

EnviroTech Day Gympie

Technologies to make our community sustainable

Saturday, 17 April 2021 from 9am – 3pm



1. Agriculture and Land Management:

Agriculture is essential to human populations yet often intensive food production cause loss of fertility, soils erosion and water for the natural environment. It often requires fertiliser, pesticides and other chemicals that increasingly cause concern about the sustainability of our food production system and its impact on the natural world as well as boosting CO₂ emissions. Here are ways to improve the sustainability of agriculture production.

1. Fraser Coast Micro Bats (<https://www.facebook.com/frasercoastmicrobats>)

Fraser Coast Micro Bats is helping secure the survival of micro bats by educating the community on the benefits of bats, our impact on them and strategies to help secure the micro bats future in both urban and agricultural environments. Providing alternative habitats, especially roosting and sheltering sites, boosts the micro bats populations and survival.

Did you know that micro bats are the worlds best insect predators, eating their own body weight daily? They provide great benefits to humanity, reducing populations of disease spreading mosquitoes as well as reducing numbers of harmful insects in agriculture. This reduces the use of insecticides in urban and farming areas.

However, their habitat has been destroyed by both agricultural and urban developments, with many species survival now threatened by human activity. Many other bats species are major pollinators in native and horticultural forests, again adding to our agricultural productivity and economy.



2. Gympie & District Landcare Group Incorporated (<http://www.gympielandcare.org.au/>)

Gympie & District Landcare Group are a not-for-profit community organisation, whose aim is to promote the use of sustainable land management practices and techniques to ensure overall sustainability of the Gympie Region.

Gympie & District Landcare Group provide education and advice on a range of environmental and land management topics and have a fully operational nursery supplying local native plants that thrive in our region and assist our region in the natural regeneration process.



Sustainable land management practices will maintain agricultural land in a productive state rather than allowing it to degrade and lose productive potential over time. This makes our community and natural environment more sustainable for future generations.

3. Koala Action Gympie Region (KAGR) (<https://www.kagr.org.au/>)

CREATING A KOALA-AWARE COMMUNITY

Koala Action Gympie Region (KAGR) aims to engage the whole community in helping Australia's most loved and iconic wildlife species. KAGR promotes:

- How to report koala sightings
- planting trees for koala habitat.
- Education of the community about koalas , habitats and dangers they face.
- Information days, stalls at various festivals, and assisting landowners to plant koala habitats.
- Work with government at all levels to improve environmental policies

At Envirotech Day Gympie KAGR will have Display boards with maps of koala sightings in the Gympie Region, Photos and Brochures for information.



4. Burnett Mary Regional Group (<https://bmrp.org.au/>)

Sponsors of Envirotech Day Gympie

The Burnett Mary Regional Group for Natural Resource Management Ltd. (BMRG) is the peak body for natural resource management (NRM) within the Burnett Mary region. Established in 2001, we are one of 56 national, not-for-profit regional bodies providing an essential link between the community and various programs procured by Government and other funding sources.

BMRG's vision is "to protect and enhance the agricultural and natural environment of the Burnett Mary region for future generations". We achieve this by directing investment into a wide range of community-based programs that deliver positive outcomes in the areas of ecological diversity, sustainable land management, water quality, cultural heritage values and coastal and marine management. Community collaboration and partnerships are paramount to us achieving our vision. We continue to foster strong relationships with a range of organisations including: Local, State and Federal Governments; Landcare and Catchment Care groups; Indigenous organisations; agricultural and industrial sectors; universities and schools.



5. Truegrid Pavers Australia (www.truegridpaver.com.au)

The TRUEGRID® paving system is a 100% permeable, natural paving alternative to concrete and asphalt. TRUEGRID is as simple to use as interlocking building blocks for the real world. By offering an easily actionable green technology that costs less than concrete, TRUEGRID® works to make an impact now. Less flooding. A more natural landscape. Cleaner air and water. Less heat. Less thermal pollution. Less waste in the landfill. Fewer toxins from runoff pollutants, coal tar & asphalt sealants. Millions of square feet of TRUEGRID® pavers have been installed across the USA. Commercial and industrial parking lots that are ADA accessible, fire lanes, access roads that will last maintenance free

for 40 years or more. Aesthetically pleasing and strong enough to support heavy loads and traffic, TRUEGRID® works in all soils and climates.



