



# GATEWAY

July 2008

**NEXT MEETING** Friday July 18 2008 at 8 pm

**WHERE** : Cranbourne Girl Guide Hall, Grant St off Sladen St.

**SPEAKER** : Shane Clayton

## **Solar Powering your home so it can feed back to the Power Grid**

Shane is an electrician with formal training in solar power electricity. He has had a long term association with GGREC and his parents, Kerry & Lynn are both GGREC Life Members.



GATEWAY MAGAZINE IS THE OFFICIAL JOURNAL OF THE GIPPSLAND GATE RADIO AND ELECTRONICS CLUB inc.

## A few more goodies from RUSS

Atom Bomb : An invention to end all inventions.

Boss : Someone who is early when you are late and late when you are early.

Cigarette : A pinch of tobacco rolled in paper with fire at one end and a fool on the other.

Conference : The confusion of one man multiplied by the number present.

Compromise : The art of dividing a cake in such a way that everybody believes he got the biggest piece.

Conference Room : A place where everybody talks, nobody listens and everybody disagrees later on.

Classic : A book which people praise, but do not read.

Criminal : A guy no different from the rest....except that he got caught.

Committee : Individuals who can do nothing individually and sit to decide that nothing can be done together.

Diplomat : A person who tells you to go to hell in such a way that You actually look forward to the trip.

Etc. : A sign to make others believe that you know more than you actually do.

Experience : The name men give to their mistakes.

Father : A banker provided by nature.

Miser : A person who lives poor so that he can die rich.

*Russ White VK3MWR*

## The Story of My Electric Car Project Continues

by Geoff Clifton VK3HGG

Late last year Geoff Clifton made a decision to build a road registered electric passenger car, an EV (Electric Vehicle).



There are currently a few thousand cars worldwide that have had a standard EV conversion. This involves replacing the existing engine with a DC (direct current) electric traction motor and controller, replacing the fuel tank with deep cycle batteries, installing equipment to provide the vacuum for the brake booster, installing a DC to DC converter to keep the vehicle's 12 volt system working, installing an alternative power steering system if needed, and routing battery cables and looms for the new system.

High efficiency AC motors and regenerative braking systems can also be used but are generally a more expensive option at present. Australian conversions must comply with National Code of Practice 14 (NCOP14) and be signed off by an authorized VicRoads Signatory to be highway legal.

You can't buy a brand-name electric car in Australia at the moment but there are a few small firms that will convert new cars that are ADR [Australian design rule] compliant.

They will generally specialize in one particular model car and will give you back all the left over bits that were removed in the conversion process.

If you have lots of spare cash and like sports cars then the Tesla Roadster may be for you. This EV has a range of 350km and a top speed of 200Kph.

Unfortunately, it is very expensive and there is a waiting list. Tesla plans to focus on the high performance end of the market, then gradually tool up to produce more affordable cars based on the technology used in the Roadster.

My project is still in its early stages but I am making steady progress. The vehicle is on stands in my workshop and I have removed the IC engine and all related equipments. *Continued page 5.*

GIPPSLAND GATE RADIO & ELECTRONICS CLUB

Club meetings are held on the third Friday of each month at the Cranbourne GirlGuide Hall in Grant Street. Prac nights are held on the first Friday night in the Peter Pavey clubrooms. Both nights commence at 8:00 PM. **Visitors will be made welcome.** Committee meetings are also held in the clubrooms.

|   |                |                    |
|---|----------------|--------------------|
| President                                     | Ian Jackson    | VK3BUF (5625 2545) |
| Secretary                                     | Phil Pavey     | VK3YB (5995 7484)  |
| Treasurer                                     | Albert Hubbard | VK3BQO (5659 6562) |
| Committee Members: Max VK3TMK, Graeme VK3BXG, |                |                    |

Magazine Editor: Susan Coleman VK3FXXX

Club Station VK3BJA located in the clubrooms.

6M Repeater **VK3RDD** : Freq. In 52.575, out 53.575 MHz  
 70cm Repeater **VK3RLP** Freq. In 434.475, out 439.475MHz  
 CTCSS 123Hz IRLP Node Number- **6794** (Using **VK3RLP**)

**Call in Frequencies are:** HF on 28.325 MHz, USB VHF on 146.225 MHz,  
 FM and UHF on 438.850 MHz,

Visit our internet site at: [www.ggrec.org.au](http://www.ggrec.org.au)

Current GGREC Inc. Membership Fee Schedule

Full Member \$37.00, Pensioner Member \$22.00

Junior Member \$22.00, Extra Family Member \$17.00

Fees due after each April Annual General Meeting.

