

COMMUNITY ENERGY CONGRESS

Fast Fair & Vital



We acknowledge the Gadigal people of the Eora Nations, and all Aboriginal people and lands that everyone is meeting on from across Australia.



Welcoming everyone online and at..

REMOTE HUBS

- Victoria
 - Bendigo, Wangaratta, Avenel, Sale, Heyfield, Leongatha, Melbourne, Geelong & Ballarat
- New South Wales
 - Armidale, Cobargo
- Queensland
 - Boonah, Wishart, Corinda
- Western Australia
 - Denmark

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#C4CE2024



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- Q & A
- Ideas
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The top-left corner of the slide features three decorative, wavy lines in shades of teal and orange, flowing from the top edge towards the center.

Acknowledgement

Stefan Gsänger



World Wind Energy Association and
Chair of IRENA Coalition of Action
Community Energy Working group

A message from the Minister



Energy,
Environment
and Climate Action

Stefan Gsänger



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Chair of IRENA Coalition of Action
Community Energy Working group

Thank you to all of our **sponsors and supporters**



What is community energy?



FAST



RECLAIM
ENERGY

Trinasolar

What is community energy?



FAIR

7/7
7/7
SQUADRON
ENERGY

What is community energy?



VITAL



Australian Government
Australian Renewable
Energy Agency

ARENA



Resilience, Equity and Justice

How do we get there?

community power
agency



**SMART
ENERGY
COUNCIL**



Rewiring
Australia

Imagining the future



Learn what works

...tell our stories



Finance and Partnerships



Learn & experiment & learn again

...community energy icons



Community Energy Icons



Chaired by
Graham Hunt, Renew



Daniel Redman
Repower Shoalhaven



Anne Kennedy
Zero Emissions
Noosa



Geoff Park
Renewable Newstead

REPOWER SHOALHAVEN



30+

Businesses supported into solar power

60000kWh

Clean energy generated

3300+

Tonnes CO₂ emissions saved

100+

Members & community investors





Repower Shoalhaven thinks big

Mission: Support community uptake of renewables



- Established in 2013
- Innovative community investment model
- 7 companies >\$1m in community renewables investments
- 23 C&I solar projects with ~1MW of capacity
- Ongoing management of PPAs & companies
- Increased urgency to reduce emissions
- Improved technology & costs for large scale solar



The quest for a solar farm

- Solar farm idea from a community forum
- Sub-committee formed
- Solar garden concept explored with ARENA
- Engaged with Council staff to identify sites
- Preliminary design & costings
- High level engagement with DNSP
- Formal council support to provide site
- Where/how to secure financing???



Project timelines

Community / private partnership developed a 4MWdc solar farm with no direct government funding.

Activity	Date
Initial engagement with Council & identify sites	Mid 2017
Participation in ARENA Solar Gardens Study	Early 2018
Proof of concept developed	Late 2018
Framework agreement - MoU	Mid 2019
Joint development agreement	Early 2020
DA, lease negotiations, network approval & project development	2020
Investment company established & funds secured, procurement	Early 2021
Construction commenced	Mid 2021
Systems commissioned	End 2021



Starting the partnership



Strengths

- Organised, effective community organisation – deep local connection and engagement
- Strong track record of community funding model working at a smaller scale
- Selected site and had in-principle agreement from council for the use case



Strengths

- Established and trusted electricity retailer to offtake from project
- In-house engineering and advisory expertise
- Experience in building, owning and operating utility solar projects
- Investment – budget to spend to allow project construction

Key Drivers

Offtake agreement with City of Sydney

- Project formed a cornerstone of a broader renewable energy agreement between Flow Power and City of Sydney
- Firmed up business case for project investment

Lease with City of Shoalhaven

- Suitable site with low-value land
- Structured to give the council confidence in the project and minimise risks to the council
- Agreement for neighbouring council animal shelter to receive rooftop system

Solar farm metrics

- 7852 x 500W panels = 3.93MWdc
- Cost around \$5million, including development costs
- Forecast generation 5,900MWh/yr
- Commenced generation - January 2022
- Lifetime (30y) emissions reduction ~74,500 t CO2
- SMA 3MW inverter - Battery ready for DC-coupled BESS



Project outcomes

- Collaborative model without direct government finance
- System achieving forecast outputs (3 MW) with battery option available
- 300 local workers utilised during construction plus ongoing employment and educational opportunities
- Supports circular economy with local businesses buying output.
- Provides financial returns for community investors and clean, affordable energy supplied to energy market



Key take home messages

- Community investment appetite
- Early and consistent engagement creates opportunities
- Forward contracting reduces risks (PPAs)
- Remain conscious of the full project duration

Project management lessons

- Regular, transparent updates between parties keeps everything moving – builds on the partnership
- Local, local, local!

Clear, effective agreements, structures

- Use a structure to suit each parties needs and strengths



The Why, What, & How of Zero Emissions Noosa Inc.

