



Alderney Electricity Limited

Solar PV, BESS and EV Installers' Guide

Guidance for contractors installing behind-the-meter renewable generation and low-carbon technology connected to the Alderney Electricity network.

STOP

Do not energise or connect any system until AEL has approved the application and an independent Permission to Connect (P2C) check is complete. Connection to the network without approval is not permitted.

About this guide

This guide is for electrical contractors and installers designing or fitting solar PV, battery energy storage (BESS), solar diversion and EV charging equipment on Alderney. It sets out how AEL assesses and connects these systems, what the design limits are, and what we need from you at each stage. It is written to be read alongside our application forms, not in place of them, and current requirements should always be confirmed with AEL.

AEL supports the growth of independent solar and low-carbon technology on the Island, and we want to make the process as clear and predictable as we can. At the same time, Alderney is a small, self-contained electricity network. It is not connected to any larger grid, so it has lower fault levels, less system inertia and tighter voltage and frequency margins than the mainland. On a network of this size, the behaviour of individual installations matters more than it would on a large interconnected system. The requirements in this guide exist to let more renewable generation connect safely.

How connections are governed on Alderney

AEL is the statutory operator of the Alderney electricity network and performs the Distribution Network Operator (DNO) function for the Island under the Alderney Electricity Concession Law. Connection of any generation or storage capable of operating in parallel with the network requires AEL's approval. This applies whether or not the system exports, because a grid-connected inverter interacts with the network through voltage, harmonics, fault contribution and anti-islanding behaviour regardless of its export setting.

Generation and storage are connected under AEL's technical connection requirements and terms of connection, which the customer accepts as part of the connection agreement. Given the fault level and inertia of the Island network, connections are offered on a managed, non-firm basis, similar to an Active Network Management (ANM) connection in Great Britain. The monitoring and control arrangements in this guide are part of what allows a connection to be made.

The GB connection processes and thresholds that installers will know from the mainland, EREC G98, G99 and G100, do not apply on Alderney. They are Great Britain Engineering Recommendations made under the GB Distribution Code and have no legal force here. AEL sets its own connection requirements as the Island's network operator. We align with recognised engineering standards and expect type-tested, compliant equipment, but the application route, the assessment and the decision are AEL's, and there is no equivalent of the G98 'connect and notify' route on the Island. Every system is assessed and approved before connection.

1 Before you design or install

Getting the route and the status right before you commit a customer to anything saves everyone time later. Connection on Alderney is not automatic and is not granted on demand, so please do not promise connection dates until AEL has confirmed one.

- **Confirm the application route.** Use Solar 01 for the initial, no-fee renewable enquiry. Use EGC01 for private PV and NAAS01 for a new supply, additional load or alterations. For commercial PV above the residential threshold, contact AEL for the application route. If you are not sure which applies, ask us before you submit.
- **Check the current approval status.** New private-PV EGC01 applications are on hold until 1 April 2027 while we complete essential network work and our grid study. We are accepting applications now to form a queue, so it is worth applying early, but do not promise a customer a connection date and do not proceed on an application that has not been approved.
- **Use competent installers.** Installers must be suitably qualified and registered with a recognised certification or competent person scheme, such as NICEIC or NAPIT. For solar PV and battery storage installations, the installer's registration or certification must specifically cover the relevant PV and/or electrical energy storage system work, or an equivalent recognised competency must be demonstrated.
- **Use accepted equipment.** Confirm the current accepted inverter, BESS and charger equipment with AEL before ordering anything. We standardise on platforms we can integrate with and monitor, so other equipment may not be accepted, or may need to demonstrate equivalent integration first. Checking early avoids a customer paying for equipment we cannot connect.

2 Fees

AEL's current fees are set out below. Fees are payable by the customer. Where you are advising a customer, please direct them to AEL to confirm the fees that apply to their installation.

- **EGC01 Application fee.** £250, submitted with the application.
- **Commissioning fee.** £500, covering AEL attendance to confirm the installation and settings on connection.
- **Section 20 inspection.** Some installations also fall under Section 20 of the Concession Law, which makes it unlawful to use an altered installation until it has been examined, tested and approved by an AEL-appointed inspector. This typically applies to alterations requiring additional examination by AEL, for example a PV or battery installation that can operate independently of the AEL network and uses any type of change-over switch to transfer the premises between the customer's system and the AEL supply. This is not considered a standard AEL supply arrangement, and AEL therefore encourages the designer to liaise with us at an early stage to discuss the proposed configuration and any additional requirements. Where Section 20 applies, an inspection fee is charged in addition to the above. The fee is assessed according to the nature and complexity of the installation, so the customer should liaise with AEL directly to confirm whether Section 20 applies and the fee for their installation. This inspection is separate from, and additional to, self-certification of the electrical work.

3 System design limits

The limits below apply to the connection to the AEL network. What a customer does behind their meter to make the most of their own generation is largely their own choice, but the size and nature of the connection to our network is set by AEL. These figures are our current interim standard and will be reviewed once the network study is complete.

