Evosol Commercial
Solar Design and Installation
U2/31 Christable Way
Landsdale, Perth 6065
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Evosol After Sales Service

Owner: CRN:
Address:
Email: Phone:

Solar System.
System Size: Date Installed/commissioned:
Inverter Model: Power phase:
Solar Modules: Number of modules:

Congratulations on taking a positive step towards reducing your electricity bills and helping to offset climate change.
Setting up a Solar System for your home or business is one of the wisest economic decisions you can make.
We would like to thank you for choosing to put your trust in Evosol and our team.
Investing in a Solar System is investing in an asset that has to last for years to come, working efficiently and saving money.
To ensure that you will have many trouble free years with your Evosol product we have set up a Ten-Year service schedule to monitor your solar system over its warranted lifetime.
Please keep this document in a safe place to refer to when required

About Evosol

Evosol Commercial is part of Australian Renewables Group Pty Ltd; an Australian owned and operated company. Our offices and showroom are located in Landsdale, Perth.
Evosol Commercial designs and installs Commercial Solar and LED Lighting for commercial business premises. We also provide roof top solar systems, solar hot water systems and LED lighting for the residential solar market.
Our aim is to offer our clients a product package that not only saves them money, but has a positive impact on the environment.
Evosol's business approach is based on an Energy Management approach, which is about efficiently managing existing electrical resources and combining this with local power generation utilising Solar Power, LED lighting, Solar Hot Water, and other methods of Renewable Energy.

Team members

Our team are experienced in all aspects of Renewable Energy and can provide our clients with exceptional technical knowledge on Solar Power and systems design, both in the Commercial sector managing project design and installation and the Residential market.
Evosol team members are friendly, helpful and always open to discuss all aspects of renewable Energy and are available to come out for a site inspection when required.

Our point of difference

We understand that investing in a Solar System is not only about the price and the quality, it is also about the back-up service.
Our ethos at Evosol is one of service that's goes the extra mile to back up our high-quality systems.
We provide a ten-year after sales service check on all of our solar systems to ensure the efficiency of the system for its warranted lifetime.
We also offer a solar generation performance guarantee for the warranted lifetime of the solar system.
We believe in giving the best value for money, so our systems are priced fairly. We don't believe in providing cheap products or cutting corners on installation.
We are here to stay, so that in years to come we are still around when you need us.

About your system

Installation

Installation of a solar system is as important as the products used.
A faulty installation; apart from not performing efficiently can result in fire and damage to property and or injury to householders.
You can rest assured that your solar system is installed according to the guidelines as set out by the Clean Energy Council of Australia which incorporates Australian and New Zealand Standards AS/NZS 3000:2018, AS/NZS 5033-2014, AS/NZS 4777.1-2016, AS/NZS1768-2007 and AS/NZS3008.1.1-2017 as in force at the time of installation.

Frame / wiring / isolators

The frame used with the installation to hold your solar modules to your roof is made by *…….
The frame engineering certificate complies with AS/NZS1170.2 as required by Australian Certification.
All wiring used with this installation complies with AS/NZS 3000 as required by Australian certification.
The isolators used in this system are ZJ Beny which are compliant with IEC 60947 IP 66 and AS/NZS 5033 as required by Australian certification.

Solar modules

The Solar Modules used in this system are made by *…….model number …… and are compliant with Fire Class C per UL790 under IEC 61730, AS/NZS1170.2 and AS 1768 as required by Australian certification.
(Serial numbers for the solar modules are kept on record with Evosol and can be given when requested).

Inverter

The inverter used in this system is made by a*…… model number …….. and is compliant with AS/NZS 4777.2:2015 as required by Australian certification.

*** Note:** Different systems may require different products depending upon the design of the particular solar system and will be entered into this document when the system design is confirmed.

Periodic system maintenance.

