



TasReNews

Tasmanian Renewable Energy Alliance

August 2015

TREA President Trevor Seeneey was part of the Solar Citizens delegation that visited Tasmanian Senator Lisa Singh in support of the Stand Up for Solar Campaign. (l to r): Helen Hussey, Paul Duncombe, Lisa Singh, Trevor Seeneey, Monika Sziqeti.

TASMANIAN RENEWABLE ENERGY ALLIANCE

IN THIS ISSUE

A Fair Go for Solar in Tas

Over the last two years the solar industry in Tasmania has suffered several setbacks, notably:

- [feed-in tariff rates have dropped](#) from 28c to 8c to 6.1c and now to 6.05c.
- due to a [metering software problem](#), new solar owners are not getting the full benefit of the energy they produce, in fact at some times solar owners are feeding electricity *into* the grid but are paying an energy charge as if they were receiving electricity *from* the grid

At a time when Tasmania ought to be actively promoting local renewable energy production the [solar industry is actually contracting](#). Tasmania has moved from being a net exporter of renewable energy to an importer of energy. In the last financial year, [Tasmania spent \\$34m](#) more buying dirty brown-coal fired electricity from Victorian than it earned exporting renewable energy to the mainland.

To address these problems, we have launched the **Fair Go for Solar in Tasmania** campaign, a joint effort between the Tasmanian Renewable Energy Alliance and Solar Citizens, the national body representing solar owners.

We have [launched a petition](#) and written to Matthew Groom requesting a meeting to discuss what needs to be done by the state government to provide fair treatment for solar owners.

We are calling on the state government for:

- A [fair and predictable feed-in tariff](#) that recognises the wider benefits for all Tasmanians of a vibrant solar industry.
- Urgent implementation of the [metering solution](#) that will allow solar owners to offset their solar generation against consumption on both tariff 31 (light & power) and tariff 41/42 (heating and hot water). Solar owners should not have to pay for a meter replacement to get their metering fixed.

We have already got a good number of signatures on our petition, but we should be able to get many more. There are over 24,600 solar homes and businesses in Tasmania and many more supporters of solar.

See the back page for more details on how you can support our campaign.

A Fair Go for Solar	1
New TasNetworks connection requirements	2
Overvoltage disconnections	2
Frequency settings in inverters	3
Metering to offset two tariffs	3
News in brief	4
Events	5
About TREA	6

About us

The Tasmanian Renewable Energy Alliance:

- Provides a united voice for the renewable energy industry in dealing with government and regulatory agencies.
- Provides services to members that assist them to conduct their business in an efficient and cost effective manner.
- Promotes the use of renewable energy in Tasmania.

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New TasNetworks connection requirements

TasNetworks is phasing in three new requirements in relation to connecting solar PV to the network. The objectives are that:

- All embedded generators above 10 kW use a 3-phase connection to the LV supply.
- All embedded generators that connect to the LV supply have the capability to operate with a constant power factor set at 0.9 lagging (i.e. var absorption).
- All embedded generators that connect to the LV supply have overvoltage protection settings that are consistent with AS 61000.3.100-2011 or amended AS4777 (section 7.5.2).

These requirements are all designed to reduce the risk of overvoltage situations. TasNetworks have calculated that this will increase the number of solar PV installations that can be connected to a feeder without causing overvoltage situations.

The requirements will be introduced in two stages:

- From 1 September 2015 these requirements will apply at those new connections where there is a high risk of generating overvoltage (as advised by TasNetworks). It is unlikely that this change will impact many customers.
- From 1 January 2016 these requirements will apply to all embedded generators (which includes solar PV).

NEW CONNECTION REQUIREMENTS

WHAT YOU SHOULD DO

- Check with your inverter supplier that all inverters you install are able to meet the power factor and overvoltage requirements.
- Check that you understand how to set the required parameters if the inverter does not have the correct settings 'out of the box'.
- Come to our PD event on 14 & 15 September to hear TasNetworks presentation and ask questions. See p.5 for details.