- **Inverter limit, 3.68 kW (16 A) per phase.** Single phase is limited to 3.68 kW. Anything above this requires a three-phase supply, at 3.68 kW per phase, giving 11.04 kW in total across the three phases. The limit applies to inverter and export capability, not to PV panel capacity, so a larger array is fine provided the inverter output to our network stays within the limit. The limit is set by fault contribution and by connected capacity concentrated on a single phase, both of which affect a small islanded network whether or not the system exports.
- **All-electric homes, three phase required.** All-electric homes must be connected on a three-phase supply going forward. The 3.68 kW per phase limit still applies. This keeps larger domestic loads balanced across the network rather than concentrated on one phase.
- **BESS is mandatory.** Every private PV system must include battery energy storage. The battery's state of charge is managed so the system loads and unloads from the network smoothly, rather than stepping demand or generation on and off in blocks, which a weak network feels sharply. Record the battery make, model and capacity on the application. Systems may be expanded in future, but any change must be notified to AEL and agreed before it is made.
- **Systems above 11.04 kW.** Installations above 11.04 kW require a bespoke connection offer from AEL. As a condition of connection they must be able to receive and respond to AEL's ANM active power setpoints, so output can be reduced or restored in line with network conditions.
- **Maintain controllability.** The system must provide the monitoring and control access required by AEL, as set out in the connection offer, with credentials submitted through AEL's secure process. The system will be commissioned under AEL's manufacturer platform accounts, and the installer will be given separate access. Inverter settings must remain available for AEL inspection and must not be changed without AEL's agreement. These requirements form part of the connection agreement, and unauthorised changes to a connected system may lead to disconnection.
- **Retained AEL supply and changeover.** Any installation that keeps an AEL supply, including one where the AEL supply is retained as a backup, is a connected installation and this guide applies to it. Where a changeover or transfer arrangement is fitted, it must be a manual, break-before-make device used for maintenance and emergency purposes only. Automatic changeover will not be approved at this time, as repeated automatic transfer places step loads on the network that AEL cannot control.
- **Solar diversion, visibility and future control requested.** Where a solar hot-water diverter is fitted, AEL requests that it is recorded on the application. This is a request, not a condition of connection. If AEL introduces cheaper or time-of-use tariff in future, a diverter that is already recorded can be considered for those arrangements.
- **EV charging, 3.68 kW standard.** 3.68 kW is the standard domestic charger limit. A higher-rated charger requires NAAS01 approval and must be limited to 3.68 kW unless the higher load is specifically approved. Chargers should manage their load against the available supply capacity, and pairing them with the PV and battery to use surplus generation is encouraged.
- **EV tariff.** Domestic EV charging must be charged using Tariff C. It must not be run on the off-peak water-heating tariff, which is provided for that purpose only.
- **Plug-in and portable solar.** Refer any enquiry about plug-in solar to AEL before proceeding. These products carry safety, unapproved export, fire and insurance risks on our network and are treated with caution. Currently they are not approved on Alderney.

4 Install, inspect and record

Once an application is approved, the quality and completeness of the installation record is what lets us connect promptly. A thorough record avoids delays and repeat visits at handover.

- **Follow the approved design.** Install to the approved design, the manufacturer's instructions and the relevant electrical standards. Site safety, roof access, scaffolding and fall protection remain the installer's responsibility. Any change from the approved design, including a substitute for a specified component, must be agreed with AEL before it is made, as it changes the basis on which the installation was assessed.
- **Capture the full site record.** Record PV capacity, inverter make, model, size and settings, BESS make, model and capacity, solar diversion details, heating and hot-water type, EV charger details and installer, the inspection date, photographs and sign-off.
- **Protect settings and access.** Record the required access credentials through AEL's secure process, and make sure the customer understands that inverter and control settings must not be altered without AEL's agreement, and that unauthorised changes to a connected system may lead to disconnection under the connection agreement.
- **Book the AEL inspection.** Confirm to AEL when the installation is due to be completed, so the inspection and any meter change can be booked in and the customer's downtime kept to a minimum.

5 Handover and connection

Connection is a controlled step with an independent check built in. This protects the customer, the installer and the network.

- **Self-certification and AEL inspection.** Self-certification under a recognised competent person scheme covers the electrical work to BS 7671 and remains in place. AEL's inspection is separate. It confirms how the installation interfaces with the network, including that it has been built as approved and that any parallel capability is controlled as agreed. Both are required before the system is put into use.
- **Independent review.** AEL, in its role as the Island's DNO, appoints reviewers to assess each application independently of the installer. AEL management makes the final connection decision.
- **Independent Permission to Connect.** A separately competent person completes the commissioning and P2C checks, covering BESS details, monitoring and control access, inverter settings and customer confirmation. This is an independent check, not a self-certification.
- **Close the record before energisation.** File the completed P2C and all supporting evidence electronically against the installation, and make sure the central PV and application record is updated before the system is energised.
- **Unsuccessful commissioning.** If commissioning or the P2C checks are not successful, AEL will notify the customer of the rectification required before the system can be connected.
- **Changes after connection.** Any later change to a connected system, including expansion, replacement of the inverter, battery or charger, or a change to the transfer arrangement, must be notified to AEL and agreed before it is made.

Questions

This guide will be updated as our standards and the network develop, so always confirm the latest forms and connection requirements with AEL before starting work. If anything is unclear, or you have a technical query about a specific site or design, please contact us early. Please send connection queries to the address below so they are handled in one place and answered consistently.

Technical and connection queries: energy@alderney-elec.com