

Totally Renewable Phillip Island
is delighted to share
this presentation with
Island Voice – Annual General Meeting

+ TRPI origin story
+ community emissions
+ energy efficiency

Presented by Zoë Geyer,
TRPI co-ordinator





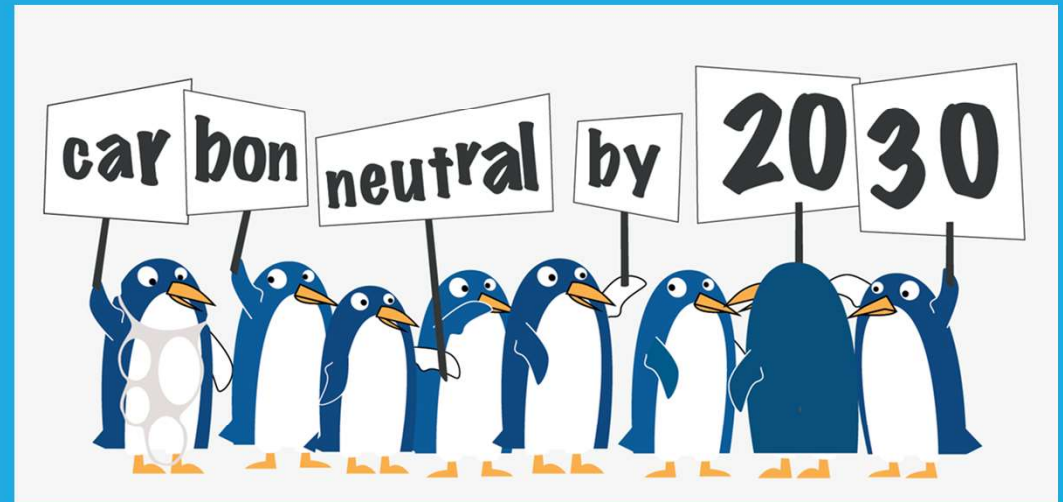
We pay our respects to the First Nations Peoples of Australia and acknowledge the **Bunurong** and our neighbours here, the **Gunai Kurnai** as the true owners and custodians of the Land, Seas and Life; whose lands we are striving to protect and renew.

We acknowledge that these lands were never ceded and seek truth telling and healing as a pathway to reconciliation.



Totally Renewable Phillip Island
or **TRPI** as it's commonly known is a
movement or forum.

A collection of groups and individuals who
are passionate about changing for a positive
future. We're all in it together.



TRPI emerged from a **Community Energy public forum** held in June 2018 by the Energy Innovation Co-operative in partnership with Phillip Island groups who later became members.

+ TRPI origin story

The public forum unanimously agreed to form **Totally Renewable Phillip Island** with a vision of zero emissions by 2030.

TRPI gratefully acknowledges the seed funding and in kind support of Bass Coast Shire Council since establishment in 2018.





We made some Videos!

🔍 Totally Renewable Phillip Island





Emissions by Economic Sector

When we look at emissions by 'economic sector' we can see that the Residential Sector is responsible for the largest source of emissions (44.1%) followed by the Farming sector (33.3%) and Commercial (16.7%) and Industrial (6.1%) sector emissions.

The Municipal sector includes all Council emissions, public land (including the land sector) and other emissions unable to be allocated from source data. Municipal sector is a net sink as includes existing and historical revegetation, such as the current Biolinks project.

EXPLORE OUR COMMUNITY EMISSIONS PROFILE

To assist understanding within the community about where we are at and how we might get to zero net emissions, an interactive graphic was developed. Visit basscoast.vic.gov.au/services/environment/climate-change-taking-action to explore the interactive emissions profile and understand our pathway to zero carbon by 2030.

Building on the Z-NET approach

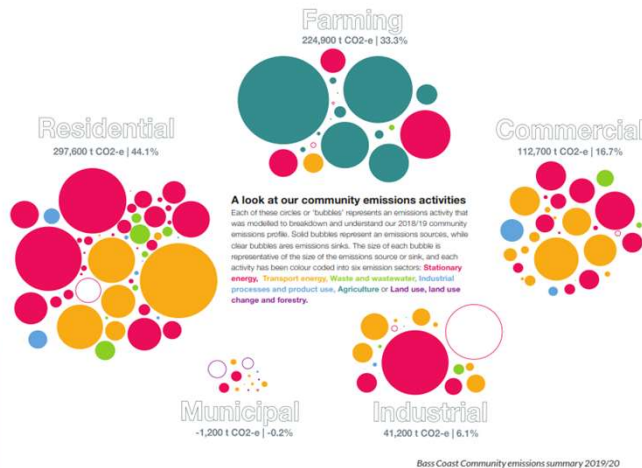
The emissions modelling and pathway for the Bass Coast community builds on the Z-NET Blueprint Model.