Overvoltage disconnections

From December 2013, Building Standards and Occupational Licensing (formerly WorkSafe Tasmania) instructed TechSafe inspectors to disconnect solar installations if the solar PV is causing the voltage at the customer's premises to exceed 253V. The reason for this is that the standard for electrical safety testing only tests that equipment fails safely up to 253V.

This is a very unsatisfactory situation for contractors and customers. As described below, overvoltage situations are mainly caused by high network supply voltage.

TREA and NECA have been working with TasNetworks on both short and long term solutions to this problem. As described above, TasNetworks are introducing new requirements for connection of PV systems that are expected to contribute to reducing overvoltage situations and increase the number of PV systems that can safely be installed in a location.

Why do overvoltage situations arise?

The nominal supply voltage in Australia is 230 V with an allowable range of 216.2 to 253 V. For various reasons, the Tasmanian network has tended to supply electricity to consumers towards the top of this range. The supply voltage will be different at different locations depending on factors such as local transformer settings and the distance of the customer from the local supply transformer. Supply voltages also vary during the day, tending to be high during the day at times of low load and falling at times of high demand, which for domestic areas will usually be morning and evening, especially in colder weather.

When a solar PV system is exporting power back into the grid it causes a slight voltage rise at the customer premises. The voltage rise depends on many factors, including the length of the line from the customer back to the nearest transformer, the resistance in the supply cables and the amount of power being fed into the grid. The local voltage rise caused by a domestic PV installation will typically be in the 4-10 V range. If the supply voltage was at or near 230 V this rise would very rarely cause any safety concerns. By contrast, for the first 39 solar customers disconnected by TechSafe because of overvoltage concerns, the average network voltage *with the solar disconnected* was 251.9 V.

What is the solution?

The easiest short term solutions in a local area is to change transformer tap settings to reduce the supply voltage. More complex and expensive solutions include increasing conductor size on supply cables

and adding more transformers so that less customers are on an individual transformer.

New inverter standards which require inverters to temporarily not generate power if network voltage is above 255 V can assist in safe operation of the network but mean that customers do not get the full benefit of the system they have installed.

The nature of the electricity grid is changing. Traditionally it was designed to distribute energy in a single direction, from central power stations to customers. The grid of the future will be much more interactive, with homes and business feeding energy into the grid from local generation such as solar PV. There will also potentially be a role for customers to feed back energy stored in batteries to meet peak demand.

We believe that the design and operation of the grid needs to change to accommodate this new reality. Disconnecting installed solar systems, or causing inverters to shut down in overvoltage situations are short term solutions that impose costs unfairly on individual solar owners.

The grid of the future needs to operate safely with energy being generated locally, not just supplied from the high voltage network. This is a medium term objective but strategic planning is needed to drive this transition. It will not be cheap and will need to happen over time, but a smarter, more flexible distribution network will ultimately benefit all customers.

OVERVOLTAGE – ADVICE TO ELECTRICAL CONTRACTORS

If you identify a customer supply voltage of 254V or over (without a solar PV system operating), TasNetworks will send a fault crew to investigate.

Ring the TasNetworks fault line on 13 2004 and give them your contact details, the measured voltage and where it was taken.

Please also report any measured voltage (without solar) of between 248-253V. TasNetworks will log the situation. They may not investigate immediately, but this will help identify the scale of the problem and help us lobby for a better long term solution.

Frequency settings in inverters

TasNetworks is currently investigating the potential risk that a large number of solar inverters could disconnect automatically at the same time triggered by a drop in network frequency. This could have a dramatic impact on system security.

