

# May 2022 SARCC Newsletter

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Australia have entered a new derestricted era of **Covid-19**. From April 15<sup>th</sup>, 2022,

**The highly transmittable Omicron Covid variant is still a very real health hazard, please be careful!**

**MASKS** are not mandated except:



- (a) disability care facility; (b) prison, correctional facility, or other place of custody.
- (c) public or private hospital; (d) premises used for the purpose of any health care services.
- (e) pathology collection centre; (f) pharmacy; (g) passenger transport service i.e., Taxi, Uber, Train, Bus.

Masks are no longer required to be worn in cafes, albeit we should respect any signs requiring them.

**UNSURE?** We will support and understand if you desire to wear a mask at any SARCC ride or gathering.

SARCC Exec Committee recommends you be fully vaccinated, with boosters, keep current [Health Department guidelines](#)

Basic hygiene and consideration of others remains as always: ➡

as soon as Symptoms appear don't ride, please Get tested



**SARCC, recommend you check the web prior to attending any ride or event rides, tours and events are correct at time of Print only.** Try using your **Ride With GPS**: click your Ride With GPS  then  then **events** then **Go to route** for details (download for cues).

## Sunday Rides:

### May 8th 2022 North Eastern ride

Meet at [Drage Reserve, Felixstowe](#) at 10am. Some undulations mountain/hybrid bikes recommended. BYO lunch. 40km.

Don McD 0428 566 745

### May 22nd 2022 Cruising 'n criss-crossing: creeks and rivers

Meet at [Mawson Lakes railway station at 9.30am](#) to enable off-loading of bikes and to depart at 10am. There are public toilets at the Interchange. A fairly flat circuitous route, mainly on shady bikeways and interesting interconnecting trails alongside Dry Creek and the Little Para River. 45 km, 317m elevation gain – suit all bikes. Ros M 0448 741 556

## Thursday Rural Rides

May 5 <sup>th</sup>	Damien	0422 004 544	10am The Stables (1495 Golden Grove Rd. Greenwith)	sealed, unsealed road and tracks
May 12 <sup>th</sup>	Dianne	0424 957 532	10 a.m. <a href="#">Woodside Pool</a> car park	Some unsealed roads
May 19 <sup>th</sup>	TBA	TBA	10 a.m. <a href="#">Woodside Pool</a> car park	Some unsealed roads
May 26 <sup>th</sup>	TBA	TBA	10 a.m. <a href="#">Woodside Pool</a> car park	Some unsealed roads

Thursday rural rides are regularly 20+ riders; in the hill's topography that creates a challenge. To compensate each ride will have a second leader so we can split into two comfortable groups if needed.

## PERFECT Ride

Sunday, May 15<sup>th</sup> 9am Kulpara with Kevin D. Details to be advised ... [check the website](#) & RWGPS

## SPECIAL Events

### PLEBS

Sunday May 29<sup>th</sup> Ebike specific challenges [link to web site](#) and try to understand the concept or contact Peter Harrison 0448 364 138

## SARCC DARE TO DREAM AGAIN with reduced COVID restraints - Herewith some of the potentials:

- 🚲 Adelaide to Angaston and return - even better if trains are running again 30 June TBA
- 🚲 Feasible but needs organisers: [Kosciuszko](#) to [Jindabyne](#)<sup>50</sup> & [threadbo](#) to Jindabyne<sup>42</sup> & [Deadhorse Gap](#) to Colac Colac<sup>105</sup> via [High Country Trail](#) to Wodonga<sup>72</sup> & up to [Beechworth](#)<sup>51</sup> to [Bright](#)<sup>66</sup> & [Bright to Buffalo](#) or [Milawa](#)<sup>64</sup> & minibus to Mansfield to Mt Buller & down [Delatite Trail](#)<sup>90</sup> to Mansfield & [Great Victorian Rail Trail](#) to Tallarook<sup>120</sup> & [Okeefe Trail](#) through Bendigo<sup>50</sup>. 12 rides 875km, 13nights
- 🚲 Maybe even a few private group rides with your fellow club members.