The Z-NET Model is a highly detailed and best practice approach developed under a creative commons license to allow rural towns, villages and regions to design a pathway to achieve and then exceed zero net emissions. It sets out the approach taken, the logic and principles applied in assessing options and the framework used for developing the implementation plan.

The original Z-NET Blueprint was funded by the NSW Office of Environment and Heritage and was created in partnership with the community of Uralla in NSW. The Blueprint has since been significantly expanded as part of the Z-NET Hepburn Shire work thanks to funding from Sustainability Victoria, Hepburn Shire Council, Hepburn Wind, Samara Energy Academy and Diversicon Environmental Foundation.

For more information about the Z-Net Model visit the z-net.org.au

Bass Coast Climate Change Snapshot



Climate Change Action Plan 2020 - 2030 27



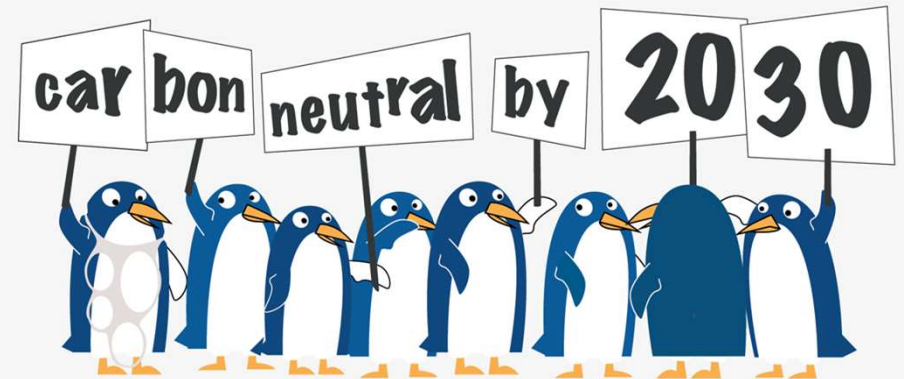
thecap.com.au

<http://littlesketch.es/experiments/BassCoast/>

<https://www.basscoast.vic.gov.au/services/environment/climate-change-taking-action>

2019 - Bass Coast Shire declared a Climate Emergency.

2021 - Bass Coast adopted the Climate Change Action Plan with a target of **net-zero emissions** (community wide) **by 2030**.



+ community emissions



thecap.com.au

<http://littlesketch.es/experiments/BassCoast/>

<https://www.basscoast.vic.gov.au/services/environment/climate-change-taking-action>



What is '*PassivHaus*' ?

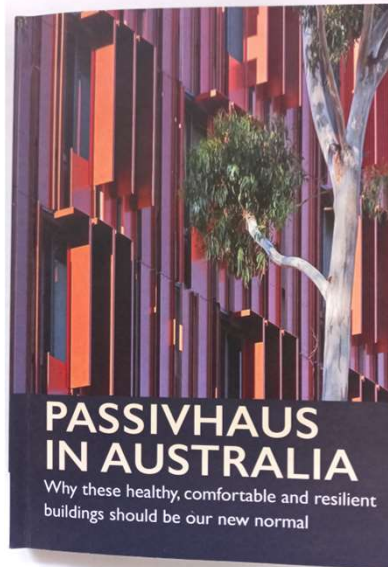
A standard for energy efficient buildings.

PassivHaus is **insulated, efficient, comfortable, ventilated** buildings.

PassivHaus buildings allow for **energy savings of up to 90 %** compared with typical existing buildings and **over 75 %** compared with average new best-practice constructions.

PassivHaus buildings, when certified, are **tested and measured after construction** to get an actual performance 'leaky air' rate figure.

+ energy efficiency



Think about the lifecycle savings of 90% less in energy bills!



