1. Technical Energy Specifications Sheet, Cluster 3C

This information is compiled for Witchcliffe Ecovillage Cluster 3C lot owners and their builders and electricians. It contains important information that must be followed by all lot owners/builders.

2. Strata Cluster 3C Microgrid Features

This strata cluster features:

- 15 households
- Energy efficient, passive solar homes with heat pump hot water systems
- 6kW hybrid inverters per household
- 225A - 160kW micro-grid connection to Western Power grid
- Individual household batteries provided to each lot*
- Single point connection to WP grid

A detailed analysis of the Cluster 3C energy budget is provided in Table 1 below.

Cluster 3C	Number of Lots	Inverter Min (kW)	Allocated Max Inverter size (kW)	Total inverter (kW)	Individual Battery kWh per lot
	15	5.0kW	6.0kW	90kW	Sigenstor Batt 10.0 (Batt 5 + 5 until Batt 10.0 available)
Total	**15**			**90kW**	

Table 1. 3C Energy Budget

The solar array size connected to your inverter will vary depending on inverter size, available roof area and budget. Your solar installer will advise you of what they recommend. As the government STC rebate program uses the solar array size to calculate your eligible rebates it is recommended to install the largest array possible to fit on your roof.

* The "Allocated Max Inverter size (kW)" is the max inverter than can be used at your property. This is a function of the cluster's Western Power connection size and the differing lot types within each cluster. A "Minimum" 5kW inverter is required, but residents may size inverters from 5kW up to their "Allocated Max Inverter size (kW)".

Note: The 90kW connection to the grid has been divided equally amongst all lots.

3. Cluster 3C Household Energy Connection Requirements

Connection Process

Green domes have been installed to all lots in 3C. The connection process is the same as a standard subdivision whereby your builder's electrician will run a cable from the green dome to their power board (for energy during construction). Once your home is constructed, your builder's electrician will then move your NMI meter to your home's meter box.

Phases

All homes at the Ecovillage need to be wired for 3-phase power.

3-phase power allows for a more balanced distribution of loads across the three phases, which means that each phase carries a relative equal amount of power. A balance of power across phases reduces the risk of overloading and helps improve micro-grid power stability. 3-phase power can enable higher power loads than that of single-phase power making 3-phase power more suitable for use in houses with large solar arrays, residential batteries and EV chargers. It is essential that electricians balance loads as much as possible across the 3 phases in each home.

Power Revenue Meter

Each household must install a 3 phase NMI certified meter. It is not legal in Australia to trade energy across meters that are not NMI certified. Your NMI revenue meter needs to be SwitchDin Droplet (see below) compatible. 2 recommended Droplet compatible NMI meters are the SATEC and CET meter. All Households must purchase and have their NMI meter installed by their electrician, in their builder's site power board, before they connect to the micro-grid.

Droplet

SwitchDin Droplets enable each cluster to manage their inverter output on mass, and transfer your energy meter data to their StormCloud platform. As homes in 3C have household batteries with smart meters or smart Battery Management Systems (BMS), Droplets aren't mandatory and can be determined by the Strata Council.

Integrated Electrical Contracting (IEC) are a SwitchDin certified installer, and they provide competitive pricing for the purchase and installation of these Droplets. If you'd like to engage IEC to undertake this work please contact their office at 0488 007 978. Alternatively, please contact your electrician for a quote for installation.

Inverter

The microgrid compatible inverter brand and capacity required has been the Fronius Gen24 Symo + (Hybrid) with a minimum 3-phase 6kW inverter capacity. As of January 1, 2026, we are recommending the Sigenergy SigenStor system. The SigenStor is a state-of-the-art '5 in 1' energy storage system, with a minimum 5kW (Hybdrid) inverter capacity.

Hybrid inverters are required when installing household batteries. The advantage of using quality hybrid inverters such as these, is that the size of rooftop PV arrays can be increased considerably (double inverter size) while still maintaining eligibility for STCs (Small-Scale Technology Credits).

As with the Fronius + BYD battery systems, which required additional kit/costs (home owner's expense) for the switchgear to achieve household energy backup during grid outage. The SigenStor system requires an energy gateway to enable this. The cost for such is much the same when adding the smart meter that the Fronius system required.

Both the Fronius and Signenstor inverters produce Pure Sine Wave power, which is often cleaner and more stable than the power supplied by the grid. They are both completely safe for all modern household electronics without any additional protection devices.

Electrical Meter Box / Switchboards

Because the homes and solar systems are 3 phase with battery back-up it is recommended that an external meter box be installed that will have the meters and main fuses installed within it. The solar equipment will require 6 free poles within the meter box and the revenue meter requires 7 poles with a 3 pole main isolator/SPD.

For this reason it is recommended that an internal switchboard be installed for the house general electrical circuits to connect to.

Solar systems

To provide an Ecovillage wide net neutral renewable power supply, all Ecovillage homes require the installation of a minimum of 6kW solar PV. To maintain peak performance and efficiency of the overall cluster energy system, individual solar PV systems need to be installed and connected evenly across the cluster microgrid and careful consideration has been given to the servicing of each home and its permissible solar PV. The distribution of the systems over the network is critical to create a balanced network.