The location, size and design of the PV array will determine the maintenance procedures required. Unless otherwise specified, the following activities will be included in the maintenance procedure

- Adherence to Safety warnings and manufacturer's recommendations
- Cleaning of the PV array might be periodically required in locations where it is likely to collect dust or other shading materials
- Periodic inspections should be carried out to check wiring integrity, electrical connections, corrosion and mechanical protection of wiring
- Verify open circuit voltage and short circuit current values
- Check PV array mounting structure(s)
- Test operation of switches
- Check for PV module defects

Periodic maintenance chart overview

Subsystem or Component	Maintenance action	Frequency	Remarks
Site	Cleanliness (Accumulation of debris around or under the array) No shading of the array	1 year or as required depending on the site	Clean site, trim trees as required
PV modules	Verify Cleanliness Check for visual defects Inspect junction boxes	1 year or as required depending on the site	Clean if necessary. If any visual defects found further investigate for performance and safety.
Wiring	Verify mechanical integrity Verify insulation integrity of cables installed without conduit	5 years	Replace any damaged components
Wiring	Inspect Junction boxes for integrity Check connections for tightness, corrosion	1 year or as required depending on the site	Replace any damaged components
Mounting Structure	Inspect for corrosion Verify the integrity of the structure	5 years	Replace any damaged components
Protective devices	Verify integrity of fuses, fuse holders, CBs, earthing system, isolation devices	1 year or as required depending on the site	
Electrical	Measure open circuit voltage Measure short circuit currents	1 year or as required depending on the site	

Cleaning the solar modules

The design and configuration of the solar panels is such that should a part of any panel be covered then it will reduce the efficiency of all panels.
It is advisable to have a professional solar panel cleaning company clean your panels as they will do it quickly and efficiently, and most importantly; safely.
Should you choose to clean the panels yourself, this can be done quite simply with a hose and a soft broom.
Care must be taken to turn of the DC isolators on the roof beforehand and to make sure to turn them on again after the cleaning has been finished.
Clean the panels in the morning or very late in the afternoon when the panels are not hot.
Walking on the solar panels is not advised as this may cause micro-cracks that over time will grow causing hot spots which will reduce the efficiency of the panels.
Caution should also be taken as once the panels become wet they become very slippery as will the roof.
For this reason, we would advise that a professional cleaner be employed to clean the panels.

Scheduled service check

To ensure that your solar system is working properly, a series of scheduled checks by an Evosol representative will be conducted over a ten-year period, even if you only have a standard five-year warranty.

The Service check period is as follows

1. Three months after the installation of the system
2. One year after the installation of the system
3. Three years after the installation of the system
4. Five years after the installation of the system
5. Seven years after the installation of the system
6. Nine years after the installation of the system
7. Ten years after the installation of the system

During the scheduled service check, the system will be checked to see that it is working correctly.

A calculation will be done to advise you;

1. Of the efficiency of the system,
2. The average daily production
3. Average daily savings
4. What percentage of the power being generated that is being used by the household
5. How long before the system is expected to pay for itself
6. The return on your Investment
7. A running calculation on your total savings since the system was installed

If it is noticed that the system is not performing as would reasonably be expected, then please contact your Evosol representative and a technician will be sent out to diagnose any issues.

What to do in the event of a fault / earth alarm

Your solar system is fitted with an earth fault alarm.
An earth fault alarm is a safety requirement designed to detect if there is a fault or short-circuit between the DC circuit/s of a PV system and ground (earth). An earth fault can be caused by something as simple as a build-up of moisture in the morning in the corner of a solar panel, to a loose connection.
If an earth fault occurs, the red light on your inverter will light up and an error code will show on the inverter display as well as an alarm sounding to indicate an earth fault and the inverter will shut down.
If it is as simple as moisture on the panel, after the panel has dried out the fault may well disappear and the inverter will start up again. This does not mean the problem is fixed and the problem should still be reported.
Do not try to trouble shoot the problem and definitely do not go up on the roof and touch any panels as in the worst-case scenario an earth fault may present an electrical hazard for anyone touching the panels.
If you notice that your inverter is indicating an earth fault, please contact your Evosol representative immediately and we will send a technician around to attend to the problem.

Shutdown and isolation procedure for emergency and maintenance

If the solar system needs to be shut down for any reason, then the following steps are the procedure that should be taken in order.

Step 1.
Open you meter-box.
Locate the **solar supply main switch** and flick the switch to the **OFF** position.
Step 2.
If your solar power inverter is more than 3 metres away from your switchboard, there will be a switch marked **Solar AC Isolator** which will be next to your inverter. This may also be a large switch with a round switch dial. Turn this switch to OFF.
Step 3.
Go to your inverter and find the switch marked **PV Array and DC Isolator**. Turn this switch to the **off** position (in some cases there will be two switches).
Step 4.
Your inverter may have a switch marked **Inverter Isolator**. If it does, turn this switch to the off position. If you cannot locate this switch on your inverter, skip this step.