C4Ce Conference
06 March, 2024



WHY? ZEN Inc. Background

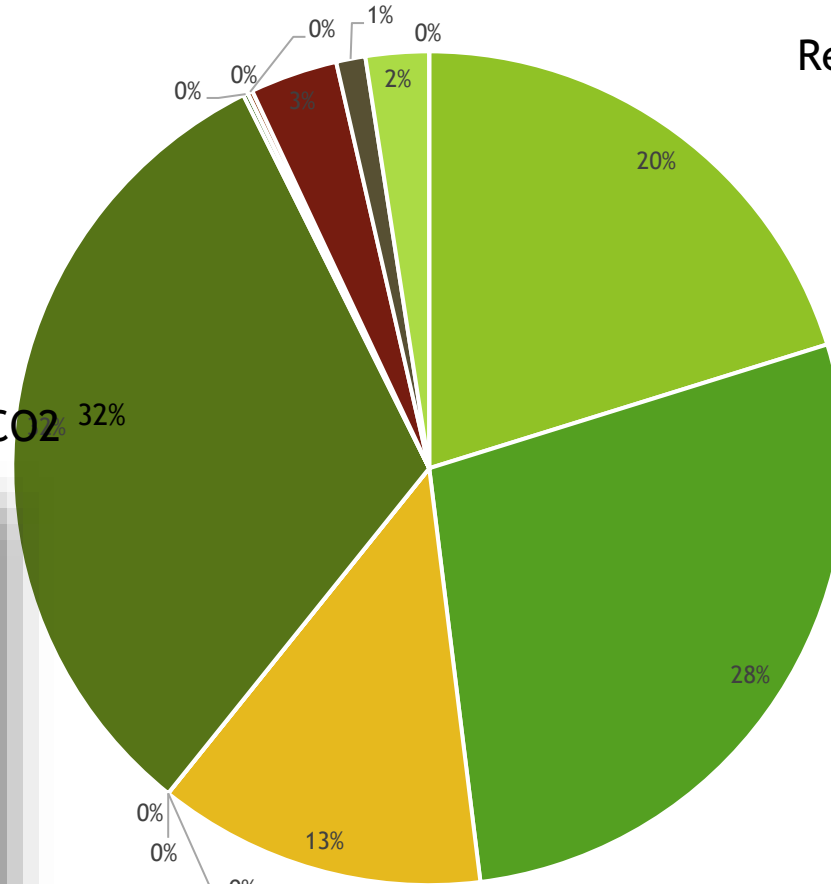
- 2016 Noosa Council policy target = zero net greenhouse gas emissions by 2026
- 2017 ZEN Inc. formed
- Noosa Community net zero greenhouse gas emissions by 2026.
- Community initiator & regional influencer ↓ CO2



- Qld. Govt. early stages of the transition to renewable energy

Noosa Shire Community Emissions - % per sector

Total CO2 Emissions: 530,200

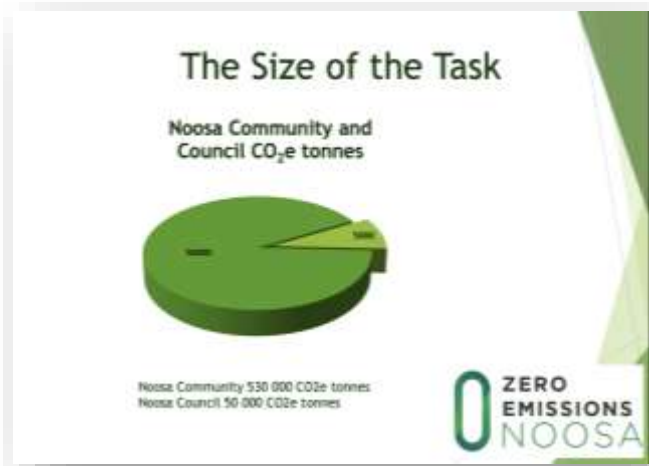


Residential: 107,100 t CO2

Transport :171,000 t CO2

Commercial Electricity: 147,600 t C

Industrial Electricity: 67,500 t CO2



- Residential electricity emissions
- Commercial electricity emissions
- Industrial electricity emissions
- Residential gas emissions
- Commercial gas emissions
- Industrial gas emissions
- Transport automobile emissions
- Transport motorbike emissions
- Transport rail emissions
- Transport bus emissions
- Waste - Landfill emissions
- Waste - wastewater emissions
- Agriculture emissions
- Land use emissions