## TOURS

**Sunday 16<sup>th</sup> October 2022 to Sunday 30<sup>th</sup> October 2022 Goldfields Victoria Tour** – On the assumption that COVID 19 restrictions allow, SARCC has reschedule this fortnight of riding. SARCC strongly recommend members to book soon especially those wanting cabins. [For an overview and accommodation recommendations](#) <sup>click here</sup> [For ride details](#) <sup>click here</sup> or go to SARCC website tours page.

## NEW ZEALAND TOUR 2023

 (Doors open for fully vaccinated Australians April 2022)

The 2023 tour will run a similar exciting program as 2022. We have 23 members signed up which means that we have vacancies for 3 more to participate. For more details of the tour [download the information pack](#) and to register your interest in coming along for the ride in 2023 contact Denise at [sarclub@gmail.com](mailto:sarclub@gmail.com).

## REMINDERS:

- Please consider having [Ambulance cover](#).  Your Health insurance may be adequate, but please check.
- Consider [Bicycle SA membership](#)  for their personal insurance. Read of their covers with [V-Insurance Group](#).
- If you have sealant in your tubeless tyres at minimum, you should replace the sealant every 6 months or so. Take a spare tube.

## MEMBER CONTRIBUTIONS:

- A recommendation from Travelling members – take your [certificates of Covid Vaccinations](#) with you or on electronic devices.
- Teteleys found 22kms of railway corridor, located between South Terrace in [Penola](#) and Penola-Hundred Line Road in [Glenroy](#), upgraded to a 2-way sealed pathway standard. Note, 22km north same disused railway goes to Naracoorte and 50km south to Mount Gambier?

**CLUB MEETINGS 2022** at [Clarence Park Community Centre](#) Clarence room  
A train station at the front door, side street and on-site parking

**7.30pm. 26th May,**

Meeting dates for 2022: 23rd June, 25th August, 22nd Sep, 24th Nov AGM  
we are devoting the May club meeting to RWGPS  
A brief overview and assistance for members how to use the clubs RWGPS site.



## Ride With GPS



## Ride With GPS

**SARCC prefer you to sign up before 30 April 2022 for the following reason:**

**CLUB MEMBER DRIVE**  
Join now and help us get a

**FREE RIDE CLUB ACCOUNT FOR LIFE**

- Access all club routes, events, and collections
- Free offline maps
- Free turn-by-turn voice navigation
- Weekly sync routes to Garmin and Wahoo

RideWithGPS [Club Member Drive](#) is ending in a little over a week and we wanted to make sure we do our best to add any remaining members to SARCC Club Account. If our club adds the most new members to our group, **we'll never have to pay for a Club Account again. Second prize is three free years of the Club Account. Third prize is one free year of a Club Account.** There's no limit on the number of members we can add to SARCC Club Account. **If you are a SARCC financial member it costs nothing to join, PLEASE JOIN NOW and encourage any new SARCC club members.**

**RIDE WITH GPS: PLEASE First create your RWGPS personal free account!**

**Instructions on SARCC web site:** <https://sarcc.org.au/ride-with-gps-accessing-the-club-subscription/>

It really is simple:

- 1 just open your PC web browser and
- 2 type in "ride with gps" press enter or search.
- 3 You will be asked to input:

Display Name: *e.g., Your name or pseudonym*

First Name: *e.g., William*

Last Name: *e.g., Smith*

Email Address: *e.g., bill2Smith123@whoknows.com.au*

Password: *e.g., Abswud2!* Remember your password, save it on your PC.

1 2 3 4 5 6 7 8 [Pwd. Min.: 1 upper case, 1 lower, 1 number, 1 symbol, 8 digits & not a word.]

- 4 That's it you have a **RWGPS personal free account:**

That enables you to:  and most importantly to link to SARCC account. 

Starter  
FREE

Simple tools for planning routes and recording rides.

[Get Starter](#)

- Record your ride
- Create your own routes
- Create goals
- Create collections
- Upload and sync GPS devices

Your new **RWGPS personal free account** will look like this  on your PC.

Eric Chaney

GET STARTED

Find Routes

STATS

Meters Traveled	Meters of Elevation Gained	Rides Logged
Hour Ridden	Calories Burned	Photos Taken

ROUTES & RIDES

St James Homestead to Hamner

Weir to Angaston

GOALS

UPGRADE

Premium Tools

Please, Go to Settings:  
Location: Input your city.  
Preferences: English, Use Metric, Day/Month/Year, Sunday. Other settings are optional

### HOW TO LINK TO SARCC CLUB ACCOUNT:

- 1 <https://ridewithgps.com/organizations/8122-sarcc>
- 2 hit the "Apply to Join" button on the right-hand side of the screen.