6. [Wide Bay Burnett Environment Council](http://wbbec.wordpress.com) (wbbec.wordpress.com)



The Wide Bay Burnett Environment Council Inc (WBPEC) is an A-Political, Not-for-Profit Environmental Advocacy Organisation covering the Wide Bay Burnett region in Queensland.

WBPEC members meet quarterly, usually on a Saturday morning in Maryborough. Our motto is 'Protecting the region's biodiversity for the future' and we aim to achieve that via a range of advocacy based approaches including:

- Community education campaigns highlighting the importance of environmental protection via television/radio/print/and social media, publications, workshops, public information sessions, documentary screenings, information stalls and interactive presentations at a variety of education and early childhood centres;
- Providing expert advice to all levels of government via participation and representation on various technical working groups, planning committees, Ministerial Roundtable conferences and providing submissions on proposed, and/or amendments to, relevant government policies and legislation;
- Responding to community requests to initiate investigations into potential impacts to the environment from unlawful activities, proposed development, breaches of approval conditions/ environmental legislation from existing development and/or land and resource uses, and
- Facilitating communication between multiple local community/landcare/catchment care/wildlife protection groups, the Environment Council and the broader Conservation Sector across Queensland.

2. Building efficiently

The energy efficiency of new houses can be improved at relatively low cost compared to the ongoing costs of higher energy use. For more info on NatHERS <https://www.nathers.gov.au/> and the benefits of building more energy efficient homes <https://theconversation.com/sustainable-housings-expensive-right-not-when-you-look-at-the-whole-equation-60056> visit the links.

Building energy efficient housing will make these buildings more suitable for the warming planet and increase the sustainability of our community.

1. Polkadot Community Inc

Polkadot aims to demonstrate the principles of sustainability and community living to the broader population in an accessible and engaging way. Polkadot openly collaborates with aligned groups and individuals who are serious about creating pathways for moving towards more transitional and regenerative practices in society.

The Polkadot “living free tiny house” is an affordable + eco tiny house with engaging innovative and universal design characteristics that can totally exist off-grid as well as generate its own power and water. More info is at www.polkadot.org.au and <https://youtu.be/XpBojK-DvhM>



3. Energy (20/01/21)

Energy in our community is generally sourced from fossil fuels (coal, oil and gas) to power our electricity, vehicles and provide industrial heat. These sources of energy are the major drivers of global warming due to emissions of CO2 as well as causing thousands of premature deaths and many thousands of hospitalisations annually in Australia. The alternative is now available, technologically sound and the energy generated is lower in cost. Renewable energy, wind solar and a few others, can replace the fossil fuels. All businesses and households need to make this shift as soon as they can.

1. Gympie Community Solar Assn. (<https://gcsa21c.wixsite.com/gcsa>)

Gympie Community Solar Assn. recognises that fossil fuels and their emissions are the major cause of global warming driven climate change with disastrous impacts on the planets overall environment and humanity.

Gympie Community Solar Assn.:

- advocates the technologies that facilitate the change away from fossil fuels in our economy and other sources of green house gases,
- provides free advice to anyone who has questions about solar systems or solar hot water for their house or business,
- provides analysis of a households or business electricity bills to show how solar energy can assist reduce their bills.
- encourages the purchase of energy efficient appliances and vehicles,

- promotes the adoption of energy efficient buildings by testing energy draw by appliances and losses from buildings so these can be rectified,
- promotes the adoption of solar systems on community or social structures to mitigate the social injustice currently impacting those who cannot easily access solar systems now.

GCSA does this by demonstrating the potential economic gains achieved by adopting solar systems and making opportunities for people with solar systems to talk directly with people who may be contemplating an installation decision. Envirotech Day Gympie is an event that helps do this.



Image. Visitors at a solar house open day discussing charging a Tesla via solar and battery system at home.

2. [Halcol Energy](https://www.halcolenergy.com.au) (<https://www.halcolenergy.com.au>)

Power your home with an Australian Made sonnen battery system.