PassivHaus has
5 key design principles

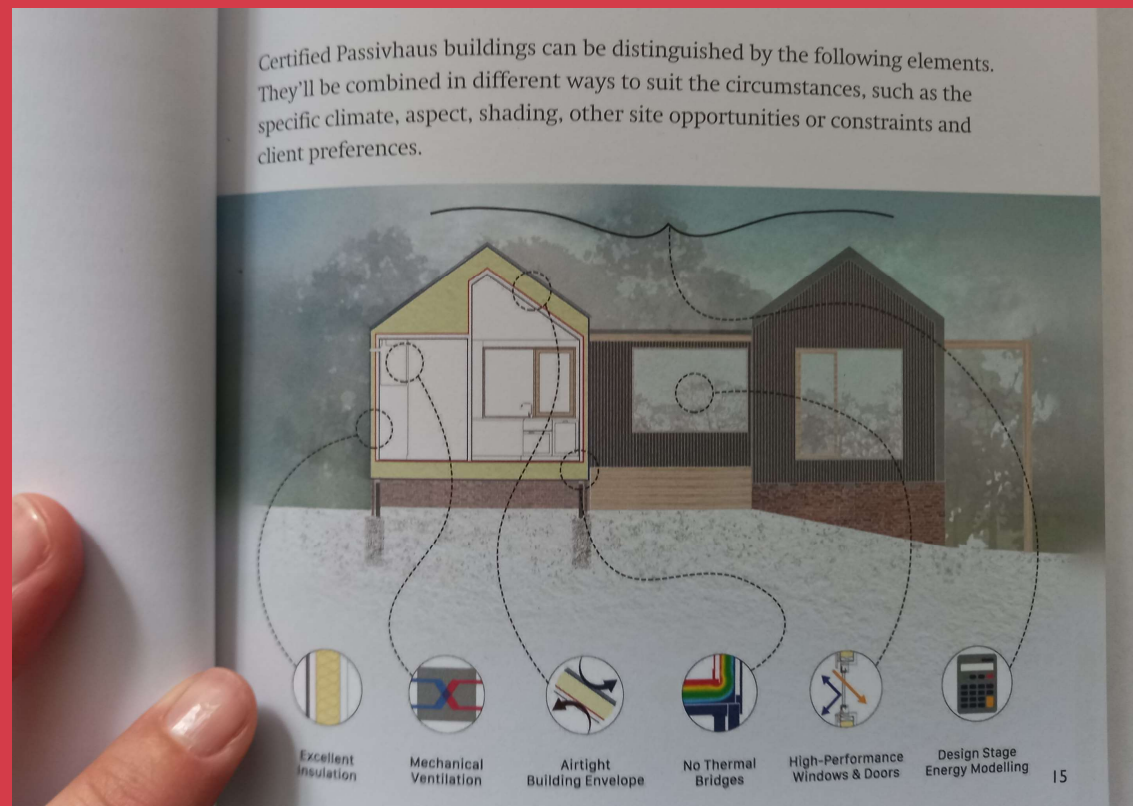
Airtightness

Thermal Insulation

Mechanical Ventilation Heat Recovery

Passive House (High Performance) Windows

Thermal-Bridge-Free Construction



Airtightness

PassivHaus buildings, when certified, are **tested and measured after construction** to get an actual performance 'leak' figure.

This is measured in Air Changes per Hour (ACH) – *or how many times per hour the entire 'inside air' of the house leaks out (or vice versa).*

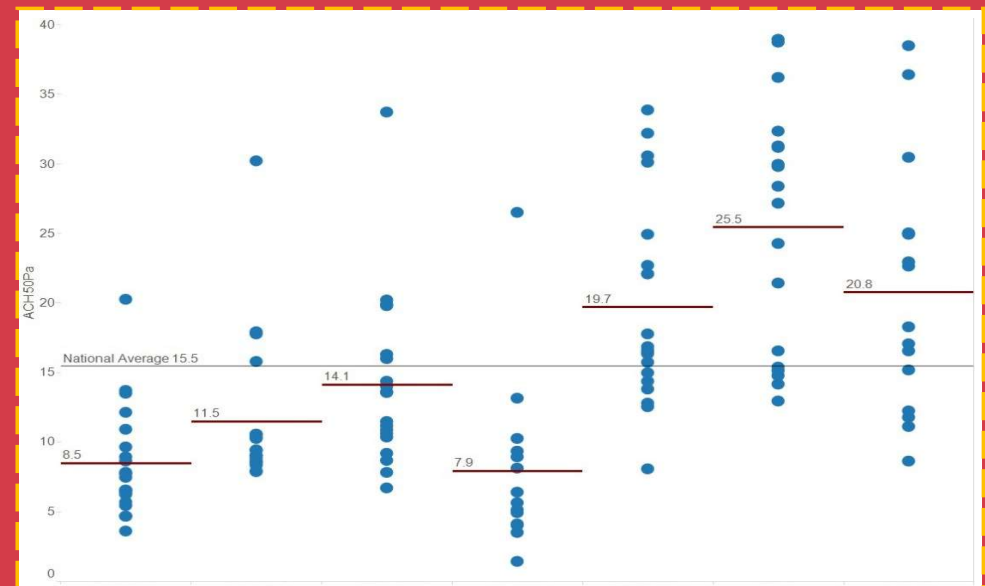
PassivHaus Standard is **0.6 ACH**.

Think of this as a nice warm comfortable inside air temperature having to be reheated every 4 minutes to stay constant.

That's a very inefficient use of energy.

In 2016 the CSIRO measured the Australian average 'leakage' of new houses as 15.5 ACH

...so each hour, the entire 'inside air' leaks out (or vice versa) just over 15 times...





thecap.com.au

<http://littlesketch.es/experiments/BassCoast/>

<https://www.basscoast.vic.gov.au/services/environment/climate-change-taking-action>



+renewable energy



Batteries mounted on the top of power poles are like virtual power plants and could supply local energy to smaller towns like Newhaven or Smiths Beach.

Phillip Island solar farm in the planning

A study looking at the potential to build a solar farm on various sites around Phillip Island will be released next month, with the potential even to crowdfund the project.