**The deadline for articles is the third day of each month.**

Please direct magazine correspondence to:  
 Susan Coleman email [editor@ggrec.org.au](mailto:editor@ggrec.org.au)

All other Club correspondence to P.O. Box 1098, Cranbourne 3977  
 or Email : [secretary@ggrec.org.au](mailto:secretary@ggrec.org.au)

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Incorporation Number A0016893M

## Cont'd The Story of My Electric Car Project

The electric traction motor was delivered to my front door a few weeks ago by TNT - I couldn't wait to open the box to see what my \$2400 had bought. It took a bit of effort to cut through the heavy cardboard box and inner foam packing but when I finally broke through the last layer of padding I was relieved see a sparkling new EV motor.



*[pic Donor Vehicle]*

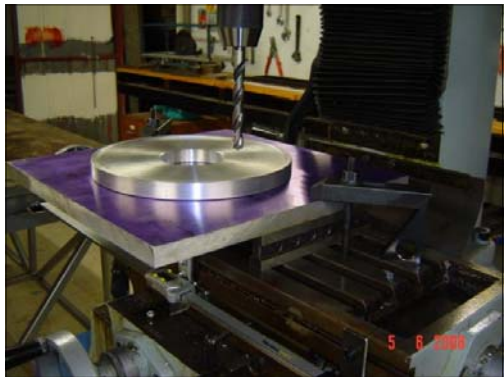
I guess it was nice looking as far as electric motors go with a fire cracker red motor housing, machined aluminum ends and zinc plated mesh protecting the brushes and cooling fan.

It's a shame it will be hidden under batteries and electrical gear.

Motors for electric cars generally start at 6.7" diameter for small cars and up to 13" for large cars, SUV's and pick-up trucks.

The engine I chose for my conversion is an American Netgain Impulse 9 (the 9 meaning it has a 92.5" diameter armature). It's rated at 38hp @72 volts/400 amps but will produce up to 100 hp in short bursts. It has been designed to accept 72 up to 190 volts DC.

I'm planning to install 10 deep cycle lead acid batteries giving a system of 120 volts. I have finished machining the motor plate adaptor and have started working on the bell-housing adaptor plate.



*[pic- making the adaptor plate]*

Both of these are attached to the driving face

*cont'd page 12*

## From the president ... Ian Jackson VK3BUF

### Where does all the time go?

In our modern society we should have the opportunity to do more things with our time than at any other time in history. Paradoxically we now have less time available to us than ever before in which to do wonderful things.

If you take a calendar month and do all of the things that you *should* do, you will probably be in negative time before the month is out. Most of us have some type of social obligation to spend perhaps 40 hours each week at some kind of commercial enterprise in order to gather a bunch of money credits. Often travel an hour to get to this place of employ, using up another 40 hours of prime time each month to do this. Presumably we get to enjoy six or so hours of sleep each night. Add to this time to 'prepare for bed' and 'prepare for work'. Add again time to prepare to eat, then eat, then clean up after eating. You may suppose that what remains is the personal time in which we can do the nice things we want to do.

But wait, there's more! There are the thousand or so tasks that only *take a few minutes*. Perhaps it's paying bills. Feeding the cat. Walking the dog. Putting out the rubbish bins, bringing them back in again. Pushing the little *test monthly* buttons on all of your earth leakage circuit breakers (then re-setting all of your clocks afterwards because of the power break), endlessly cutting grass, perhaps two trips a day to the supermarket (why isn't one enough?), pushing the little 'test weekly' buttons on all of your smoke detectors. De-linting the clothes dryer, backing up all of your hard drive data (which apparently needs to be done hourly). I scarcely want to mention cars with their oil blackening, light globes blowing, time consuming, ways. This list could go on for a long, long time, but I don't have the time to write it.



## From the president cont'd

Little wonder we have no patience for foreign call centre operators who insist we are all wasting all of our money by having dealt with the previous telephone company.

No, there comes a time when you must contemplate what it is you'd rather be doing and decide what you will give up in order to do it. The hours, minutes and even seconds of a life are the most valuable assets of all. Think of them as a giant jar of chocolate coated biscuits, conserve them carefully and use them wisely.