Halcol Energy has partnered with sonnen, a global leader in safe, reliable, and long-lasting energy storage to offer customers like you a new way to extend the benefits of your solar investment.

sonnen is one of the market leaders in home battery storage solutions. German design and certified Australian Made, [sonnen](https://www.sonnen.com) is pioneering intelligent energy storage around the world with superior craftsmanship and unbeatable 10+ year warranties. They have over 50,000 systems installed worldwide.

Australian Made. sonnen's local headquarters and manufacturing plant are based in South Australia at the old Holden production plant – with teams dedicated to delivering quality, safe and durable products and accessories for the Asia Pacific markets.

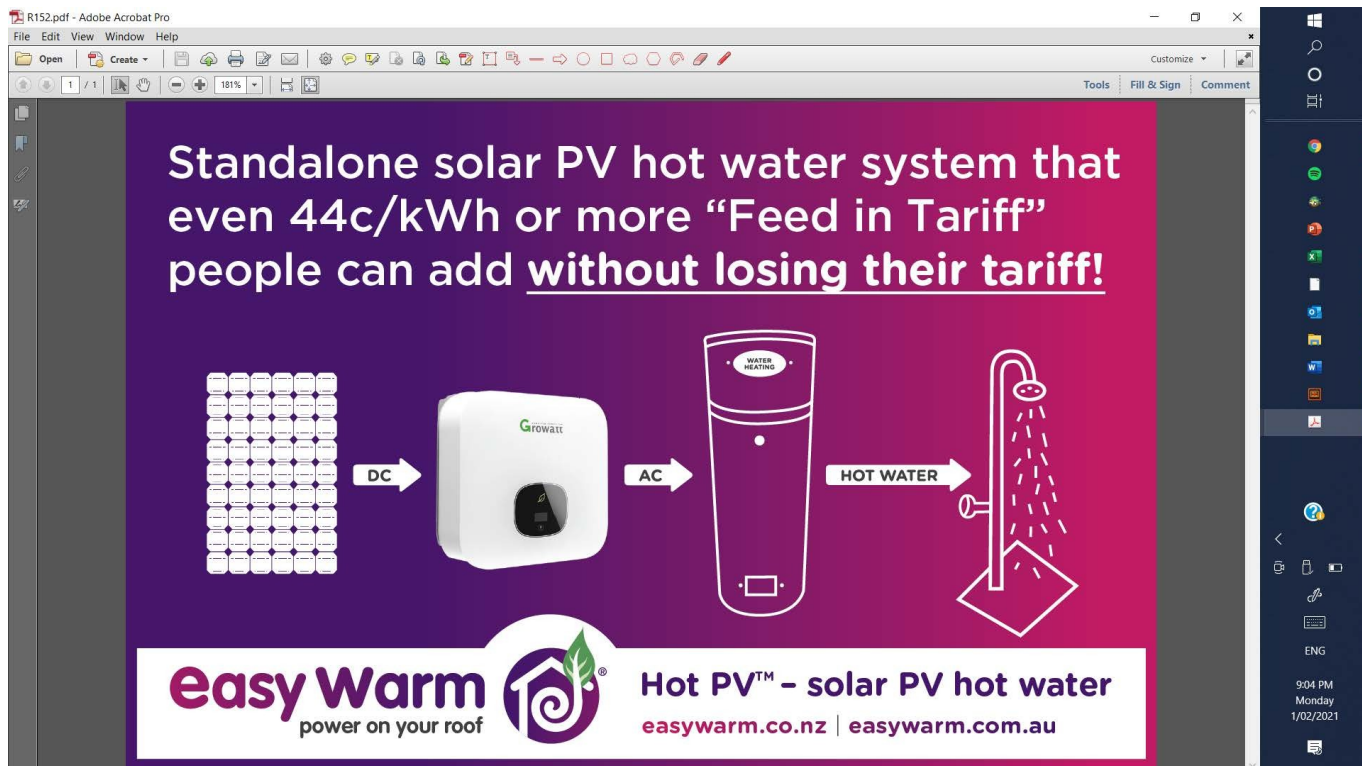
The local sonnen team supports sales, technical and warranty for their sonnenBatteries and energy plan sonnenConnect. Since they have established their local footprint in Australia, the sonnenBatterie Hybrid 9.53 has become certified Australian Made and has helped to revive clean-tech manufacturing in Australia.