➤ **Vision**

Net zero community greenhouse gas emissions across the Noosa region

➤ **Mission**

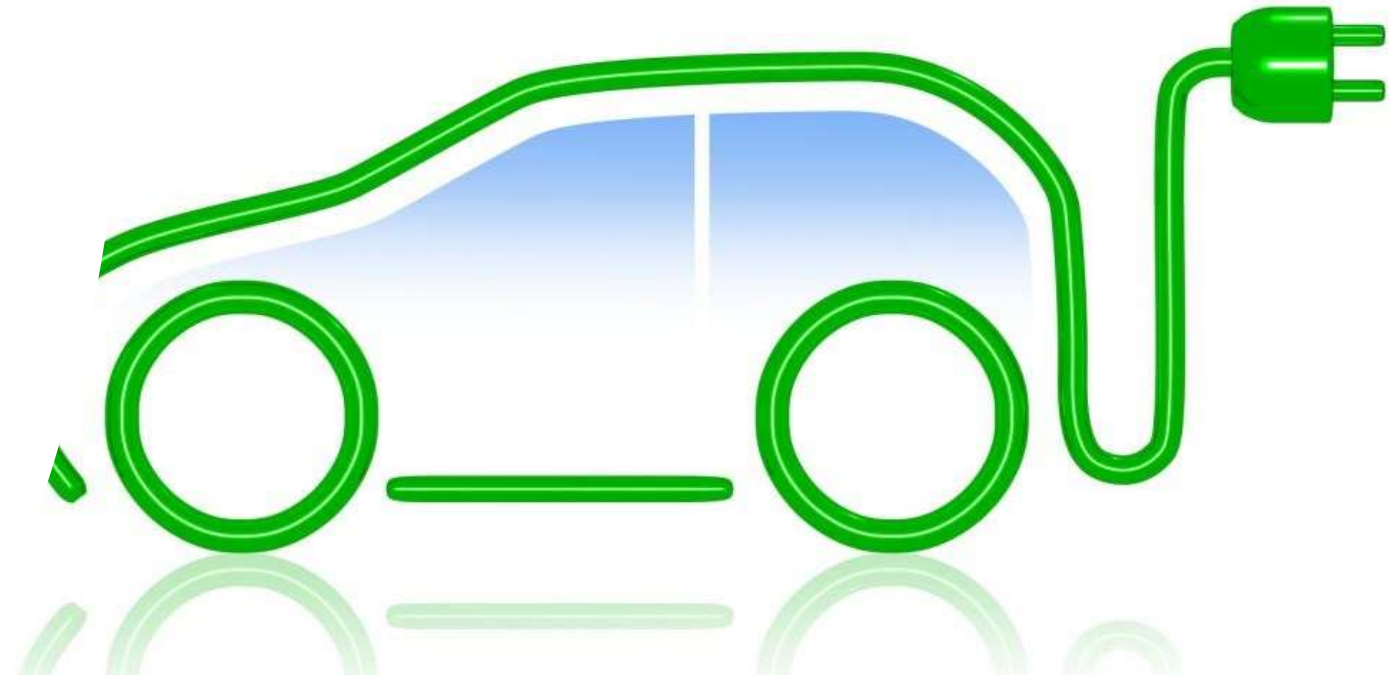
Addressing climate change through emissions reduction in the Noosa region



**LET'S DO
NET ZERO**

WHAT? ...ZEN Inc's 2 focus areas supporting transformation

- ▶ Energy Emissions
 - ▶ Business
 - ▶ Residential
- ▶ Transport Emissions



ZEN Inc's "added value" to Noosa Council & Noosa Community

- ▶ led community emissions reduction journey
- ▶ used evidence based reports
 - ▶ developed resources
- ▶ for community engagement, advocacy, projects & behaviour change
- ▶ ZEN Inc. "value adds" for Noosa Council & community

Zero Emissions Noosa Roadmap Report

We walk the talk when it comes to planning and analysis of our Shires energy profile. Our Roadmap report provides the path to achieving our goal.

ROADMAP REPORT



Helping Council Step Up as a LEADER in community energy

ZERO EMISSIONS NOOSA Next step to renewables

Community group Zero Emissions Noosa is poised to take Noosa communities on an exciting next big step for renewable electricity generation.

ZEN has been successful in getting State Government funding for a project which will identify opportunities and locations for community batteries across the shire.

"With this project we believe that the Noosa region can set again be a leader in Queensland, because community batteries are being recognised for their potential to solve some of the electricity grid problems caused by the rapid growth of rooftop solar," said ZEN chair Anne Kennedy.

"Of course, we need to maintain rooftop solar, but currently Australia has an electricity grid designed for one-way power flows, not the two-way flows now generated by the feed-in from the growth of rooftop solar.

"Ensuring resilience with grid stability are now being recognised nationally, and findings from this project will have significant implications across Queensland. This project has received funding support from the Queensland Government's Community Sustainability Action grant program, one of early 30 announced by Environment and the Great Barrier Reef Marine Park Authority in late August.

In late announcement, Mr Swanton said: "These community-based organisations have been provided with up to \$25,000 to help them take climate action by installing batteries, so-

lar panels and other energy-efficient systems that will also help them reduce their power bills. The Queensland Government knows communities want action on climate change, to secure the good job opportunities from renewable energy, and to take action in their own communities too."

Chief Action, joint project manager of the ZEN community battery initiative, said: "We're really excited about this ground-breaking initiative to develop a roadmap about how Noosa households and businesses can be powered by the sun at night with community batteries.