If you already have a RideWithGPS account, you need to:

- 3 "Sign in to your account",

otherwise, you select "Sign up" and fill in the requested details. I.e., you will need to create a RideWithGPS account as above.

A committee member will accept your application and  will appear on your RWGPS home page.

**PLEASE NOTE: As a SARCC financial member you do not need to pay for a separate subscription to access the RideWithGPS SARCC Club account.**

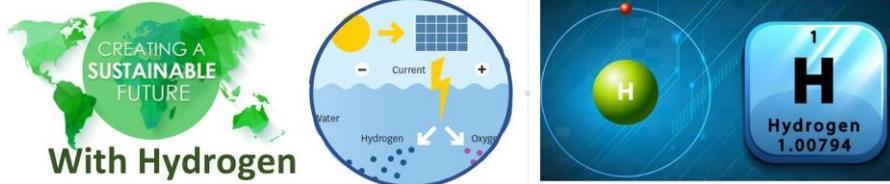
That is the magic icon  that you click on to enter the realm of routes and events that are stored in SARCC library, have a play, try the chronological listed events, try the calendar.  
All will be explained further soon 😊

**"You Tube" Entertainment and Educational Segment**

- 1 [Cyclists on the Ski Slope – Human Stupidity](#)
- 2 [The Plane That Will Change Travel Forever](#)
- 3 [New Zealand Cycle Trail Promo video](#)
- 4 [8 UNUSUAL AND UNIQUE MEANS OF TRANSPORTATION](#)
- 5 [5 UNUSUAL BICYCLES YOU HAVE NEVER SEEN BEFORE](#)
- 6 [COOL GADGETS YOU CAN BUY RIGHT NOW & INCREDIBLY COOL INVENTIONS AND CONCEPTS THAT ARE WORTH SEEING –](#)
- 7 [DENNY - TEAGUE X Sizemore](#) – Australian Electric utility bicycle
- 8 [Outlery - Bing video](#) The present for your friend that has everything buy: [Outlery - Collapsible Cutlery](#) or Amazon equivalent
- 9 [KableCard All the Cables](#) Another present when they have everything, or buy Amazon (misses [micro adapter \(Garmin\)](#) & [apple watch mag charger](#))

Examining the proposal of production of **GREEN** hydrogen in South Australia.

What's in it for Cyclists. **GREEN** simply means produced by Solar, Wind or Hydro power.



As the world moves to act on climate change, countries are looking for clean alternatives to fossil fuels across the whole of society from powering our homes, to producing our food, to transporting ourselves and the things we need to live our lives. In our electricity sector it is now cheaper to build a solar or wind farm, backed-up by storage than it is a coal power station. The good news is that renewables are not just powering our homes and our businesses they are starting to power our trains and trucks. However, there are some processes that can't be electrified, and other solutions are needed. That's where hydrogen comes in, hydrogen when made from renewable sources, is a zero-emission fuel and chemical feedstock that can replace gas and oil. That means hydrogen could grow to be an industry almost as big as the current oil industry - and that's huge! Let's start off by explaining that Hydrogen is not appropriate to burn as a fuel, it is a form of storing Energy that then needs conversion back to electricity to be used by modern vehicles like Trains, Planes, Trucks. Hydrogen is created using Electricity then is converted back to electricity to be used in many transport vehicles. The 1<sup>st</sup> great advantage of hydrogen is energy density hydrogen 40,000 Wh/kg versus Lithium-ion battery 278 Wh/kg, which translates well for long range Trains and Trucks and makes a feasible case for Aircraft. The 2<sup>nd</sup> is the time taken to refill the energy into the vehicle is minutes for Hydrogen versus hours for Lithium-ion Batteries. Price per Km is **2.4 cents Lithium-ion** versus **17.7 cents Hydrogen!**

**The Truth about Hydrogen** <sup>video</sup> (FCV or FCEV = Fuel Cell Electric Vehicle), (EV = Electric Vehicle), (PHEV = Plug-in Hybrid Electric Vehicle)