The maximum size of solar PV system that is connected to each home will depend on the type of inverter you have. The new 3 phase hybrid SigenStor inverter that we are now recommending will enable you to be able to install twice the kW of solar to inverter size, i.e. 10kW solar with a 5kW inverter. The great benefit of this occurs during overcast days in winter.

We strongly recommend buying good quality PV's, with a minimum 25yr warranty.

Your solar installer will need to allow for:

- Sigenergy SigenStor + solar system, ideally with Sigenergy Gateway for seamless battery back-up.
- Installation of the developer provided batteries (through IEC)

Power Quality Assessment (PQA)

Western Power deem all solar connections over 30kW as commercial size systems. As such, they require each cluster to engage a licensed Electrical Contractor to perform a PQA when all solar systems have been installed. The cost of the PQA is to be paid in full by the strata council. Please contact Integrated Electrical to schedule your PQA when your clusters last solar system is installed.

Batteries

The developer supplies household batteries upon the completion of all homes that commence construction (plans approved by WEV & Shire, builder contracted and concrete slab installed) within the Commencement Date specified in the original land sale contract with the developer. Batteries are supplied through the Developers preferred electrical contractor, IEC. Households are required to inform and provide WEV and IEC with at least 2 months notice for supply of battery, via info@ecovillage.net.au & admin@iecelectrical.com.au

We have recently made the decision to change from supplying the BYD HVM batteries to the Sigenergy Batteries, due to the quality of the product and seamless backup when the grid drops out. These batteries

add directly to the SigenStor system (including BMS & Inverter) and households can add battery cells if they require more battery storage.

The Sigenergy SigenStor system has a far better app than the previous Fronius & BYD offering and whilst it comes with the same 10yr warranty, they have a considerably longer battery life of 10,000 cycles compared to 6,000, which could translate to 25yrs compared to 15yrs.

The current range of Sigenstor Batteries are the Batt 5.0 & Batt 8.0. However, the new Batt 6.0 and Batt 10.0 are awaiting Clean Energy Council (CEC) approval and will eventually replace the 5.0 & 8.0. The new battery range are slightly improved with higher energy density and kW output.

Groupie lots in all of Stages 1-3 received an average allocation of 6kWh from their community battery. Early Groupie lots received the BYD 11.0 as this was the smallest three phase battery that met our quality requirements. Groupie homes across Stages 1-3 are generally self sufficient from their 6kWh (average) allocation, so now that we have a high quality offering in both the 5kWh and 8kWh from Signenergy we are allocating the Sigenstor Batt 8.0 to remaining Groupies in Stages 4 and 5, until the SigenStor Batt 10.0 replaces the Batt 8.0 (expected in the second half of 2026).

Groupie lots that wish to take advantage of the federal rebates can add additional battery cells to their system.

Cottage Lots throughout Stages 1-3 received an average of 9.5kWh, and early homes in Stage 4 & 5 received the BYD 11.0 for the same reason as the Groupies (smallest quality 3 phase battery available). Future Cottage Lots will receive 2 x SigenStor Batt 5.0's until the new Sigenstor Batt 10.0 receives CEC approval.

Family Lots throughout Stages 1-3 received an average of 13kWh. Early homes in Stage 4 received the BYD 13.8kWh as a 13.0 was not available at the time. Family homes will receive the SigenStor 8.0 + 5.0 until these batteries are replaced by the SigenStor Batt 10 + Batt 6.0 later in the year.

Short Stay lots initially received the 11kWh BYD batteries, for the same reason as the Groupies and Cottage lots. The new Sigenergy Battery supplied to eligible 3C lots will be 2 x SigenStor Batt 5.0's until the SigenStor Batt 10.0 is available.

The Federal Governments generous battery rebate scheme is now available to all home owner's installing approved household batteries via certified electricians. The rebate available for batteries is currently 8.4 STC's/kWh. The average installer rebate for 1 x STC is currently (January, 2026) $38 (please confirm with IEC as rates fluctuate). At $38/STC the rebate per kWh is $319.20. This means your installer will be able to supply a rebate of around $3,434 for 2 x SigenStor Batt 5.0's (see table below).

The above rebate is currently available for up to 50kWh, until April 30, 2026.

From May 1, the rebate changes to a tiered rebate system, designed to discourage oversized batteries. The first 0-14kWh will receive a rebate of 100%, the following 14-28kWh will receive a 60% rebate, and 28 – 50kWh will receive 15%.

It's also important to note, that the STC rebate system for batteries will reduce each six months, unlike the 12mthly reduction for solar STC's (see table below).

As such, we recommend that all households contract their installer to add at another Batt 8.0 or 10.0, as the rebates will pay for the additional battery. Aim for 15-24kWh whilst the rebate is available.