"We're delighted to be working with such high calibre partners as Verra Energy Financing who recently commissioned their first community battery, Power One and local company The Social Dock, with other partners to be announced, and with our vibrant Noosa and localised communities.

"More pleasing is the support we've received from locals and from a number of people who'll volunteer on the project. We believe the roadmap will be able to be used by other communities across Queensland who want to start exploring solar for use when the sun goes down."

To find out more about the project, or register your interest, go to www.zennoosa.com.au/community-batteries or email info@zennoosa.com.au.



ZEN's Anne Kennedy, Geoff Acton and Thurston Holt stands community battery partners. Photo: SUPPLIED

What? ZEN Inc's is "adding value" to Noosa Council & Noosa Community

ZEN Inc. projects are:

- cutting edge in renewable energy
- ground-breaking/future focused projects
- leading Queensland &
- often nationally.



Community battery

- Worked with Yarra Energy Foundation (YEF) & Noosa Council & paves the way for more cooperative ventures in the future!



Noosa
Community
Batteries



The first community owned community battery in Qld!



Rewiring Noosa - Electrify Everything

Rewiring Australia's mission = Electrify Everything

- Fastest way to eliminate carbon emissions
- Create jobs
- Revitalise community economics
- Save money for households



Rewiring Australia
COMMUNITY PARTNER

We have been chosen as an expert partner who will share knowledge with emerging groups to accelerate electrification across Australia.

with Saul Griffith & the team at Rewiring Australia

The graphic includes a map of Australia with a plug icon, a photo of Saul Griffith, and celebratory icons of stars and a party horn.

Solar For Strata

Stage 1 – 8 Case studies on barriers to solar

Stage 2 – Online Manual

Stage 3 - video



Noosa Lakes Report
Largest solar PV system in Noosa
550KW

Peregian Energy Hub

June 14, 2022

FACT SHEET - PEREGIAN BEACH ENERGY HUB

2022, Fact Sheet

WHAT IS THE PROJECT / PROPOSAL ALL ABOUT?

Plans to transform the Rufous Street precinct at Peregian Beach into an "energy hub" is one of a number of ambitious projects being undertaken by Zero Emissions Noosa Inc (ZEN) in 2022.

The site at Peregian Beach already houses the highly successful Digital Hub and the recently completed new community house. Proponents argue that the development of an "energy hub" at the site would complete the trifecta.

The initial proposal has several components: installation of increased solar capacity on the Council owned buildings; the optimum use of the extra electricity generated through the installation of a suitable storage scheme; the provision of a number of electric vehicle charging stations; the use of the community house as a venue and focal point for community forums on emissions reduction, renewables, and associated topics. It is hoped that links will be developed to possible renewable energy start-ups at the Digital Hub.





Environmental Upgrade Agreements (EUA's)

ZEN Inc. and Council wins...

- ▶ LGAQ supports introduction of EUA's for residential properties
- ▶ Queensland state government supports EUA's for commercial properties

Much more advocacy needed for maximum success!





COOROY STATE SCHOOL

Cooroy is our Shire to Zero, students be learning how energy data in the now joined by Noosa Primary.

The solar school everything the school week by week lessons and gain insight over the sun educational

REDUCING ENERGY WASTE IN NOOSA SHIRE SCHOOLS

Race to Zero is Zero Emissions Noosa's school based behaviour change program. The energy of

HOME ABOUT RESIDENTIAL BUSINESS INITIATIVES TRANSPORT

Race to Zero - Behaviour Change Program for Noosa Schools

live electricity data for Noosa, including solar generated, consumed and exported, as well as electricity used from the grid

SCHOOL LIVE DATA

NOOSAVILLE STATE SCHOOL

OPEN MENU

LEAVE ORBIT

PLANET HEALTH



Race to Zero Program at Tewantin State Primary.