Although Tasmania is connected to the national electricity grid via Basslink, this is a DC link and as a result the maintenance of the network frequency around a nominal 50 Hz operates independently in Tasmania. Network frequency drops if demand exceeds supply and extra generation is needed to bring the network frequency back up to 50 Hz. The provision of this service is contracted under national electricity rules and is required to maintain frequency in the event of the single largest likely contingency, which in Tasmania is the loss of a 144 MW generator. In Tasmania this generation contingency is supplied by hydro power which takes a few seconds longer to ramp up than coal fired boilers, so the operating standards allow frequency fluctuations over a slightly wider range than on the mainland (48-52 Hz rather than 49-51 Hz). Solar inverters typically cut out if network frequency moves outside a set range. Because normal operation frequency range is wider in Tasmania, it is possible that inverter settings that would not be a problem on the mainland could contribute to system instability in Tasmania. TasNetworks have produced a description paper and questionnaire about existing inverter settings and are asking the solar industry to assist in assessing the potential risk. You can [download the paper and questionnaire](#).

Metering to offset two tariffs

Nearly two years ago the state government promised to fix the problem that prevents solar owners from using their solar generation to offset their consumption on both tariff 31 and 41/42. We have been in regular contact with TasNetworks about this as well as briefing Matthew Groom's advisor. TasNetworks have still not received the required software update from meter manufacturer EDMI. When the software is received it will need to be thoroughly tested and then deployed so realistically solar owners may miss out for another year.

You can:

- Read the details of this problem on our [Solar metering](#) page.
- Sign our [petition to Matthew Groom](#) asking for action on this problem.



*Tasmanian Branch
of the
Australian Electric Vehicle Association*
<http://www.aeva.asn.au/>

You are invited to attend the official launch of the
Tasmanian Branch of the Australian Electric Vehicle Association by
the Tasmanian Minister for Energy Matthew Groom.

The launch will be part of a forum on
Electric Vehicles in Tasmania.

A proposal for a state-wide electric charger network for EVs will be presented. There will be an opportunity to discuss EVs with EV owners in a 'Q&A' panel. Their EVs will be on display at the State Cinema.

Date: **Saturday 15 August 2015**

Time: **10.15 am to 11.45 am**

Venue: **State Cinema, 375 Elizabeth St, North Hobart**

Please RSVP by 10 August 2015 to chair@tas.aeva.asn.au

Minor works certificates from Protek

Protek have asked us to remind you that if you have used their minor works documentation process it is important that you submit 'as installed' photos or provide documentation of any changes. If you do not provide Protek with this documentation and the panels have not been installed as approved, the installer will be liable.

If further panels are installed down the track without approval, you may also be liable for that additional work as well. Please send documentation to enquiries@protekco.com.au or call the office on 03 6332 3700.

The Clean Energy Council has developed the Australian Energy Storage Roadmap to help unlock the full potential of the emerging storage industry. To download the roadmap and receive updates from the Energy Storage Network visit cleanenergycouncil.org.au/storage

AUSTRALIAN STORAGE INDUSTRY ROADMAP
CLEAN ENERGY COUNCIL

- 1 Analyse and monitor the growth of the storage sector
- 2 Ensure the development of standards and the integrity of the storage sector
- 3 Ensure effective regulation and policy to support the uptake and implementation of storage technology
- 4 Coordinate the emerging sector, raising awareness about best practice implementation, and engagement in policy and regulatory issues
- 5 Promote storage technology and its potential to consumers, policy makers and regulators

To download the roadmap and sign up to receive updates through the Energy Storage Network, visit cleanenergycouncil.org.au/storage.

News in brief

Checking inverters after a power outage

TasNetworks has recently identified that a number of customers with solar are not aware that their solar inverters may not switch back on automatically after a supply interruption. TasNetworks recommend that customers check to ensure that their solar system has restarted after any planned or unplanned power outage, as not all solar inverters will switch back on automatically after an interruption to the power supply.

