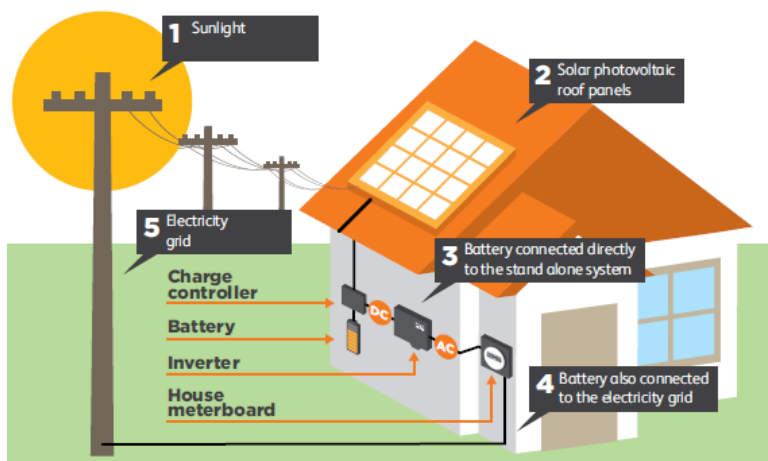


Image: courtesy of the Clean Energy Council

Amendment 2 - Definition of 'solar energy system'

The proposed amendment clarifies the Infrastructure SEPP, so large-scale solar farms are identified as 'electricity generating works', and not a 'solar energy system', which are smaller scale and primarily generate electricity for their own use.

Large-scale solar farms will be identified by refining the meaning of 'electricity generating works' where the primary purpose of the solar farm is exporting electricity to the grid. Conversely, large warehouses or industries with a significant number of solar panels used to generate electricity for their own use will be captured under 'solar energy system' and can be carried out in any zone, in accordance with the relevant requirements in the Infrastructure SEPP.

It is important to exclude a large-scale solar farm from the 'solar energy system' definition because the size and use of large ground-mounted solar farms creates potential land use conflicts as well as environmental and social impacts. These uses are not suitable in residential or environmental zones. The proposed changes will mean that this type of works will only be permissible in prescribed rural, industrial or special use zones.

Large-scale solar farms will continue to require consideration of various matters, including works needed to connect to the electrical network, battery storage (due to preliminary risk screening under *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development*) and other economic, environmental and social considerations.

These changes will encourage investment of large-scale solar farms in the right locations. The amendment will also clarify the planning process for the various and emerging electricity generating and solar energy works.



Image: Large-scale solar farm

Amendment 3 - Wind monitoring towers

A wind monitoring tower is designed to monitor wind power. The feasibility of wind farm developments requires precise knowledge of wind speed to understand how much energy will be produced, whether turbines will survive on the potential sites and whether the wind farm will be viable. Wind monitoring towers are also required to verify the performance of wind farms, once constructed.

Under the Infrastructure SEPP, wind monitoring towers associated with wind farm developments are exempt from the need to obtain development consent for 30 months, after which they must be removed. This amendment aims to extend this exemption to 60 months, acknowledging that the required data may be needed for longer than 30 months.

The proposed amendment also includes provisions whereby the wind monitoring towers are required to be removed within 6 months if the wind farm development application is withdrawn or refused. This will ensure the wind monitoring tower is not left in perpetuity if it is not needed.

The 60 month time limit will prevent the need to demolish a tower after the 30 months only to rebuild it if monitoring is required for longer, or if it is to be included in a development application for a wind farm at a later date.

Strategic justification

The electricity grid is part of the National Electricity Market managed by the independent [Australian Energy Market Operator \(AEMO\)](#). A recent AEMO report highlighted several challenges arising from the increasing and unmanaged supply of electricity to the grid from rooftop solar.

One of these challenges is that networks were originally built as a one flow networks; they are now used to export energy as households return excess energy to grid. This limits the ability of the network to transport electricity safely during peak periods. The report proposed charging households that put excess electricity generated through home solar energy systems back into the grid during peak load periods.

If the recommendations from AEMO proceed, it would encourage more households to install solar battery systems. Providing an exempt development planning pathway for such households will simplify the process. It will also enable suitable safety standards to ensure safe installation without any danger to homeowners or their neighbours.

Another benefit with the provision of more accessible household scale battery systems is energy independence. This includes being able to store the electricity generated by solar panels for use during the evenings and mornings (when electricity is at peak demand) or the ability to draw power from the battery during a blackout.

Requiring compliance with established standards under exempt development will facilitate safe installation and operation, while also removing any potential barriers within the NSW planning system.

The proposed amendment to the definition of 'solar energy system' responds to recent State significant applications for large-scale solar farms that justify that the development proposals can be characterised as a 'solar energy system' rather than a 'electricity generating works' to allow for their location in inappropriate zones such as an environmental zone. The proposed amendment will protect some areas from this kind of development.

The proposed amendment to wind monitoring towers responds to proponents demolishing a tower after the 30 months only to rebuild it if monitoring is required for longer.

How to get involved

This document is exhibited in line with the Department's Community Participation Plan.

To make a submission on the proposed amendments in this document please go to planningportal.nsw.gov.au/isepp-solar