Having said this, if you miss out on the more generous end of the battery rebates, please remember that we are providing more than enough battery for each lot type/home to be self-sufficient, due to the efficiency of our homes (required by our BDG's). It's important to remember that you should never charge EV's, Hot Water and Hydronic heating from your batteries. These should all be charged during sunlight hours. In most cases, you're best advised to maximise your solar (to double inverter size), so you have plenty of energy to charge your batteries, etc, during overcast winter days, than to add more battery cells.

It is highly recommended that you ensure your solar installer allows to install the grid backup controls so that your system will still operate during a blackout. With the Sigenstor system, this unit is called a Gateway unit, which will enable seamless energy backup during any grid blackouts. The Gateway is a small white box that is ideally located next to your external meter box.

Batteries cannot be installed inside your home. They need to be installed out of weather (e.g. under verandah or carport). The location for your battery needs to be discussed with your installer who will confirm the technical requirements and ideal location for your battery.

We strongly recommend getting a quote from IEC for the supply and installation of your solar and battery systems as they are a competitive local company with extensive experience with solar and battery installations, as well as all energy systems in the Ecovillage. They are currently our exclusive supplier of batteries in Stages 4 & 5.

It is essential to request IEC assess and plan your solar and battery installation as soon as you have confirmed acceptance of their quote, ideally during your home design stage (especially for owner builders), to ensure the necessary pre-wiring happens at the right stages as this can add considerable costs if you don't plan ahead.

As outlined in your contracts, the Developer reserves the right to change battery they supply at any point. However, we will only do this if we believe there is a better option available.

Estimated Federal Rebate Values (2026–2027)

*Based on **$38 per STC**.*

Battery Model	Current - 30/4/26	1/5/26 - 31/12/26	1/1/27 – 30/6/27	1/7/27 - 31/12/27
STC's / kWh	8.4	6.8	5.7	5.2
Batt 5.0 (Existing)	$1,717	$1,390	$1,165	$1,063
Batt 6.0 (New)	$1,915	$1,550	$1,300	$1,185
Batt 8.0 (Existing)	$2,573	$2,083	$1,746	$1,593
Batt 10.0 (New)	$2,885	$2,336	$1,958	$1,786

Please remember the following:

1. *The Developer only supplies batteries to the original lot purchasers.*

2. Original lot owners are only eligible if they started and finished construction within their contractual dates.
3. We only supply batteries to completed homes, not partially completed. Lot owners are required to confirm completion of their homes by email: admin@ecovillage.net.au
4. IEC must email WEV to confirm eligibility before supplying any batteries.

4. Microgrid Connection Information

Additional Information / Requirements:

The below information needs to be provided to your builder and home designer.

- Each dwelling requires an externally accessible Western Power approved 450x450mm meter box. The LHS requires a minimum 16pole din kit with 1x 32amp 3 phase breaker.
- 32 Amp 3-Phase connection as per Western Power standard. Changes to the size of this connection are possible but will come at an additional cost.
- 25mm communications conduits need to be extended from the NBN pit adjacent to your green dome on your lot boundary to enter directly into the LHS of the meter box with no more than 270 degrees of long radius sweep bends. This is to enable future microgrid controls.
- During electrical fitout electricians are required to ensure they run a 240v rated cat5e data cable from the internet modem location to the meter box and leave it 'made safe' and coiled behind the LHS panel with a data outlet terminated at the modem. This is to enable internet connectivity for the operation of Energy Management Systems i.e. Inverter Controls.
- Power/Microgrid communications connection points are at the rear of the lot. NBN connections are at the street side of the lots.

Indicative Connection Costs:

The 2026 indicative costs associated with this connection process are outlined below:

Requirement	Responsibility	Cost
3 phase cable from the micro-grid distribution board to your lot boundary – Green Dome	Developer	Provided
NMI meter (Indicative Cost – Satec or CET meter)	Home Owner	$506.40 + GST (Approx)
NMI meter installation at temporary power board and transfer to your home	Home Owner/Builder	Quote required
Solar System	Home Owner/Builder	Depends on System Size
Battery Supply (size dependent on Cluster and lot type – as above).	Developer/IEC (as per table above) Additional batteries at home owner's expense.	Developer provides to homes commenced within original contractual commencement date. Otherwise at cost of owner.

Battery Installation	Home Owner/Builder	Quote Required from your solar installer
Smart Meter (if installing Fronius inverter)	Home Owner/Builder	$500 + GST (Approx)

EV Charging

EV charging in short stay lots is only allowed for permanent homeowners living in these lots. EV charging from short stay lots is not permitted for short stay tenants. The reason for this is that short stay tenants visiting with EV's are an important part of the revenue base for permanent residents in residential clusters with EV chargers. If a short stay owner requires an EV charger for their own vehicle, they will need to provide a lockable storage and power supply in their carport for their use only. The benefit of this for Short Stay owners is that their tenants will not be leaving them with large power bills, as filling an EV to return to Perth after a holiday will generally use around $20 worth of energy, not to mention additional charging whilst staying in the home.

3E Survey Strata Plan