3. [Easy PV Ltd](https://www.easywarm.com.au/) (<https://www.easywarm.com.au/>)

Easy PV is the supplier of a unique off-grid solar PV water heating system - directly powering hot water cylinder elements from solar photo voltaic panels. Very simple to install, without affecting any other solar you already have, and STCs can be claimed. Connect a few solar panels to our special inverter, connect to a standard electric hot water cylinder - voila!! Hot Water!

Products being displayed are solar hot water inverters and Hot PV™ controllers for programmable grid boost.



4. [Zero Emissions Noosa](http://www.zeroemissionsnoosa.com.au) (www.zeroemissionsnoosa.com.au)

ZEN is a group of individuals in the Noosa Shire, who are committed to taking local action on climate change, principally through reducing our reliance upon electricity generated from fossil fuels. We believe the answer is sitting right above us, that is, using energy directly from the sun!

ZEN was incorporated in 2017 and has been working directly with Noosa Council and others to achieve net zero emissions in Noosa by 2026.

Zen will achieve this by inspiring the Noosa community, to repower Noosa by investing in renewable energy, energy efficiency, zero emission transport and innovative local commercial activity.

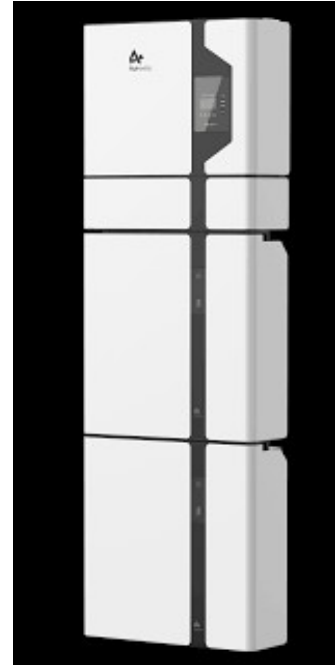
The [ZEN Roadmap](#) is a plan identifying where best to target our energies, using energy efficiency and solar power to reduce emissions. The roadmap was funded by Noosa Biosphere Reserve Foundation in 2018, to help promote community action on lowering our carbon footprint.

5. [Keystone Electrical](http://www.keystonesenergy.com.au) (www.keystonesenergy.com.au)

We provide Energy consumption profiling, Commercial, rural & residential solar & energy storage Solutions, Off-grid energy solutions, Energy efficient lighting solutions and General electrical works.

At Environment Day Gympie we will have Alpha ES and Red Earth energy storage systems as well as Fronius hybrid inverters and Suntech solar panels. We look forward to talking with you there on April 17th 2021.





6. **Forest Wind** (www.forestwind.com.au)

Forest Wind is a major wind farm proposal in the Wide Bay region. It has the capacity to:
 create hundreds of jobs during construction, and a long term local operations workforce;
 create opportunity for local industry and boost the Wide Bay economy;
 put downward pressure on electricity prices, and
 at full 1200MW capacity, generate enough clean energy to supply 1 in 4 Queensland homes.

The proposed project is to be located within Australia's largest exotic pine plantation, between Maryborough and Gympie, in the Wide Bay region of Queensland. The pine forest covers a very large 65km by 30km area. A separation distance of at least 3,000m from residents to wind turbines is world leading by international standards, and double the distance required by Queensland Government regulations. Forest Wind is currently in the development phase, with construction proposed to commence mid-2022.



Forest Wind



7. **Enopte Solutions** (www.enopte.com)

Enopte (Energy Optimisation Technologies) was founded at Coolumb Beach in 2014, with a vision to optimise solar, battery and energy management systems into a single package delivering affordable and reliable 24/7

electricity. Enopte's passion is to help facilitate sustainable clean energy production, whilst simplifying the experience for the end customer.



With the launch of the Enopte Power Station in 2019, the vision has been reached with packages now being offered to Tiny House, Residential and Commercial Customers.

At the heart of the Enopte Power Stations is the AuziMAX TM , EnMAX TM energy management and metering devices, optimising energy production and usage.

The integrated PowerBlock energy storage system also ensures optimal battery cell balancing and lifecycle for the battery systems.

Enopte Power Stations can also be networked into micro-grids and Virtual Power Stations, simplifying the way energy is stored and distributed, without relying on fossil fuels.