Wiring Rules FAQ

The new edition of the Australian/New Zealand Standard for Wiring Rules (AS/NZS 3000:2007) was released in November 2007, with Amendment 1 being released in July 2009 and Amendment 2 in December 2012. A Frequently Asked Questions and answers document with associated figures has also been developed to explain some of the issues

which have been raised by users of the Standard. You can download the FAQ at <http://www.wiringrulesstandards.org.au/>

Earth fault alarm

From 11 July 2015 earth fault alarms are necessary on all new installations of solar inverters and power conditioning equipment. This results from the end of the phase-in period for changes introduced in AS/NZS 5033:2014.

In summary this requires that:

- an earth fault alarm system shall be installed.
- the system shall, in the event of an earth fault, initiate action to correct the fault by means of an alarm.
- the alarm can be either audible, visual or another form of communication (e.g. email).
- the alarm shall operate at least hourly until the fault is rectified.
- if using an audible or visual alarm, it shall be installed in a place where the system owner will be aware of the alarm signal.

You should check with your supplier that any inverter you install is able to comply

with these requirements.

[Electricity Standards and Safety Guidance Note 113](#) from Building Standards and Occupational Licensing addresses interpretation of this requirement including any requirements when upgrading existing PV systems.

Legacy tariff and inverter replacements

Increasing the size of a solar PV installation will cause the customer to lose the legacy (28.2c/kWh) feed-in tariff. In some cases where customers inverters have failed it is necessary or cheaper to replace the inverter with a higher capacity unit. TasNetworks have confirmed that as long as the capacity of the installed panels has not changed, a larger capacity inverter will not cause loss of the legacy FiT. The installer or customer should submit an updated [embedded generation application form](#) to TasNetworks for the upgrade of the inverter and they will confirm continuation of the legacy tariff when they update their records with the new inverter details.



10 Goodman Court [White City]
Invermay, Tasmania 7248

Protek Building Surveying Services in conjunction with TREA have designed a system that will provide you with an efficient and cost effective means of obtaining approval for solar panel installation.

Protek's current fee for a Minor Works Certificate is \$400 GST inc (\$302 GST inc for TREA members).

Protek have designed templates for you to complete to provide all the information we need. The required forms can be found on [our website](#):

- Letter of Appointment
- Solar Panel Minor Works Application Template
- Solar Panel Document Checklist

The turn-around for minor works approval is approximately 3-4 days (so long as all required information is provided).

We have noted that some companies have directed their clients to contact Protek directly to arrange the approval but please note that the TREA discount will not be provided in this instance. The discount is only provided when Protek are dealing with you as the TREA member directly.

If you have any further questions contact the office on 6332 3700 or enquiries@protekco.com.au

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Events

Sat 15 Aug	<p>Launch of Tas branch of Australian Electric Vehicle Association</p> <p>See ad on p.3</p>
Sun 23 Aug	<p>Screening 'The Wings of the Sun'</p> <p>Documentary about the solar powered plane Solar Impulse 1. 6pm at the Stanley Burbury theatre http://www.scienceweek.net.au/wings-of-the-sun-record-breaking-solar-powered-aircraft/</p>
Thu 27 Aug	<p>CEC Hobart Professional Development Day</p> <p>3:00 pm - 7:00 pm, Sandy Bay Bowls Club, 16 Margaret St, Sandy Bay TAS 7005</p> <p>The CEC Accreditation Team invite accredited installers to join CEC technical staff and special guest speakers for an afternoon of learning and networking, helping you stay up-to-date with the latest industry trends and technical developments. This extended Professional Development session is worth 55 CPD points for eligible installers. Cost of attendance is \$50.</p> <p>Details and registration at http://www.cleanenergycouncil.org.au/events/upcoming-cec-events/Hobart-Installer.html</p>
Mon 14 Sep	<p>TREA PD evening: Design of solar+battery systems</p> <p>The main speaker will be Lindsay Hart, Sales Manager Australia/NZ for Selectronic, who will present on grid connected solar+battery systems, including; understanding the basic functions, what components are required, sizing a system.</p> <p>Dr Mark Davies, Network Performance Team Leader for TasNetworks will talk about the new connections requirements for solar PV.</p> <p>Launceston: 5:00-7:30pm, Monday 14 September, Rexel Electrical Supplies, 44 Garfield Street</p> <p>Hobart: 5:00-7:30pm, Tuesday 15 September, Rexel Electrical Supplies, 221 Main Road, Derwent Park</p> <p>This event is free. Accredited solar installers who are TREA members will receive CEC CPD points at no additional charge. Non-members who wish to receive CPD points will be charged \$250 inc GST to attend. Alternatively you can join on the night using our monthly direct debit arrangement.</p> <p>Drinks and light refreshments courtesy of Rexel Electrical Supplies.</p> <p>RSVP: rsvp@tasrenew.org.au or just turn up on the night.</p>
Tue 15 Sep	
Thu 29 Oct	<p>TREA AGM</p> <p>5:30pm New Sydney Hotel, Bathurst Street Hobart</p>
Wed 18 Nov	<p>TREA professional development evening</p> <p>18 November Launceston, 19 November in Hobart. Details to be advised</p>
Thu 19 Nov	
Thu 3 Nov	<p>TREA end of year dinner</p> <p>6pm venue to be advised</p>