The feasibility study will examine the cost-benefit analysis of solar farms ranging in size from 100-kilowatts to the largest 5-megawatts.

Sites under examination include Bass Coast Shire's Gap Road property - next to the SMW battery currently being built by Mondo and AneNet, as well as leased farmland, a combination of residential homes and even the potential to encourage businesses in the Cowes industrial estate to erect solar panels on their roofs.

Energy Innovation Co-operative chair Neroli Raff said it was part of a larger plan to get Phillip Island to zero carbon emissions by 2030.

"There are lots of rooves on Phillip Island, including in the industrial estate, but

would every factory be interested in putting solar on their roofs for community benefit?" said Neroli, who met with consultants last week to finalise the draft study.

Neroli acknowledged a solar farm would come with a hefty price tag, most likely funded by government grants, but even possibly crowdfunding and philanthropic investment.

"There are a lot of options and we're not yet at the point of discussing the detail.

"This study is the first step in a long journey but the study is not going to sit on a shelf and will be used to advocate for a solar farm here."

She said the study had been given \$20,000 funding from Sustainability Victoria and built on a previous 2019 study that mapped how Phillip Island would achieve zero emissions by 2030.

"In 2019 we realised that Phillip Islanders wouldn't

accept land-based wind turbines because of the danger to birds and other wildlife.

"We are open to other renewable energy projects as well as energy efficiency, because the cheapest power is the power you don't use."

"There's no one fix."

Mini battery boost

Neroli said another project they were working on was investigating small batteries mounted on the top of power poles.

"Projects in other areas have described the batteries as a virtual power plant, helping manage electricity from rooftop solar, and periods of peak demand on the network.

Generally the pole-mounted batteries are about 30kW and provide at least two hours of storage.

"We could put them on poles in smaller communities like Rhyll, Smiths Beach or Newhaven," Neroli said.

Big battery could be powered by renewables

The \$12 million, 5-megawatt battery currently being built near Wimbledon Heights could be used to store excess, locally-produced solar power in the future.

That's according to Energy Innovation Co-operative chair Neroli Raff who last week gave a talk on land next to the battery construction, while also calling for 100 Phillip Island households to take part in a Victorian-first 12-month renewable energy trial.

The battery will comprise a series of units in a 38 x 34 metre fenced compound, connected to the electricity grid via underground cables, energised later this year 2022, after an initial testing period.

Mondo, who won the right to deliver the Gap Road battery for AneNet, said the battery would "help balance the fluctuating power demand on the island and support an increase in the uptake of renewable energy" for 10 to 15 years.

Neroli said one of the most common questions she was asked about the battery by the community was "why isn't it powered by renewables?"

"We are working on that," she said.



Energy Innovation Co-operative chair Neroli Raff, from Phillip Island, gave a talk about the SMW battery currently being built at Gap Road, calling for volunteers for a new trial that will hopefully lead to the battery being powered by renewable energy.

the most of locally-produced renewable energy."

Neroli said a first step to achieve this would be the upcoming Tariff Trial.

About 100 Phillip Island households are needed to take part in a Victorian-first 12-month renewable energy trial, being run by Totally Renewable Phillip Island (TRPI).

She said owners, renters or holiday houses, as well as people with or without solar panels, could volunteer for the Tariff Trial, adding it would demonstrate how the community would benefit from the battery.

Trial participants will sign with a partnering energy re-

tailer for 12 months (April 28, 2023 - April 28, 2024) to create a price structure for energy sharing between people with solar panels and those without.

"In this trial we'll be using the battery to virtually store the power and export, consume and share the excess solar energy among participants."

The battery is being built on the north-east corner of a 45-hectare site on Gap Road, purchased by Bass Coast Shire in 2019 for a new transfer station.

For Tariff Trial details email: totally.renewable.phillip.island@gmail.com or contact Zoe Geyer on 0422 580 921.

Solar rebate extended to new builds

The state government has announced it will expand the eligibility for the solar panel rebate to new homes under construction, enabling Victorians to save on installation costs and electricity bills from the moment they move into their newly built home.

The government said changes will save homeowners up to \$800 on installation costs by fitting panels as they wire the electricity to their new homes, as well as an average of \$1073 each year in energy costs.

So far, there have been 272 Solar Rebates approved in Bass Coast, with 2521 solar systems installed.