8. **Island Energy** (www.islandenergy.com.au)

Established in 2009, Island Energy is a proudly family owned and operated company of solar installers providing both grid connected and off grid solar systems.



Our mandate is to supply quality packages that are the best value for money, whilst providing the highest level of customer satisfaction and piece of mind. Industry standard for national solar companies is to sub contract out to the lowest bidder, here at Island Energy we employ full time, local CEC accredited electricians for every install. This gives us more control of the installation process and provides the customer with a high quality install.

4. **Food and Drinks**

Food is vital to keep us health and energized. Yet the food production process can be very energy intensive. Local clean produce using minimal packaging helps to reduce the energy and emissions associated with our food. We hope you enjoy these local foods and drinks

1. **Luscious Licks** (<https://www.facebook.com/lusciouslicks1>)

We make ice-cream, on the spot, from 100% fruit. Most of our product is locally sourced as supporting our farms is important to us. We started 6 years ago on the Sunshine Coast with the hope of providing a delicious and healthy alternative to traditional ice cream and with a focus on providing big and little kids alike with a no added sugar, gluten and dairy



free 'treat'. We also have a range of condiments, jams and relishes sourced from predominantly local sources.

2. Inferno Woodfired Pizza.

(<https://www.facebook.com/infernowoodfiredpizza/>)

Inferno Woodfired Pizzas are smoky, charred & topped with fresh produce.

Mobile catering available for your event. Authentic Woodfired Pizza that come's to you! 100% mobile we service SE. QLD. Catering, Events, Weddings and more!



3. Lotza Limez (<https://www.facebook.com/scollett14/>)

A small family owned and operated lime orchard. Organic limes grown on the farm at Langshaw are used to make a range of value added products. We will sell hot and cold drinks, jaffles, smoothies, cordial concentrates and fresh limes grown on our local organic orchard.



4. All In The Cup

(<https://www.facebook.com/allinthecup/>)

All in the Cup is a family owned and operated business. We serve tasty home baked goodness and your favourite caffeinated beverage thoughtfully sourced and roasted on the premises. Our focus is on environmental sustainability from roasting only quality, shade grown coffee beans grown in well maintained and equitable farms. We believe in supporting communities which focus on growing coffee beans as their prime resource but ensuring that we reduce our carbon emissions by choosing farms as close to us as possible. PNG is one of our favourite areas at the moment! We sell up the 250g bags to 1kg lots.



5. Transport

Transport is a major contributor to CO₂ emissions as well as causing the deaths and hospitalisation of thousands of Australians annually. Electric vehicles have the capacity to reduce these impacts significantly without any adverse impacts on the Australian way of life.

1. Trev Richards: (<https://www.drivebynature.com/>)

Electric Hylux is cleaner, and has lower fuel cost.

Trev an EV enthusiast has converted a Toyota Hilux 2000 to be fully battery powered, installing 48 Winston LYP cells, 3.2V, and 260Ah, nominally 39.9 kWh of energy stored. This vehicle is his daily work vehicle and has a range of about 180 km to 200 km and has travelled 255,500km as an EV. The Hilux achieves 4.5 to 5.0 km per kWh from its Batteries.

The **running cost** of this vehicle from the grid is around \$5.00/100 km based on home electricity costing \$0.25/kWh. Trev usually charges it from his solar system so his cost is negligible. At public charging stations, there are various fees, but Evie Networks charge \$0.40/kWh (50 kW) and \$0.60/kWh (350 kW). On this basis, the energy cost is \$8.00/100km or \$12.00/100km. A petrol vehicle would cost around \$14.70/100km based on fuel use of 10.5 l/100km and fuel costing \$1.40/l.

CO_{2e} emissions from the Electric Hylux are zero when charged by the solar system, 16.0 kg/100 km if charged from the grid whereas the petrol engine would emit 24.3 kg/100km.



The EV is cleaner and cheaper to run than a fuel fed Hylux and it can tow loaded trailers.

Trev has also built a **T-Rev 3 wheeled electric motorbike**. This is a fun machine; light weight and aerodynamic, stable and very energy efficient. Having a compatible battery configuration to the Hylux allows Trev to link the two vehicles to boost his EV range when travelling to events such as Envirotech Day Gympie.