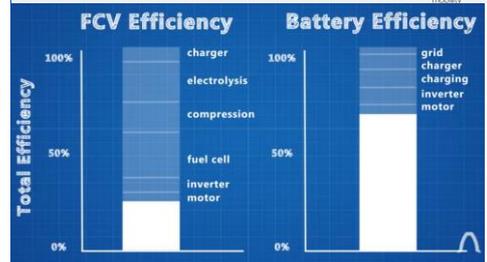
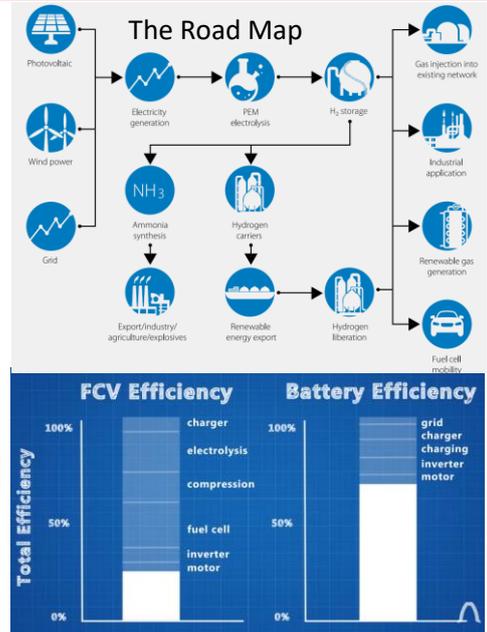
Green Hydrogen is created by large amounts of electrical current using electrolysis to separate Hydrogen from water which as we all know is H<sub>2</sub>O. Hydrogen is the most abundant molecule on our planet and the smallest molecule and not found naturally as a gas (The Sun is approximately 75% Hydrogen) The electricity must be created from renewable sources like wind or solar to create GREEN hydrogen, even then we lose 30% of the electrical energy to produce the Hydrogen or if using Proton Exchange Membrane electrolysis, we lose 20% of the energy. Even with improvement the transfer of energy to Hydrogen loss will never get as efficient as the LiPo Battery which only loses 1% in the power transfer. To avoid transporting hydrogen it can be made on site at [refuelling stations](#) albeit to reduce the cost the larger the production facility the lower the cost of production. Transport and storage of Hydrogen loses between 13% giving the best loss rate to the consumer to 33% in compressed gas form 700bar, worst case freezing **-252.87 °C** to a liquid (i.e., cryogenic) could be a 56% total loss compared to a 6% transmission loss for LiPo battery recharging. We have to convert Hydrogen to electricity to power vehicles using reverse electrolysis which is around 60% efficient then that electricity passes into a capacitor/battery to ensure a regular flow through an inverter to AC current that means efficiency of hydrogen is impaired.

So, why not just burn Hydrogen instead of petrol? Hydrogen is not as energy dense as other fuels, meaning that you need a whole lot of it to do a little bit of work. Couple that with the inherent inefficiency of a piston engine (at best, you're only turning about 30% of the fuel's energy into forward motion), and you have a recipe for continuing failure.

So, what about my water heater or gas hot plates? If we compare the LHV of hydrogen per mole to the LHV of natural gas per mole, we find that natural gas is about 2.9 times as energy dense in molar units. It takes about three times as much energy to compress a MJ's worth of heat energy if you supply it as hydrogen than as natural gas. [The mole](#), is the base unit of amount of substance. [LHV](#), is the Low Heat Value. Solar and Heat pump water heaters will be logical choices and for cooktops we have induction electricity saving with microwaves, air fryers for quick reheating. (We loved our fossil fuel burning devices – but not now.) Advances are expected in both forms of energy storage - in the electrolysis process to create hydrogen and convert to electricity, if we succeed in creating efficient on-site electrolysis production of Hydrogen and its compression that will improve the challenging distribution issues. Meantime there is research and development in LiPo batteries. Albeit preferably focus on [Solid state](#) or [Aluminium-ion](#) or [Sodium-ion](#) batteries to change from violating Earth's precious rare elements of lithium and cobalt. All battery development to reduced weight, increased density of energy, and lower cost. Whichever technology succeeds is not relevant the environment will benefit with all or any of these mechanisms as they all replace burning fossil fuels for energy.