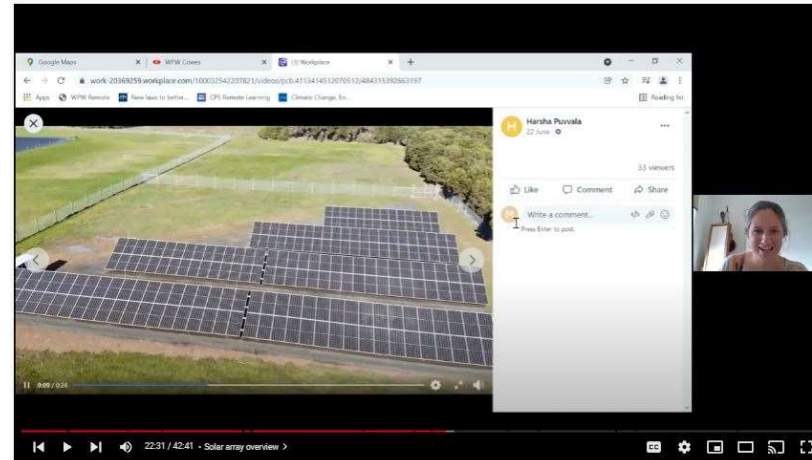
Now, new homes are eligible for the rebate, and with 224 new building approvals in 2020-21, that means several

hundred new local homes are now able to take advantage of the solar offer.

The government said the expansion paves the way for the increasing electrification of homes, while opening the program to tens of thousands of additional households each year - with around 40,000 new homes built in Victoria annually.

Under the changes, eligible Victorians building homes will be able to apply for a rebate of \$1400 as well as being able to access a \$1400 interest free loan to install solar panels during construction.

Since it began in 2018, the government's Solar Homes Program has helped more than 195,000 Victorian households install solar PV systems.



TRPI - Westernport Water: Wastewater Treatment Plant solar array

7 views Jan 30, 2022

Totally Renewable Phillip Island
10 subscribers

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Take a (virtual) tour of the newly constructed 99.8kW solar array at the Westernport Water Cowes Wastewater Treatment Plant, Phillip Island. Hear how and why this solar array was installed, and glimpse some exciting future plans for Westernport Water and sustainability.

Comments Add a comment

This session was hosted and recorded as part of the Bass Coast Sustainability Festival: Reimagined with the theme of Future Homes and Farms in 2040.

TRPI gratefully acknowledges the seed funding and in kind support of Bass Coast Shire Council received since establishment in 2018.



Neighbourhood Battery Initiative (NBI)

Neighbourhood battery projects

Victoria's neighbourhood battery initiative (NBI) supports trials of a range of neighbourhood battery models in Victoria, from feasibility to implementation. The initiative strengthens our understanding of neighbourhood-scale batteries' role in Victoria's transitioning electricity system.

Victoria's first ever inner urban community battery

Melbourne's first community-owned neighbourhood battery in Fitzroy North was unveiled on 5 June 2022. The battery project was delivered through the Neighbourhood Battery Initiative. The battery will soak up excess rooftop solar and supply surrounding homes with local renewable energy.



"Set the controls to harness the sun" by artist Hayden Dewar

Neighbourhood batteries

Neighbourhood batteries can benefit consumers, communities and the electricity system.

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[For businesses](#)
[For industry](#)
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Victoria is undergoing an energy transformation, aiming for net-zero emissions by 2050. The Victorian Government's support for neighbourhood-scale batteries is one way it supports clean, reliable and affordable electricity for Victorians.

What are neighbourhood batteries?

Neighbourhood batteries (or community batteries) are an energy storage model with the potential to provide many benefits to consumers, communities and the electricity system. They can be owned by electricity distribution businesses or third parties such as community energy groups, electricity retailers, aggregators and private investors.

They are larger than household solar batteries. Typical household solar batteries have a power capacity of about 10 kilowatts (kW), while neighbourhood-scale batteries range from 100 kW to 5 megawatts (MW).

Neighbourhood batteries enable the network to support more rooftop solar by storing solar-generated electricity during the day and discharging it during the evenings when demand is highest. This enables consumers to generate and consume more renewable energy locally and supports Victoria's greenhouse gas emissions and renewable energy targets.

<https://www.energy.vic.gov.au/renewable-energy/batteries-energy-storage-projects/neighbourhood-batteries>



Why is Totally Renewable Phillip Island involved?

- We are a local community-based group and have a vision to be carbon neutral and 100% renewable by 2030
- Along with the project partners, we are working with the community to co-design how we can access and share local renewable energy
- We believe community should have a say in the future of community energy – we are here to take the discussions from big corporate offices to our community
- TRPI did a recent survey where 95% of respondents said YES or MAYBE to consider donating their excess solar to others in the community to increase social equity – we are excited about what this may mean in the trial.

Neighbourhood Battery Initiative

'Tariff Trial'

*TRPI did a recent survey where **95%** of respondents said **YES** or **MAYBE** to consider donating their excess solar to others in the community to increase social equity*

2 of 6 - Participant Info Guide :
The Neighbourhood Battery Initiative Tariff Trial



The Victorian Government has committed \$10.92 million for NBI funding, with \$3.68 million in grants to 16 projects across Victoria. Two of these projects are being funded on Phillip Island

What is the Neighbourhood Battery Initiative?