For more information on these and other electric conversions go to **Drive By Nature**, <https://www.drivebynature.com/electric-drive>.

2. Murray Keys (Mitsubishi Outlander PHEV 2014)

This vehicle was purchased to replace a Ford Falcon 6 cylinder sedan aged 12 years in August 2017 in order to reduce our CO2 emissions. The PHEV has been great to travel in:

- Total distance travelled – 46,000 + km
- Petrol used - 3.7 l/100 km
- Electricity used – 10.7 kWh/100 km
- Cost 100 km based on \$1.20/l and \$0.25 kWh is \$7.11 /100 km
- Falcon used 12/100 km so comparative cost is \$14.40/100 km.



CO2e Emissions are reduced from the Falcon's 27.83 kg/100 km to 17.33 kg/100km for the PHEV. Comfortable, cleaner and reduced running cost: a win on all counts from my perspective.

3. Liz Harris (Kona EV)

Nicknamed by us the “Red Rocket” due to the awesome acceleration, we bought this Kona EV in May 2019, after having owned a Nissan Leaf EV for the previous four years. With 450-500 km range per charge, we’ve been able to make several trips to the Gold Coast and back without stopping to charge, as well as done lots of local driving. More recently the car has been used as a Shebah rideshare vehicle, and a trip in it is usually the first time that the rider has been in an electric car – many don’t realise that it isn’t just a hybrid! Our two favourite things are the smart cruise control and being able to zip up hills. It is a compact car in the small SUV style, so boot and rear passenger space is limited.

Although expensive to buy, running costs are brilliant, about 1 c/km for the electricity compared to 10c/km for our previous petrol car of the same size.



4. Gary Salisbury (Tesla Model S 90D 2016)

Gary is happy to take folks for a test ride in his Tesla.



5. Australian Electric Vehicle Association (www.aeva.asn.au)

The Australian Electric Vehicle Association is a volunteer run not for profit organisation for EV owners, enthusiasts, manufacturers and suppliers of associated technologies. Our purpose is to:

- provide a forum for social and technical communications in the EV field,
- create greater awareness of EVs and encouraging their use,
- foster further research and development in EV technology, and
- be an official source of information on EVs in Australia.

We have monthly meetings along with car meet ups and drives. A drive is organised to be at Envirotech Day Gympie.

AEVA has arranged a EV drive to Gympie to coincide with Envirotech Day. A wide range of EV will arrive at around 10.00 for all to see and talk about their experiences.

6. **Oz-DIY Electric Vehicles** (ozdiyelectricvehicles.com)

Oz-DIY Electric Vehicles is a “do it yourself” electric vehicle specialist, supplying you the parts to make your own electric vehicle. We import, manufacture and supply all your own products to create a great little electric cars that the average handy man (or woman) can build themselves. We will be displaying products that are part of building your own electric car. We can provide information and will have fliers on display.



7. **Qfleet** (<https://www.forgov.qld.gov.au/qfleet>)

QFleet is the Queensland Government fleet manager, providing motor vehicle leasing and fleet management services for over 10,000 vehicles. We provide services to government departments, agencies and approved government-funded organisations.

Our specialised staff help manage our clients’ fleets by providing strategic and operational advice to improve vehicle utilisation and reduce fleet operating costs, and vehicle emissions.

QFleet’s key services cover:

vehicle procurement
 fleet leasing, management and advisory services
 vehicle servicing and repairs
 operational advisory support and whole-of-government fleet reporting
 strategic advice including policy implementation, development and monitoring.
 developing the optimum fleet mix
 selecting the right, fit-for-purpose vehicles
 providing customised vehicle and fleet reporting
 improving road and driver safety
 managing fleet insurance
 used vehicle sales, facilitated by Manheim auctions

QFleet is transitioning Queensland Government’s motor vehicle fleet to lower-emission vehicles – view the Environmental Strategy at and the Electric Vehicle Strategy at

<https://www.hpw.qld.gov.au/about/departments/business-areas/building-policy-asset-management/qfleet>

8. **EV Hub** (www.ev-hub.com.au)

EV Hub provide hardware and supporting software for electric vehicle charging solutions. We are the Australian partner for EVBox, who are the largest infrastructure provider in Europe. Our Smart Charge software assists to provide operators with visibility of the Charger performance, payment management, operational visibility, and e-roaming functionality. For Envirotech Day Gympie we



will be joined by Intelligent Automation, whose GSwitch device provides leading edge Home Energy Management control.