Guide to solar leasing

EcoGeneration has just released The Australian [Guide to Solar Leasing](#), a free, downloadable resource for the solar industry. This e-guide is for anyone in the solar sector who is looking at solar leasing as an option to offer existing and prospective customers.



EcoGeneration solar installer e-newsletter

You can subscribe for free to this fortnightly e-newsletter at <http://ecogeneration.com.au/subscribe>

Do we need DC Isolators?

Standards Australia has set up a working group to investigate the need for DC isolators. It includes representatives from emergency services. Many people believe that rooftop DC isolators do not fulfil any useful function in emergency situations and are themselves a source of hazard. To lend you support to have this requirement removed you can sign the petition at:

<https://www.communityrun.org/petitions/remove-the-solar-dc-isolator-from-the-roof>

TREA coverage in The Mercury

"[Make hay while the sun shines](#)" Jack Gilding, Talking Point: The Mercury 28 July 2015. The role of battery storage in Tasmania's energy policy.

"[Shine wiped off solar](#)" Michelle Paine p. 29 The Mercury 9 May 2015. Changes to the feed-in tariff have cause solar installations in Tasmania to drop by more than half (TREA original data [here](#))

"[Driving boldly into the future](#)", Jack Gilding, Talking Point: The Mercury 19 Feb 2015. Comments on the Tasmanian draft energy strategy.

Join TREA

Your support for TREA will strengthen our voice with government. As a member you will be consulted on regulatory changes. Our education and professional development program will keep you up to date with industry developments and issues that are specific to Tasmania. We work with Clean Energy Council to organise CPD events that are locally based and relevant that will allow you to meet your professional development obligations without having to travel to the mainland.

We now have available a convenient direct debit arrangements that allows you to spread the cost of membership via monthly payments. For more details or to download an application form visit <http://tasrenew.org.au/about/join/>

How to support a fair go for Solar in Tas

- [Sign our petition](#)
- link to our [FairGo4Solar](#) page from your twitter or Facebook account
- post on your social media account, eg: Hey @mattgroom we want a #FairGo4Solar in #Tasmania tasrenew.org.au/FairGo4Solar
- sign up as a [Solar Champion](#) and contact your local politicians
- spread the word in your community via the [Solar Neighbour](#) campaign.

Contact us

For more information visit our website at www.tasrenew.org.au, email info@tasrenew.org.au or contact our Executive Officer Jack Gilding on (0407) 486-651.



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Tasmanian Renewable Energy Alliance Inc. is a Tasmanian Incorporated Association, Incorporation number IA1142.

Please support our Corporate and Founding Members



To find a TREA member in your area, visit our full [members list](#).