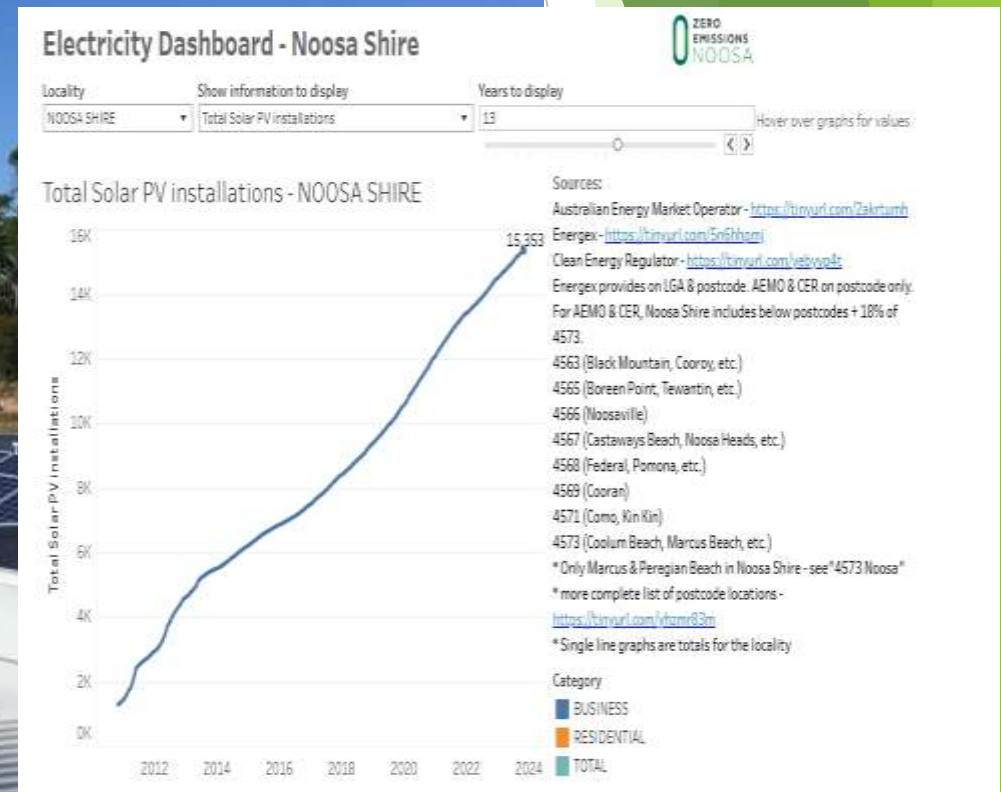
Race to Zero



“Energy efficiency education to our next generation of energy consumers creates behavioural change for low emissions living.”

Data Analysis

- Evidence of SOLAR uptake (Noosa LGA)



* Source Based on data from: Energex & Australian PV Institute (APVI) and ITP Renewables report.
#ZEN Inc. Data

5 EV EXPOS

- ▶ 5000 attendees
- ▶ 62 exhibitors
- ▶ 12 different modes of EV transport
- ▶ 70% of attendees came to learn
- ▶ > 33% decided to buy at least one EV after attending
- ▶ 78% of exhibitors reported follow-up business
- ▶ **2024 EV & Electrify Everything Expo**



Seeds of Change - Walking & Cycling

- ▶ Highlighting the need for connecting missing links in walking and cycling paths at key traffic points
- ▶ Funded by Sandy Bolton MP for Noosa