With the conversational smoothness of a cheese grater, all of this brings us around to the needs of the Radio Club. People-time is what makes the club exist. If you want to pursue your interest in radio and electronics, then examine your long list of things that fill your month and dump some of the busy, yucky things. This will make some time for you to enjoy what the club has to offer. It has some wonderful resources available and interesting people to meet. One of my aims this year is to have a look at what some of our members do in their hours of work and tell *other* members a little about themselves. People often think that what they do is dull and boring, but to others this can be a window into a different world. So if you cut raw diamonds for a living, or simply sew buttons on teddy bear noses, you may be assured that I will want to track you down and find out what makes you the best teddy bear button sew-eronner there is, and educate the world!

*Ian Jackson VK3BUF*

## RUSS AND READY

A bicycle can't stand alone; it is two tyred.

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A will is a dead giveaway.

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Time flies like an arrow; fruit flies like a Banana.

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A backward poet writes inverse.

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*Russ White VK3MWR*

## NEWS FROM THE WEB

### US FEDERAL COMMUNICATIONS COMMISSION LOSES TO ARRL

*"It is obvious that the FCC was overzealous in its advocacy of BPL, and that resulted in a rather blatant cover-up of the technical facts surrounding its interference potential. Both BPL and Amateur Radio would be better off had the FCC dealt with the interference potential in an honest and forthright manner at the outset. Now there is an opportunity to finally establish some rules that will allow BPL to proceed, if it can in configurations that don't expose licensed radio services to preclusive interference in the HF bands."* [ARRL General Counsel.] The US Court of Appeals recently found for ARRL regarding BPL interference, agreeing with the ARRL on several major points of its yearlong suit.

### AMATEUR RADIO SPECIAL EVENT STATIONS FOR THE 2008 BEIJING OLYMPIC

GAMES are now on the air. They began operating May 18th with five special event calls representing the five rings of the Olympic flag: BT1OB, BT1OJ, BT1OH, BT1OY and BT1ON [the last letter of the callsign corresponds to the color of each of the rings of the Olympic flag]. BA4EG will be the QSL manager for all stations. QSL's can be sent either direct or via the bureau and will begin to be answered in October. The website includes an online log search, a QSL card receive and sent status.[www.bj2008ses.com.cn](http://www.bj2008ses.com.cn).

### EMERGENCY COMMUNICATIONS LIBRARY CD IS NOW BEING PUBLISHED BY

ARRL. The CD has information and software 'that every emergency communicator should have on hand'. Included are documents and presentations on emergency communications operations, ARRL Field Resource Manual and Public Service Communications manuals, software for APORS and Winlink and a copy of the Bob Doherty, K1VV, Simulated Emergency Test movie. [www.arrl.org/shop](http://www.arrl.org/shop)

WESTERN PACIFIC RAILROAD MUSEUM AT PORTOLA ,CALIFORNIA WILL FEAT-  
TURE AMATEUR RADIO. [www.wplives.org](http://www.wplives.org) Cont 'd page 12



## GGREC UPCOMING EVENT LIST

| EVENT         | DETAILS  |
|---------------|--|
| July 04       | Friday Prac Night at the Club Shack  |
| July 18       | 3rd Friday General Meeting<br>Talk on Solar Power for the home by Shane Clayton. |
| July 19       | GGREC HAMFEST SALE at Cranbourne   |
| July 28       | Committee meeting at Club Shack  |
| August 16 -17 | Remembrance Day Contest weekend  |

## HAMFEST JULY 19 LATE FINAL EXTRA!!

See me on arrival at the hall and I will find a job for you. We need helpers to set up the tables at 7.30am as the doors open to sellers at 8am. We also need helpers to man the seller doors between roughly 8 and 10am. When the doors open to the public, you can relax until pack up time. You may get to walk around in a bright fluorescent vest to make you feel important but you will still be asked to pay the \$6 entry fee. Only those who pay will be eligible to win door prizes. But I am sure the kitchen staff will reward you with a free sausage or burger! Thank you to all who help to make it a great day. *Albert VK3BQO*

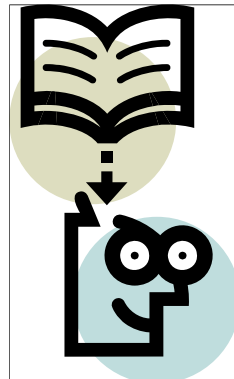
## HOW TO COOK A HAM

### INGREDIENTS:

- 1 HAM FULLY SEASONED, (TECH, GENERAL OR HIGHER)
- 1 PARABOLIC REFLECTOR (100FT DIAMETER)
- 1 MEGAWATT TRANSMITTER
- 1 FCC (EXPERIMENTAL PERMIT)
- 1 POUND BROWN SUGAR