This tariff trial project is funded by the Victorian Government under the *Department of Environment, Land, Water and Planning's (DELWP)* Neighbourhood Battery Initiative (NBI).

The *Victorian Government* has committed \$10.92 million for NBI funding, with \$3.68 million in grants to 16 community, local council, and industry lead projects across Victoria. Two of these projects are being funded on Phillip Island with the project partners.

Who are the project partners and stakeholders?

Totally Renewable Phillip Island (TRPI) and *The Energy Innovation Co-operative (EI Co-op)* are partnering with *Mondo* on this clean energy project to enable our community to access part of the renewable energy stored in the *Phillip Island Community Energy Storage System (PICES)* Big Battery commissioned by AusNet Services.

Totally Renewable Phillip Island (TRPI) - began in June 2018 at a public meeting. Today *TRPI* is a collective of 15 community organisations on Phillip Island that share the vision to be 100% renewable energy and carbon neutral by 2030. Member organisations work together towards their own and *TRPI* shared goals as part of their core business. This structure enables *TRPI*'s influence to extend across the Island, reaching hundreds of people through its member organisations. Through the Clean Energy working group, *TRPI* is striving for renewable energy solutions that are economically feasible, socially acceptable and equitable, and environmentally sustainable.

Energy Innovation Co-operative - has been supporting Bass Coast and South Gippsland communities to switch to renewable, clean energy for over 10 years. The *Co-op* has a Public Fund that gives no interest loans to community not-for-profit groups to install solar on their rooves. They conducted extensive community engagement activities in 2019 as part of the *DELWP* funded Southern Gippsland Renewable Energy Roadmap project.

Bass Coast Shire Council - has leased the *PICES* Big Battery site to *Mondo* and has given further written support for this project to be undertaken. Shire representatives have also attended Project Meetings to highlight local government matters.

Mondo - is supporting energy resilience and the uptake of renewables in Australian communities. They are pioneering community mini-grids and regional energy hubs that empower homes and businesses to generate, manage, store and share energy. *Mondo* believes they can play an important role in decreasing dependence on energy sourced from fossil fuels by using the existing network to generate, store and share renewable electricity.

Retailer - are the main interface between the electricity industry and customers such as households. The retailer for the tariff trial is yet to be appointed. They will be selected based on merit and through a transparent process.

AusNet - is the responsible Distribution Network Service Provider for Phillip Island and so therefore has regulatory responsibility to ensure all network connected assets are compliant with all relevant standards, codes and best practice.

Totally Renewable Phillip Island

Energy Innovation Co-operative

Mondo

Innovative Retailer

Supported by the Bass Coast Shire Council



Participant Info Guide: The Neighbourhood Battery Initiative 'Tariff Trial'



Part 1 - Overview:

What is it?

- ▶ A 12 month innovative trial with 100 local participants on Phillip Island
- ▶ A Tariff Trial will use a community battery to see how locally made renewable energy can be shared across the local community. It will also look at how people from different socio-economic backgrounds can benefit from the shared renewable energy.

Who can participate?

- ▶ People with houses on Phillip Island (owners, renters, holiday house)
- ▶ People without solar panels as well as people with solar panels
- ▶ Homes with a normal single phase power supply
- ▶ Phillip Island residents from all walks of life – families, couples and singles, working out and staying at home – we are looking for diversity and to make local renewable energy available to more people in our community
- ▶ People with a household battery cannot participate in the trial.

What is expected of participants?

Participants need to:

- ▶ Sign up for the 12-month trial period (28 April 2023 – 28 April 2024)
- ▶ Take part in a project workshop to help design how the energy sharing, and tariff trial will benefit the most people in our community. The workshop will be held before the tariff trial starts, in late 2022 or early 2023. We will let participants know the date well in advance
- ▶ Respond to Totally Renewable Phillip Island's seasonal surveys / catchup sessions during the trial period and give feedback on the trial process
- ▶ Have a small device fitted to your house during the 12-month trial, to monitor the energy use during the trial
- ▶ Switch to the selected trial electricity retailer for the 12-month trial. You can choose to switch back to your old retailer after the trial
- ▶ The findings of this trial will become public documents (published) but no participant will be named (all information will be de-identified)
- ▶ There is no cost to participants to take part in the trial. Benefits to participants include a better understanding of your power supply and bill and helping communities to make better use of renewable energy and community batteries.

**12 month innovative trial with
100 local participants on Phillip Island**

**Using the 4.95MW/10MWh Big Battery
(PICES) to see how locally made
renewable energy can be shared across
the local community**

**It will also look at how people from
different socio-economic backgrounds
can benefit from the shared
renewable energy**

1 of 6 - Participant Info Guide :
The Neighbourhood Battery Initiative Tariff Trial



The Big Battery known as PICESS is a large 4.95MW battery that is currently being installed on Bass Coast Shire's 40 ha site on Phillip Island

What is the Big Battery (PICESS)?