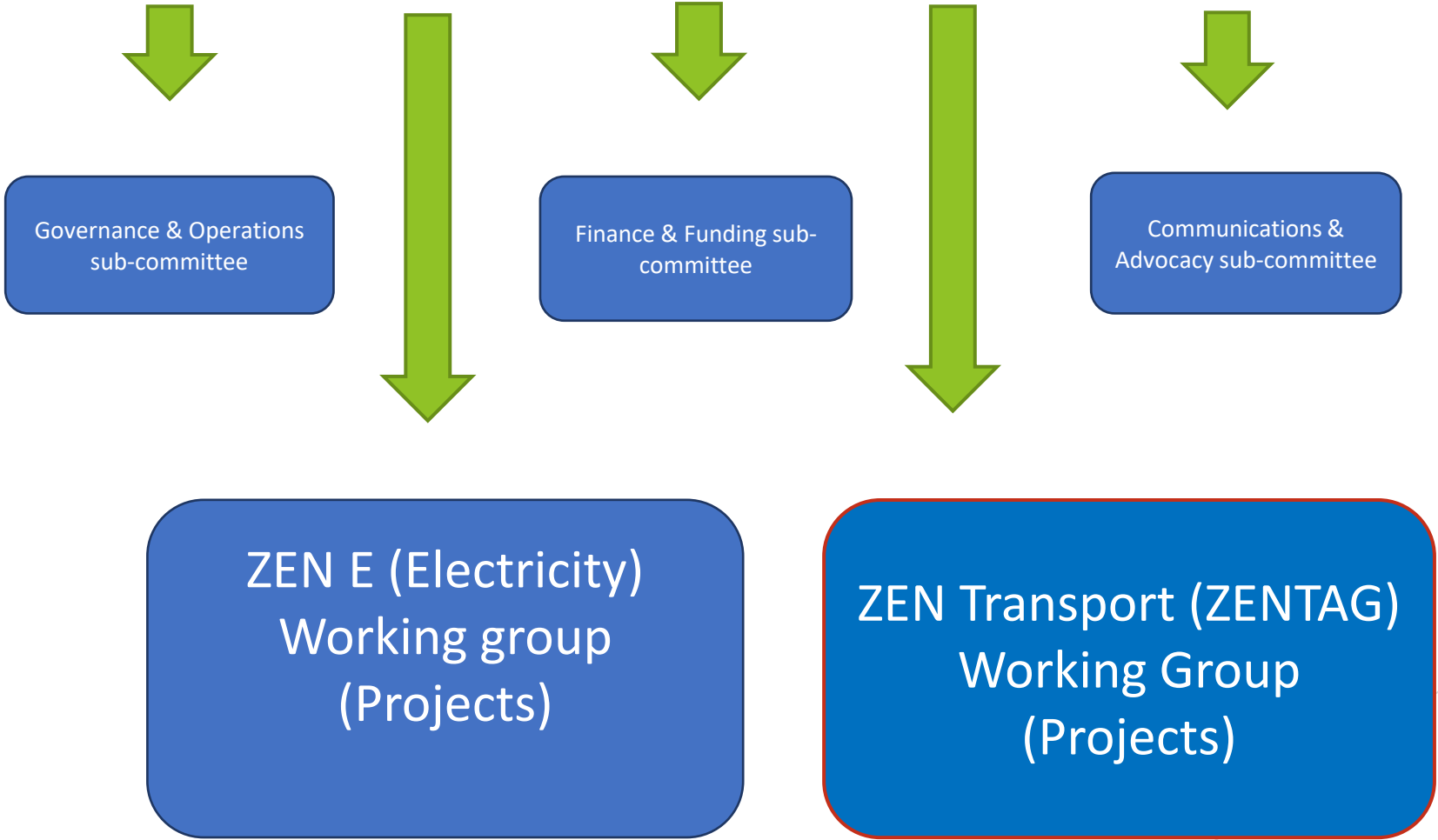




ZENDURO - Researching swappable batteries for electric vehicles with Sunshine Beach State School Year 6 students

2023 incl. Team Arrow Solar Challenge & UQ E Racing Teams about STEM subjects

HOW? ZEN Inc Board





Advocacy, community engagement, awareness raising & behaviour change





Working with stakeholders & leaders to reduce emissions...



Collaboration and Community Communication

MOU's with 15 key organizations and groups	Race to Zero School Program	E-bike trials and cycling workshops	Community forums - libraries and PBCH
Coalition for Community Energy	National Community Scale Battery Working Group	Discussions with Energex/Energy Qld.	Lobbied Qld. Govt. & NSC re EUA's
Sustainable Tourism Reference Group	Noosa Council Environment Strategy Forum	Noosa Council Walking & Cycling Strategy Group	Transport Steering Group & CCRP CRG
Submissions to Noosa Planning Scheme, CCRP, CHAP & issues of interest/concern	Queensland Strata Community Association	Conference Presentations - Nat. Sustainability Conf.; National Community Power Plan Launch	Business Case Studies
Zero Emissions Brisbane	- Facebook page; Noosa Today column; website; data gathering	Australian Electric Vehicle Association	Major projects - EV EXPO & Others

Lessons for Working in Community Energy

- ▶ Need Funding
- ▶ Support of key stakeholders
- ▶ Evidence based projects
- ▶ Strong founder & core group
- ▶ Continual renewal & succession planning
- ▶ Focus on message for your target audience - Noosa = cost saving & what is good for the planet get that outcome anyway!
- ▶ Agile & able to pivot - **FAST**
- ▶ Cutting Edge - **VITAL**
- ▶ Consultative - **FAIR**

2023 ZEN Inc. delivers EXCEPTIONAL ROI of **28.8** for Noosa Council & Community

\$920,000

9,200 In Kind Volunteer Hours

The value of ZEN Inc. volunteer board and working groups hours on projects and related facilitation

**\$
Intangible?!**

Emission Reductions

Calculating the dollar value of the reduction of emissions resulting from ZEN Inc.'s projects and activities

**\$1,547,000
+ YEF + ZEN
IP**

Additional Contributions

Grants, sponsorships &/or in-kind contributions received from other organizations, state or federal government (excl. industry expertise uncostede.g.

\$893,000 +

Local Economic Value Contribution

Goods and services sales resulting from ZEN Inc's projects (\$893 EV EXPO & \$????)

C4CE Community Energy Congress

The Renewable Newstead Story

Geoff Park



March 6, 2024





Newstead Energy project ... Dja Dja Wurrung country between Castlemaine and Maryborough in central Victoria

January 2024

How our community operates ...



Newstead Community Garden



Newstead Swimming Pool



Newstead Arts Hub

Newstead at a glance

754 LOCAL RESIDENTS



54-65 year olds

Largest age group
(30-34 year olds Vic's largest)



50.3%

People aged 15+ reported being in the labour force full time (57% in Vic)



11%

People working from home (Vic 4.6%)



50.5%

people who attended post secondary education (37.9% Vic average)

4%

People working in sheep farming (Vic 0.2%)



Source: Census 2016, Quick Stats

364 PRIVATE DWELLINGS

43.9%

Dwellings owned outright (32.3% Vic average)



17%

Internet not accessed from dwelling (13.6% in Vic)



13.2%

Rented (28.7% Vic average)

\$863

Median weekly household income

39.8%

Dwellings owned with a mortgage (35.3% Vic average)



32%

Households earning less than \$650 (gross) a week

The catalyst ...

Project principles

1. Be 100% renewable
2. Be opt-in
3. Be grid connected
4. Deliver community benefits
5. Do no harm

A Summit to Remember

newstead 2021

Prime Minister Kevin Rudd had a big meeting in Canberra in April to discuss the nation's future. Newstead gathered on May 4 at the Community Centre to discuss our town's future and the big issues for our community.

