



Integral Energy Sun Power

Interconnection Agreement Scheme
July 2008
Version 2

 **INTEGRAL**
energy
The power is in your hands

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1 Intent of agreement

The intent of this Agreement is to allow the interconnection of your Solar Generation equipment with our electricity network.

This Solar Interconnection Agreement is only for gross generation/consumption energy billing from domestic solar powered generating facilities of 10kW single phase or less.

This interconnection agreement allows you to offset part or all of your electricity costs by delivering the energy you generate, into our electricity network.

1.1 Special words in this agreement

You or Your means the person or organisation that owns or operates the solar generation equipment that is being connected to our electricity network.

We, Us or Our means Integral Energy Australia.

2 Connecting to our network

The cost of designing, installing, operating and maintaining your solar generating equipment is your responsibility. This must be done according to all laws and regulations that apply, and comply with the safety and technical requirements detailed in sections 12 and 13.

A separate watt-hour meter to measure the amount of energy you generate is to be provided in the existing meter box.

Any energy generated by your solar system is to be delivered to us at the meter.

3 Purchase of energy

3.1 By us

Under this program, any electricity generated by your equipment will be deducted from the electricity that you purchase. If the energy generated by your equipment exceeds the electrical energy you use during any billing period, we will credit you for the energy you deliver to us during the period of the scheme as recorded by the meter.

We will credit your electricity account with the value of the energy that we have purchased from you. The price we pay for this energy will be equivalent to the standard domestic inclined block tariff (IBT) for the first 1,750 kWh per quarter (excluding GST). This price is in accordance to the rates and conditions set out in our most recent Energy Price Guide at the time the electricity was recorded by the meter. Copies of the current Energy Price Guide are available from Integral Energy on our web site www.integral.com.au or by calling 131 002.

3.2 By you

We will charge you for any electricity you purchase from us according to the rates and conditions set out in our most recent Energy Price Guide at the time the electricity was recorded by the meter. Copies of the current Energy Price Guide are available from Integral Energy on our web site www.integral.com.au or by calling 131 002.

4 Construction permits

You must obtain any authorisation or permits required for the connection and operation of your solar generation equipment and interconnection facilities. This may, without limitation include local government rezoning or building permits.

You indemnify us against any or all actions that may arise relating to authorisation or permits, whether you obtained them or not and will be required to reimburse us for all losses, or liability we incur as a result.

5 Access to your premises

As permitted by the Electricity Supply Act and the Standard Form Customer Connection Contract, our staff or authorised representatives may enter your premises to:

- inspect protective devices on your equipment,
- read or test meters,
- disconnect the interconnection facilities, without notice, in an emergency situation.

6 Interrupting or reducing your supply to us

We may require you to interrupt or reduce delivery of energy to us:

- to construct, install, maintain, repair, remove, investigate or inspect any of our equipment or part of our system; or
- if we believe it is necessary because of emergencies, forced outages, compliance with prudent electrical practices or because of other dangerous and unexpected events.

We are not obliged to pay you any compensation for these interruptions.

Whenever possible, we will give you reasonable notice if an interruption or reduction of deliveries is required. We will endeavour to keep any interruptions as short as is reasonably possible.

7 Disconnection of your supply to us

We can disconnect your generating equipment from our network if we determine that:

- your equipment is dangerous to our staff, representatives or other parties; or
- the continued operation of your equipment is dangerous to the integrity of our electrical network.

We will not reconnect your equipment to our network until we are satisfied that you have corrected any problems and satisfied our concerns.

You may terminate this Agreement and disconnect your supply to us by giving us 7 days notice in writing.

8 Indemnity and liability

In this clause, the word liability includes loss, damage, consequential damage, claim, cost, charge, demand, expense and legal fees.

Each party will indemnify the other party against any liability for damage to property and injury or death to persons, including employees and contractors of either party, arising out of:

- the design, construction, maintenance or operation of the residential solar generation, equipment or interconnection equipment; or
- the addition, modification or deletion of any equipment to your system at a later date.

9 Governing law

This Agreement is governed by the law of New South Wales, as if executed and performed wholly within New South Wales.

10 Amendments

Any amendments or modifications to this Agreement must be in writing and agreed to by both parties.

The failure of any party to require performance of any provision within this Agreement does not affect their right to enforce this provision at a later time.

Any waiver of this Agreement must be in writing.

11 Safety requirements

Any privately owned installation connected to our network must comply with all statutory and regulatory requirements including without limitation, AS/NZS 3000 Wiring Rules, the Network Connections Contestable Works General Terms and Conditions, the Standard Form Customer Connection Contract, the Service and Installation Rules of NSW and Australian Standard AS4777 Grid Connection of Energy Systems via Inverters.