The Big Battery known as *PICESS* (Phillip Island Community Energy Storage System) is a large 4.95MW/10MWh battery that is currently being installed on *Bass Coast Shire Council's* 40 ha site at Gap Rd on Phillip Island. This battery will be owned and operated by *Mondo* to provide network support to *AusNet* during high energy demand periods and will be commissioned in late 2022.

What will the Retail Tariff Trial do? and how is it connected to the Big Battery (PICESS)?

This trial will explore how a portion of the Big Battery (*PICESS*) could be used to provide the participants with virtual storage for their excess solar energy. This means that trial participants who generate solar energy through panels on their rooftops can virtually store their excess solar energy in the battery. Then, when the sun is not shining, they can withdraw their energy for use, with the left-over energy to be consumed by the non-solar participants of the trial. By virtual, we mean the battery is connected to the customer through the existing network. There is not a specific connection directly from Big Battery (*PICESS*) to the participants.

The trial will aim to provide the participants with similar benefits to home batteries, but without the upfront costs. Once the retailer has been selected for this trial, a new retail tariff structure will be co-designed with the participants to suit the specific requirements of the trial and allow the export, consumption, and sharing of the excess solar energy amongst the participants.

Lastly the energy usage behaviour of all participants will be monitored, and tailored alerts will aim to help the participants understand how to be more efficient in the way they produce and consume electricity.

This Retail Tariff Trial will explore how both solar and non-solar customers can reap the benefits of locally produced renewable energy, increasing social equity.

4 of 6 - Participant Info Guide :
The Neighbourhood Battery Initiative Tariff Trial



What else has TRPI been up to recently?

Gippsland New Energy Conference

Heyfield MyTown Microgrid

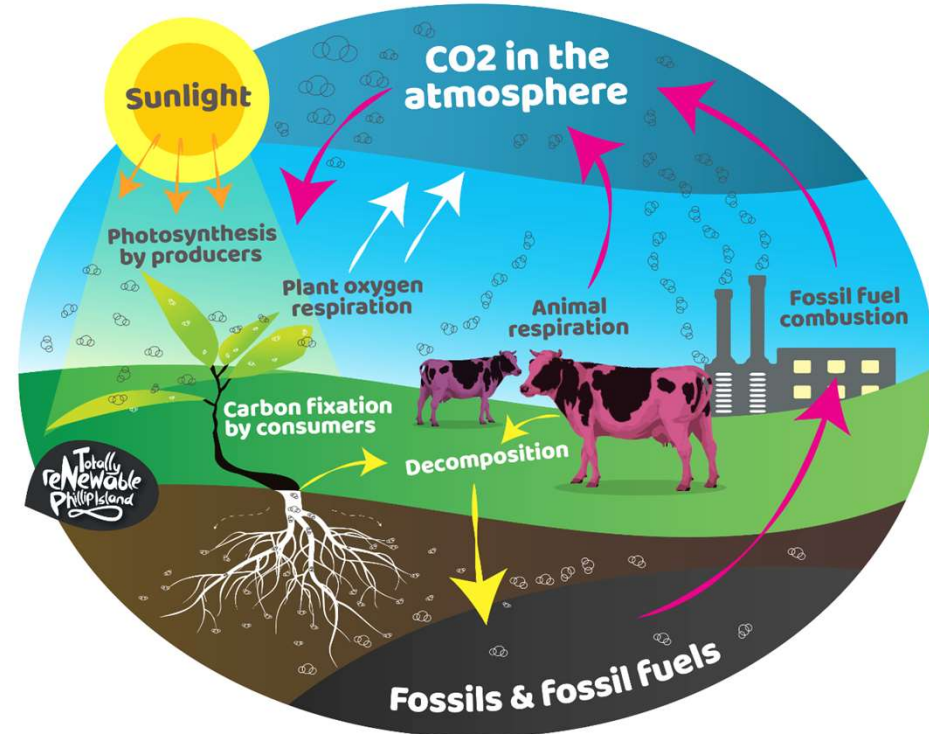
*Regenerating Australia Film Screening
and Community Social*