What began as a meal into a few words before took shape, as an informal committee organized our "summit". Officially 123 people turned out for Newstead 2021. That's 15 per cent of our local community! We expect a few more attended but didn't sign in.

Setting the Scene

Patrick Keenanagh opened proceedings, welcoming participants to share their ideas about how Newstead could build on its strengths and meet the challenges of 2021.

In an interview, **Maureen Hengway** from Sandon talked about her lifelong involvement in community affairs. Maureen explained how the CFA Ladon Auxiliary was formed in 1980 after fire threatened Newstead the year before and how funds were raised to build and run the pool. She talked about the auxiliary's struggles to gain new members and how members raise money by running classes and catering for functions.



L to R: Andrew Stevens, George Duckett, Geoff Ford, Sam Gray, Early Smith, Gwendolyn Barlow, Patrick Keenanagh

- Trouble magnet, proprietor and arts advocate **Steve Proposh**
- Newstead Primary School rgn **Maddie Ruggles, Zac Carson, Alice Reese & Sam Dobby**



L to R: Sam Atchley, Alice Reese, Maddie Ruggles, Zac Carson

Our Big Ideas

Geoff Park called for ideas from the floor. (See back page.) There was no shortage of them: street trees that could feed people, a system of solar, integrated walking and bike paths, more play facilities for kids, a community garden, a cultural centre, a hire-shed program, solar energy, outdoor gas cooktops and so on. Then we broke into groups to talk more. (See middle pages.)

This special event outlined the main themes that emerged from the summit.

We've created this so everyone, including those who couldn't be at the summit, can reflect on the ideas and think about where Newstead might progress from here. Enjoy!

The informal committee: Geoff Ford, Early Smith, George Duckett, Sam Gray, Andrew Stevens, Sam Gray, Patrick Keenanagh, Gwendolyn Barlow, Our Colonel, Ross Dipietro & Jenny Dyer.

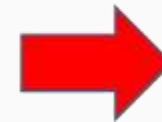


Maureen Hengway and Paul Riggall

Local Views of Newstead

Community members shared their perspectives about what makes our Newstead community special:

- Policeman **Green MacDonald**
- Youth aid former **Paul Riggall**
- **Cheryl Gervasoni**, Newstead IGA supermarket
- Youth and sports advocate **Kylie Richardson**
- Newstead Ladons representative **Jessie Grundy**
- Newstead CFA member **Chris Siverina**



Newstead Community Plan 2023



Plan of NEWSTEAD
Plan of Strategic
2023-2028

OUR PRIORITIES

At this stage the plan suggests a set of major projects:

1. Refurbishing and revitalising the Newstead Station as an arts precinct
2. Creating a pedestrian bridge across the Loddon River to connect both sides of town
3. Establishing a skate and bike park and community activity centre
4. Establishing a connected network of walking and bike paths and trails between Newstead and surrounding towns, using existing easements and bushland areas
5. A major renewal of street trees within the town precinct
6. Establishing a "Support and Sustain our Volunteers" initiative for volunteers and community groups



local business strategy for Newstead to build business and opportunities.

divable Newstead, to ensure Newstead retains its unique rural values into the future

er ageing population through access and accommodation

focus to minimise traffic impacts and create a safe and



Our path to beginning

A road is planned

A group is formed

Community referatals need for an energy project

Directions is set

Vic Govt backs project

Grant agreement signed

Small town big switch

Newstead's journey to renewable energy



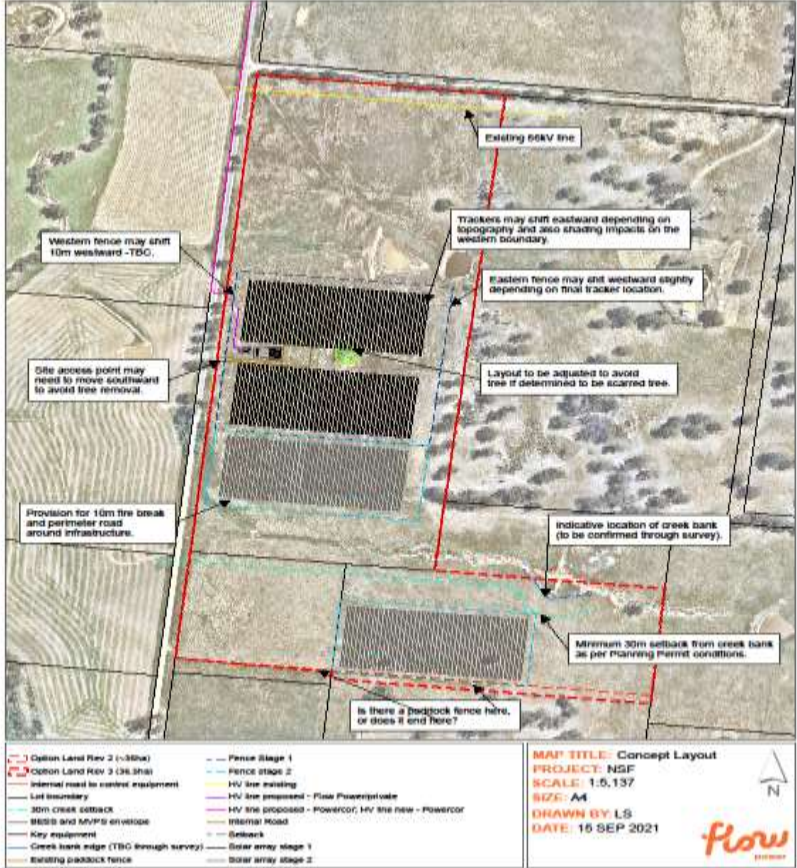
The journey so far ...