Your solar PV system should now be completely switched off. All lights and screen displays will be dead. Keep the system off for a minimum of five minutes.

To restart your solar system

Follow this guide in reverse order. **DC isolator** on first, followed by **AC isolator**, followed by your **solar supply main switch**.

If you need to go onto your roof and there is a possibility of being or working around your solar panels, then turn off the solar panel DC Isolator switches beforehand. The DC isolator switches are located at the end of each of the solar arrays. Turn the DC isolators back on when leaving the area.

Additional documentation regarding your solar system

Further technical documentation about your solar system is kept on record with Evosol management and is available upon request should you require it.

This information relates to;

1. Basic system information including system rating and component ratings, commissioning date and equipment location
2. A basic connection diagram that includes the electrical ratings of the PV array, and the ratings of all overcurrent devices and switches as installed
3. The commissioning sheet and installation checklist.
4. Array frame engineering certificate for wind and mechanical loading
5. Installer/designer's declaration of compliance.
6. Voltage rise calculations or measurements.
7. Details of any central protection, phase balancing or export control installed, including devices, wiring and settings.

Additional client benefits

Free household energy assessment

Saving electricity and making the most of any electricity you use is extremely important in today's economic climate, especially with electricity costs continuing to spiral even higher.
A Household Energy Assessment can help to determine not only how much power you are using, but where any excess unused power is being wasted.
A Household Energy Assessment is recommended if thinking of installing batteries to determine household energy consumption.
Note: This offer is transferable to a friend or family member.

Two free panels on any additional solar system

If an additional solar system is required, then two extra panels can be added to the system free of charge, provided they can fit on the roof as part of a standard installation or they do not oversize the system above CEC regulations.
Note: This offer is transferable to a friend or family member.

Battery storage calculations

Setting up batteries is not straightforward and requires specific calculations to ensure the right size battery bank is installed.
As part of Evosol's service we can advise you on what size battery bank is needed to service your power needs and advise you of what to expect from your battery usage.

Design and planning an off-grid system

Designing a complete Stand Alone – Off Grid solar system is very complicated, and required a qualified person to design the system.
Note: A first appointment to go over the off-grid system to work out a basic schematic is free of charge. To design a detailed off grid system, including which products are best suited, as well as a site inspection will require a fee which will be taken off the price of the system when you decide to go ahead with the installation.

Wholesale discounts

Solar batteries
If deciding to add batteries to an existing solar system supplied by Evosol, the price of any batteries will be offered at the wholesale cost price charged to Evosol (the price will include an Evosol handling charge). Installation of the batteries is a separate cost which is charged to our clients at a discounted rate.

LED Lighting
LED Lighting is the quickest and simplest way to reduce electricity costs. Installing LED Lighting can reduce the lighting cost if using incandescent lights by up to 80%.
LED lighting for Evosol clients will be at the wholesale cost price charged to Evosol (the price will include an Evosol handling charge)

Discounted solar panel cleaning

For a solar system to work 100% efficiently, it is advised to have the solar panels cleaned once a year to get rid of any build-up such as dust, bird droppings, leaves, etc.
Evosol can arrange for a solar panel cleaner at a discounted price from one of our qualified sub-contractors.
Note: The solar panel cleaner is a sub-contractor to Evosol and while informed of Evosol's customer and safety protocols; Evosol bears no responsibility for any event that may happen in regard to the cleaning of Solar Panels.

Free installation of a "smart meter" (energy monitor)

As more people become aware of the need to save power, a household electricity -monitoring program is a valuable tool especially if a solar system is installed.
Using an electrical-monitoring program, can quickly show when electricity is being used or not used. The energy meter can show when the solar is producing the most power so advantage can be taken of the excess power and conversely power usage can be reduced when the system is producing less.
A meter will need to be installed in your meter box and the readings from this meter will be available on your computer or smartphone to read.
Note: The cost to install the Energy monitor and to purchase the energy monitor is the customer's responsibility. An energy meter can be installed free at the same time a solar system is being installed.

Free invitation to solar workshops

From time to time, Evosol will be running Solar and Renewable Energy workshops to advise and show interested people what there is out there in the market place and how to make the most benefit from using these products and services. As an Evosol customer, you will be informed when any workshop / seminar is being run and you and a friend will be invited to attend free of charge.