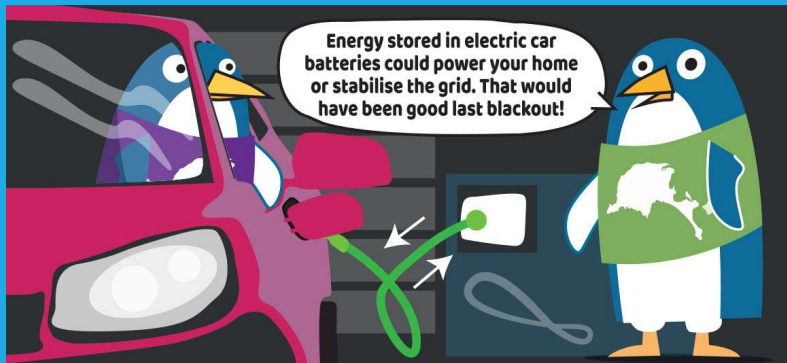
Spring Clean Up Day

Island Arks Symposium VII

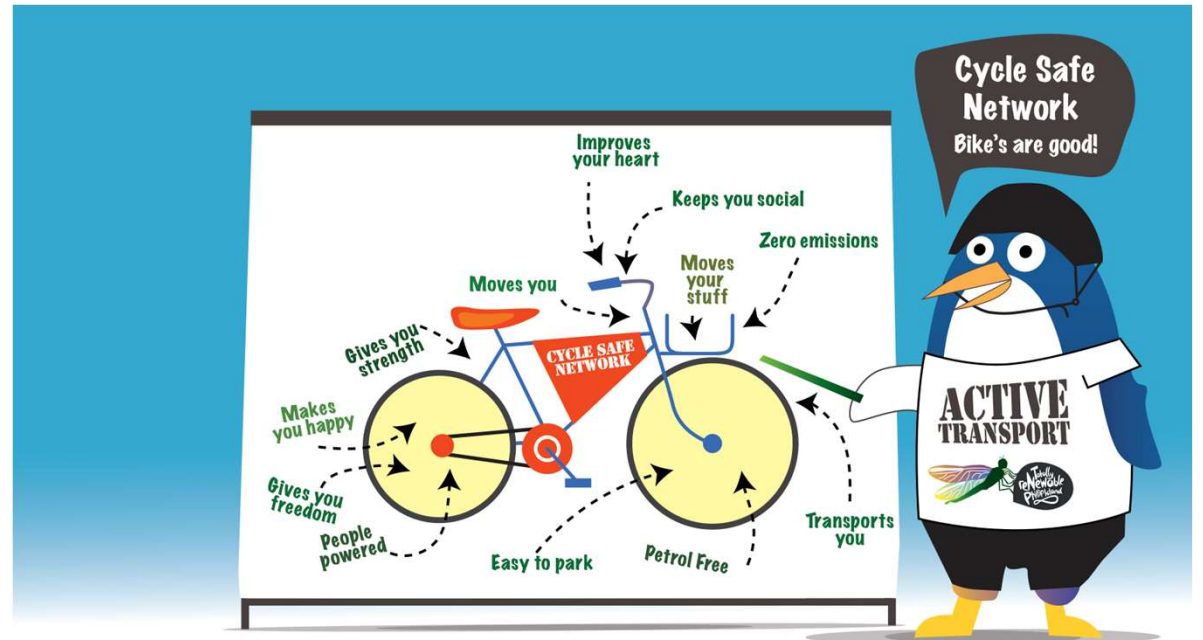
BCLN Circular Economy on Farms

TRPI Evaluation... plus more





Clean transport





'Island Bush Carer'

"When business and the environment work together, it's a win for us all."

Phillip Island Landcare has been working with local businesses to get more trees in the ground on the island."

— The Advertiser



David Rooks President of Phillip Island Landcare (left), with Kelly Solohub, owner of Luxe Isle and Jarryd Minahan (Vice-president) at the recent Landcare planting day at a Smiths Beach farm.

Take the pledge – plant a tree

When business and the environment work together, it's a win for us all. Phillip Island Landcare has been working with local businesses to get more trees in the ground on the island.

Vice-president Jarryd Minahan approached local businesses to take up a "tree planting pledge", and give back to the local environment.

"The tree planting pledge is a flexible program and can be made to suit individual businesses, and doesn't send money overseas," Jarryd said.

"You can see the impact your donation has right here on the island."

Local business owner Kelly Solohub of Luxe Isle, a boho clothing store in Cowes, was the first to jump on board.

Kelly and her business committed one tree a day which equates to \$620 worth of indigenous plants to be planted by the Phillip Island Landcare group.

The plants funded by Kelly and Luxe Isle,

were recently planted at a Covid safe community planting day on a farm at Smiths Beach.

Kelly came along to see the benefits for herself.

"It was such a pleasure being a part of the planting day, everyone was so welcoming," she said.

"I'm not naturally a green thumb but I was shown how to plant a tree and guard it and it was so rewarding planting 1000 trees! I can't wait to watch the trees grow."

The Phillip Island Landcare group is now looking to expand this program to more businesses across the island and surrounds, with the group promoting the donating businesses via their social media pages and newsletters.

If you would like to get involved, email philipislandlandcare@gmail.com or message Phillip Island Landcare group via their Facebook or Instagram pages. You can also find out more at philipislandlandcare.org.au.

Kelly, Luxe Isle Clothing - A Plant a Day



Engaging with other waterline communities:

Tenby Point (TRT)
Corinella
Coronet Bay
Kilcunda





TRPI's vision is to be
**100% renewable and
carbon neutral by 2030**

through our collective
community efforts
to use clean efficient energy,
reduce pollution & inset emissions