- 2011 - RN formed and partnered with Central Vic. Solar City
- Home energy assessments (80% of households)
 - Community survey
 - Feasibility study funded by Sustainability Victoria (\$20K)

- 2015 – State Government support to design ‘the model’ (\$200K)
- Master plan for transition to 100% renewable energy
 - Detailed assessment of technical, regulatory and financial requirements
 - Develop the ‘Business Case’
 - ‘Small town big switch’ report

- 2019 – State Government backing to implement ‘the model’ (\$1M)
- Local solar farm emerges as the most sensible and viable option
 - The hard work begins ...

So 'we' decide to build a solar farm ...



1. Identify and secure a site ★★ ★
2. Planning approval ★★ ★
3. Form a partnership to construct, finance and operate ★★ ★
4. Develop a retail offer ★★
5. Build and connect the farm to grid ★★
6. Engage with our community at key steps along the way ★★



Farms facts ...

- 6.2 ha site
- 3MW (4,320 panels) – tracking
- 5MWh battery
- Construction began Nov 2023 ... on track for completion and grid connection in May 2024



Renewable
Newstead

Partnership with Flow Power

Flow Power - own and operate the farm and retail the electricity it generates

- Matching community expectations and commercial realities has been, at times, challenging

Observations on the partnership

- FP responded to nation-wide tender call & have a background in selling to commercial & manufacturing sector – young energetic business
- Mutual respect and trust has been fundamental ... every interaction over 3 years has been professional, open and respectful
- \$1M of State Government funding = 15% of the project cost
- Flow Power have genuinely sought to understand our community, invest in relationship building and support the overall ambition ... they 'get it'!



Why not community ownership? ... happy to discuss in Q & A

Flow Power Retail Offer

- Available late March 2024 ... 100% green electricity based on a legislated definition
- Currently being trialled by small group of residents
 - 173 local EOs
- Affordability
 - 6.11% below the 'black' VDO
 - 15.71% below the equivalent of a 'green' VDO
- Features
 - Price Efficiency Adjustment (PEA) – demand management
 - 'Tech' – kWatch Mini
 - Annual Grants Program



Victorian Government support

- Significant, enduring and given with trust
- Commitment and vision by our local member (Maree Edwards) and Energy Minister (Lily D'Ambrosio)
- Project support from DEECA staff has been phenomenal

... it has felt like a true collaboration



Our core team

We volunteer skills, time and expertise in project and event management, graphic design, computer and IT skills, negotiation & stakeholder management.



Geoff Park

Geoff Park is a local independent ecologist and writer and actively works with our local community on initiatives that generate positive social, environmental and economic benefits. At present he contributes as part of the Renewable Newstead team acting as the convener.



Gen Barlow

Genevieve Barlow is a freelance journalist and writer with a strong background in agricultural and rural affairs journalism. Since the Renewable Newstead project inception, Gen has co-ordinated and executed the community engagement schedule and partner reporting.



Don Culvenor

Don Culvenor has a lifetime experience in local farming, community volunteerism and business. Don brings planning and policy experience to the Renewable Newstead team as well as being across the technical aspects of the project including the Powercor tariff trial.



Mike Reeves

Mike Reeves has lived with grid-connected solar since 2007. He worked in energy efficiency and solar promotion from 2009-2015. A regular visitor to Newstead, and volunteer tragic, he has served on a hall committee, a progress association and was a CFA brigade member for 15 years.



Shaun Britt

Shaun Britt moved to Newstead in 2013 with his family of 4 kids. Shaun currently works across areas of reliability and control in a Managerial role. His interest in the Renewable Newstead project is around providing a sustainable environment for his kids in a way that is less cost for all.



Jane Lean

Jane Lean moved to Newstead in 2020. She has a background in general management and public policy as well as a decade of volunteer experience in the development of community renewable energy and not-for-profit community associations. Jane is committed to climate change mitigation and adaption, at individual and local levels, while recognising the importance of national and international initiatives.

Working together as a volunteer group we ...

- Respect each other
- Bring different knowledge and skills to the table
- Recognise that a variety of skills are needed in a project – technical, social, administrative
- Are acutely aware of the importance of ‘social licence’



February 21st 2024

Morning Tea