**Okay – What are the challenges for Hydrogen?**

- 1 Hydrogen Production using Solar, or Wind powered Electrolysis.
- 2 Compression and containers for Hydrogen.
- 3 Distribution and transportation of Hydrogen.
- 4 Converting compressed Hydrogen back to AC Electric current.
- 5 Efficient burning of Hydrogen.
- 6 For light vehicles, better batteries are more efficient.



	Tesla Model 3	Toyota Mirai
Price to fully charge or fill	LiPo Batteries <b>\$10-\$12</b>	Compressed Hydrogen <b>\$85</b>
Range	<b>500 km</b>	<b>480 km</b>
Price per km	<b>2-2.4 cents</b>	<b>17.7 cents</b>

The likely purposes for using Hydrogen are in:

**Aviation**, an [aeroplane can use hydrogen fuel as a power source](#). Hydrogen can either be burned in a jet engine or can be used to power a fuel cell to generate electricity to power a propeller. Unlike most aircraft, which store fuel in the wings, hydrogen-powered aircraft are usually designed with the hydrogen fuel tanks inside the fuselage. According to research at the Pennsylvania State University in 2006, large commercial hydrogen aircraft could be built by 2020 but "will probably not enter service until closer to 2040." In the nearer term, interest has grown in using fuel cell aircraft as personal air vehicles. Many challenges to resolve but it is feasible to fuel with Hydrogen. Advanced Aeroplanes cost nearly \$1 million per passenger they can carry. Boeing 787 Dreamliner US\$306 million carries 330 passengers, Airbus A380-800 US\$446 million carries 520 passengers and consume Approximately US\$23 of fossil fuel per passenger per hour i.e., 520

passengers X \$23 ≈ \$12,000 per hour. Qantas fleet value AU\$40 billion. To be ecologically friendly we need not only to use hydrogen and manage the water vapour pollution but reduce flights transcontinental i.e., evolve highspeed intercity train transport. All Airbus 3 ZEROe concepts are hybrid-hydrogen aircraft! They are powered by hydrogen combustion through modified gas turbine engines. Liquid hydrogen is used as fuel for **combustion** with oxygen. In addition, hydrogen fuel cells create **electrical power** that complements the gas turbine, resulting in a highly efficient hybrid-electric propulsion system. These technologies are complementary, and the benefits are additive. 2022, [ZEROe demonstrator](#) launched, our aim to test hydrogen combustion technology. Airbus expect to achieve technology readiness level for a hydrogen-combustion propulsion system by 2025



[Video link](#) [click here](#)

**The benefits of burning hydrogen include:**

Like methane is not poisonous, (just asphyxiating and explosive).  
 High spontaneous ignition temperature (SIT) of 650°C – it needs a spark to ignite.  
 Wide flammability limits (3–70% H<sub>2</sub> in air mixture) – it is easier to maintain a flame.  
 Burns to water vapour, thus eliminating CO<sub>2</sub> emissions. But...  
**Alert!** [Water vapor is known to be Earth's most abundant damaging greenhouse gas.](#)  
 Burns with a higher flame speed (300 cm/s) than methane (30 cm/s), stabilising the flame.  
*(Wobbe Index is a measure of the ability of a gas to deliver heat through a jet hole at constant conditions. Calculate the calorific value divided by the square root of the specific gravity of gas)*

**Disadvantages include:**

Can generate high levels of **NOx**; thus contribute to the formation of smog and acid rain.  
 Higher flame speed increases the flame temperature locally  
 Wide flammability limits require consideration in the safety assessments.  
 Hydrogen has a different Wobbe Index from methane, to be taken into account in design.  
 Hydrogen has a different combustion air requirement index, CARI (a measurement of the combustion air required for a gas), compared with methane.

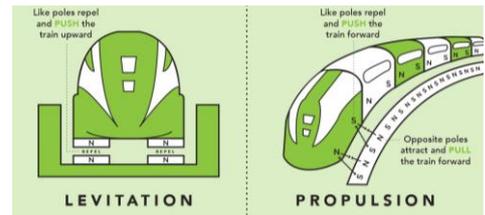
There are many challenges to resolve but it is feasible and for intercontinental flight it is essential that we conquer these challenges.

**Trains:** This is where **SA really can make a difference** to our environment because we have multiple options readily available for local and transcontinental train transport sustainable ecologically effective and efficient means of moving people and goods.