Our display will feature EV hub's Elvi Home EV Charger and Intelligent Automation's Gswitch.

9. Dean Hollingworth: Tesla Model 3 2019

Tesla 3 is a very luxurious vehicle and in the 16 months we have owned it have only filled the windscreen water bottle and rotated the tyres. If we don't experience any problems, I will require a service in September. That is the first in two years. Updates are over the internet and usually happen around midnight.

Fitted a baby seat in back, changed nappies in the boot, fitted two road bikes in boot, with rear seats down. Great family or couple vehicle, plenty of room with front and back trunks. No tail shaft taking space up for rear passengers, so floor is flat. The energy use is low; about 1kWh per 6 km or 16.7kWh per 100km. The car is usually charged from the solar and battery system installed at home. Consequently, it's emissions are nearly Zero unless on a long trip away from home.

Only negative I have, is the price and a very short introduction to the vehicle from Tesla. Happy to answer any questions, if I can.



6. Waste and Recycling

Much of what we use, either as households or businesses, can be recycled to reduce the use of new or virgin products. Recycled products can be remade into the same or similar products or re-purposed into alternative and more valuable products. The creation of this cyclic economy has huge potential to provide employment and reduce the use of natural resources. The Community benefits by the reduction of waste going to landfill, the creation of new jobs and the reduced cost of goods. Re-purposed products require much less energy than creating these from scratch using natural resources.

1. [Gympie Regional Council](https://www.gympie.qld.gov.au/recycling-and-waste) (<https://www.gympie.qld.gov.au/recycling-and-waste>)

Manages the waste collection services and its disposal for our community. This includes the contracted waste collection services by Cleanaway, the establishment and management of landfill sites, recycling and greenhouse gas extraction and flaring at major landfill sites.

2. [Help Enterprises](https://www.helpenterprises.com.au/) (<https://www.helpenterprises.com.au/>) Help Enterprises in Gympie runs a recycle centre, as well as light assembly, providing meaningful employment for approximately 35 people with disabilities. We recycle cardboard, soft plastics, white paper books and newspapers. We also convert cotton clothes into rags.

Help Enterprise provide :

- a collection service with 3 trucks performing collections in the Gympie area. Members of the public are welcome to drop their cardboard, soft plastics and white paper to our site in Brisbane Road, and
- a document destruction service in the Gympie Area, with 240l white lockable bins available for business or personal use.

We are a drop off point for containers as part of the container for Change scheme. We do not provide the refund but welcome all donated containers. Our operating hours are 8 am to 4 pm Monday to Friday.



7. Water

We live in the driest continent but it has extremes to its water availability, metres to almost Zero annually. Making the most efficient use of water is a key to sustaining both the Human and Natural environment.

1. [Ecoflo Wastewater Management Pty Ltd](http://www.ecoflo.com.au) (www.ecoflo.com.au)

Welcome to Ecoflo – the largest composting toilet company in Australia with the biggest range. Providing wastewater solutions in Australia for over 40 years.

Whether your taste in design is traditional, modern, simple, or space age - we have just the right loo for you. We have designed our systems to be capable of handling every climate and building constraint.

What makes Ecoflo unique is the fact we've tailored our business to what our customers want. We aim to provide you with all the assistance, advice and information you need to find a product that suits your budget and needs. Our toilet systems are certified to Australian & New Zealand Standard 1564.2.

These water free loos help to make households sustainable.



2. Smart Sinks (www.smart.sinks.com.au)

Smart Sinks make commercial waste water filtration systems based on our own patented designs. We remove solids from waste water facilitating the re-use of the water and thus minimising water use. There are 2 models:

- a bench mounted for a permanent installation suitable for labs, art studios or in fact any place that has solids in water, and
- a temporary installation over wheelie bins with 5 stage filtration and filters down to 1 micron and then recycles the water for re-use to wash tools of trade.



The use of these filtering systems will minimise the use of water, reduce the contamination of sewerage and septic systems and make the site more environmentally sustainable.