Before granting permission to connect solar generation equipment under this scheme the following conditions must also be complied with.

All reasonable precautions must be taken to prevent the intentional or unintentional islanding of private generation installations. Islanding occurs when your solar generation equipment remains connected to a portion of our network while that portion is isolated from the main interconnected generation system (i.e. the grid). This situation can occur after emergency or routine operation of equipment on our system. Islanding creates serious safety issues, quality of supply problems for other customers and the possibility of severe equipment damage.

The inverter and protection must be compliant with AS4777 to be approved for connection to Integral Energy's network.

11.1 Signage

Warning signs must be placed in accordance with the requirements of the Service and Installation Rules of NSW.

12 Technical requirements

You must maintain your solar generation equipment and interconnection facilities in a safe and prudent manner, conforming to all laws and regulations that apply and conditions detailed herein.

12.1 Licensed contractor

The solar installation can only be undertaken by a licensed electrical contractor. On completion of the installation, a Certificate of Compliance for Electrical Works (CCEW) must be submitted to Integral Energy.

An Accredited Level 2 Service Provider (ASP) will need to be employed to carry out any metering or service works. The ASP will complete a Notification of Service Work (NOSW) and submit a copy of the CCEW and Permission to Connect form to Integral Energy.

12.2 Solar modules & frame

The solar modules used are to comply with standard AS2915.

The array structure will comply to wind loading standard AS1170.2. The array structure components must be corrosion proof.

12.3 Solar module wiring

Wiring must be installed in accordance with AS/NZS3000 and the single line diagram as detailed in section 17.

The module interconnections will either be single insulated within conduit or double insulated cables. If the intermodule wiring is exposed to the elements, eg direct sunlight, then the cable or conduit must be UV stabilised.

The solar modules should be wired in parallel strings to a junction box located within the ceiling space or an easily accessible location. The individual strings shall be terminated on a terminal block within the junction box and shall be suitably marked to facilitate the testing of each string.

12.4 Main DC cable

Cabling must be installed in accordance with AS/NZS3000.

The main DC cable between the junction box and the DC circuit breaker (near inverter) shall be either single insulated within conduit or double insulated cables.

12.5 DC circuit breaker

Where the inverter is installed remote from the solar array, a DC circuit breaker must be installed close to the inverter. This circuit breaker is to be used to isolate the solar array from the inverter.

A DC circuit breaker must operate simultaneously across both the positive and negative legs of the main cable.

12.6 Approval

The inverter and protection system must comply with the requirements of AS4777 “Grid Connection of Energy Systems via Inverters” in order to be approved by Integral Energy for connection to the grid.

Approval will be subject to the submission of a Certificate of Suitability number issued from the Office of Fair Trading.

12.7 Inverter isolating switch and additional meter

Provision of isolation of the customer's generation system must consist of an AC isolating circuit breaker which is rated for the inverter output and with the switch toggle sealable in the open position, between the meter and the inverter and shall be located within the consumer's switchboard to isolate the inverter from the existing power system. This switch shall be used to connect the output of the inverter through a kWh meter to the service fuse of the existing meter.

Where there are already 2 cables connected to the bottom of the service fuse a service active link shall be installed and sealed on the front of the switchboard for the connection of the Sun Power meter and reconnection of both existing meters. Meter installation and other service work must be carried out by an Accredited Level 2 Service Provider. On completion of the metering installation, a Notification of Service Work (NOSW) must be submitted to Integral Energy.

13 Contact addresses

All written notices are to be delivered to the following addresses:

To us Integral Energy
 P0 Box 6366,
 BLACKTOWN NSW 2148

To you Name:.....

 Address:.....

14 Solar Generating Equipment Details

Installation Address:.....

Daytime Phone Number:

Customer's NMI Number:

PV Array manufactured by:

PV Array Type:Rating kW:

Inverter manufactured by:

Inverter Model No:Rating kW:.....

Inverter Certificate of Suitability Number:

Date equipment will be ready for operation:

15 Terms of Agreement

This agreement will become effective on the date the party signs this agreement.
This agreement may be terminated by giving 7 days notice in writing.

16 Signatures

I have read and agreed upon the conditions of this Agreement.
This agreement is effective as of the date appearing below.

You

Name:

Signature:

Date:

17 Sun Power metering single line diagram

Typical Single Line Diagram
Sun Power Solar Installation
Metering Circuit Diagram