A train line can move 50,000 people an hour. Compare this with a freeway lane which can move 2500 people an hour.  
 What does it take to move 1000 people? One train (ten carriages) *versus* 20 Buses *versus* most often 1000 cars. (1000 cars require 3.2 hectares of parking space in the CBD.) The external costs of rail in terms of noise, air pollution, accidents, infrastructure deterioration and congestion are much lower than using your car. Rail transport is 7 times safer than road per passenger km.

We have options to transfer the sustainable electrical energy to power our trains:

- ① Overhead cable (old tech) to the train - power produced by solar farms.
- ② Maglev system power supplied to the track by solar farms.
- ③ Compressed Hydrogen to electric efficiently because of size.
- ④ Thousands of Kilometres of railway land to produce solar or wind electricity.
- ⑤ Friendly topography to create ultra-high speed intercity trains.
- ⑥ The majority of rail corridors already exist.
- ⑦ All the technology exists for urban and 500kph maglev ultra-high-speed trains or 300kph high speed rail trains.



**What can SA's next generation thinking Government do?** Lobby Federal Government to install a [9m diameter transcontinental rail tunnel Verdun to Goodwood](#). The transcontinental Freight Train tunnel enables Double stacking of freight containers (clearance of 7.1 metres) and a side line for a fast Hydrogen/electric powered regional train or a new Maglev service to Melbourne. The tunnel rerouting the national rail allows for rejuvenation of the metro train to Mt Barker. Extend electric Metro rail South to McLaren Vale, Willunga, Sellicks Beach, and North to Angaston. Re-establish regional Rail Hydrogen/electric train to Victor Harbour, Murray Bridge, Fielding, and Port Augusta. **Trains carry bicycles, busses don't yet!**

**Heavy road transport:** this is a no-brainer convert the interstate fleet of heavy and medium trucks to Hydrogen/electric powered, the efficiency of the larger vehicles will improve ultra-long range and make more feasible the distribution of compressed Hydrogen. The higher cost fuel may drive the national freight to the more ecologically friendly rail system.

**Manufacturing:** conversion to Hydrogen in Manufacturing processes is logical once Hydrogen becomes available, albeit cost will impact conversion thus requiring care to create the most efficient use.

**Stationary batteries:** for holding excess electricity generated by wind or solar power. This is still questionable and needs a lot of research to evolve the best mechanism. This is Macro and Micro storage issue of how to create the most ecological electrical storage to remove the problems of energy flows e.g., Solar Daytime production and less at night. Alternatively, Sodium-ion batteries have advantages over lithium-ion batteries, better safety, and similar power delivery, somewhat higher cost, slightly lower energy density slightly heavier. If cost of sodium-ion batteries reduces, they will be favoured for [home storage](#), where battery weight is not important.

**Cars:** Currently, this looks like a winner for Battery rather than hydrogen fuel cell because of logistics of distribution. The fuel cell wins on range but that only means 1 hour lost every 450km which is also desirable for driver and passengers. Don't overlook the fact that the battery can be recharged by the domestic solar system at zero cost. With Battery Technology rapidly improving it is the winner

**Domestic:** Hydrogen use in place of natural gas for cooking and water heating is highly unlikely due to the complexities regarding the need to compress Hydrogen triple to equal natural gas heat energy thus creating major distribution issues. Existing pipes will not carry Hydrogen without excessive leakage. Hydrogen is the lightest gas in the world, so it's impossible to prevent leaks.

**Bicycles:** A drink bottle sized refillable reinforced carbon fibre cylinder full of pressurized Hydrogen with a micro electrolysis generator powering your [eBike with 250km range](#) – it's a big dream so stick with batteries for now. It has been done already at [UNSW Sydney](#) but refuelling is a distant future and a light nibble commuter isn't as achievable as we now expect with our LiPo battery powered bicycles.

*The Above is a layperson's acquired knowledge of Green Hydrogen – a scientist or wise philosopher may differ. There are challenges to be resolved. Green Hydrogen is not the ultimate panacea merely a more environment friendly solution to reducing global climate change by removing fossil fuel as the primary power source. Keep riding your bike and fill all your car's seats more often it does help! Your Editor really would appreciate comment that you would accept being published. [eric@outlook.com.au](mailto:eric@outlook.com.au)*