### PROCEDURE:

PLACE HAM INTO MAIN LOBE OF DISH  
COVER WITH BROWN SUGAR...MOVE BACK  
TUNE TRANSMITTER TO 100GHZ CW,  
APPLY FULL POWER UNTIL EYES OF HAM  
START GLOWING GREEN....OR ANY OTHER  
COLOR FOR THAT MATTER.....  
CONTINUE ROASTING UNTIL HE YELLS..... I'M QRT!



## PROFILE

Albert Hubbard VK3BQO

“I suppose my greatest love affair with a radio would have to be with my FT101z. I still have it and it still works fine. ”



Born in the early 1950's I grew up with this new thing called TV. As it evolved, I wanted to know more about how it worked and so started my fascination with electronics and transmitters. I remember my first electronic project was a 3V fan made using a block of wood with the battery compartments carved into it and the motor clamped to one end of the block, with an icy pole stick as the fan blade. I was 13 at the time. It had a switch, batteries and a load which taught me the basics of electricity so much so that I showed my father how the switch was wired so he could get a light switch to work in one room of our house. I was quite proud of myself although I was not aware of the dangers of 240V at that age.

I continued to play around with small circuits until I went to a JOTA, Jamboree of the Air, when I was 15. That really got my blood circulating and so began an association with Bob Kidgell VK3AUK, the operator for JOTA that year. His gear was all home brew AM equipment using valves of course and I could see no reason why I could not have the same. He lent me his copy of the ARRL Handbook to study with, but I soon realised I needed my own copy along with the RSGB Manual. Every spare moment went into studying for the ticket while Bob and I designed an All Band Superhet receiver for my shack (using valves of course). The receiver was completed well before I finally received my licence in 1972 as a limited call. I could not quite get that Morse Code stuff. (I still can't). In those days, the exam was multi choice questions not multi choice answers.

My interest in Amateur Radio certainly pointed me to a career in the "Post Master General's" department or PMG which for those that are

## PROFILE CONT'D

Albert Hubbard VK3BQO

too young to remember was our Australia Post, Telstra and ACMA rolled into one.

I wanted a career in the Radio Branch but was unhappily allocated to the Telephone Installation area. Luckily this has proven to be the best thing as I now run my own business in telephone system sales and installation. During my working career, my thirst for knowledge led me to several tertiary education courses in electronics, IT and the internet. These have all helped in my business and amateur radio.

My personal life has always revolved around amateur radio.

The first club I joined was FAMPARC which enthused me with its field operations and friendly and knowledgeable members. However a new club had formed which was closer to my home in Springvale.

The GGRC as it was known then met in Dandenong and I dropped in one night to be greeted by a very sociable bunch of people all around my age with similar interests. I was sold. That was back in 1978. Yes that makes me an old timer and proud of it.

After gaining my full call, I spent less time using the radios and more time experimenting with them. So I spent many hours building electronic gadgets and modifying radios.

I suppose my greatest love affair with a radio would have to be with my FT101z. I still have it and it still works fine. I suppose that is why I own predominantly Yaesu gear but that is not to say that other brands are no good. I have a healthy respect for all manufacturers and models but I think it is like Ford or Holden, you sort of stick to one or the other. My latest acquisitions are an FT897, FT8800 plus, FT8900. I am lucky enough to be situated 140m ASL so a single stage tower with TH6 and associated VHF / UHF antennas serves me well.

I love playing with anything that requires soldering or programming but my work unfortunately prevents me from spending lots of hours at the test bench. I value most greatly the friendships that I have made via amateur radio and never want to see the hobby die due to the internet or mobile phones or anything else that others may think makes it redundant. Long live amateur radio!

*73s Albert VK3BQO*

From page 5 **The Story of My Electric Car Project** Cont'd

of the motor and are held in place using socket head cap screws.

Other EV builders have told me that the clutch isn't really needed as typically the car stays in third gear most of the time.

Petrol and diesel engines produce their narrow band of torque at relatively high engine revs. An electric motor will produce maximum torque from zero revs (stall) up to the motor's rated RPM which in the case of mine is 5500 RPM so gears are not really required.

I will keep my gearbox because it is a major component that includes the engine mounts, differential and drive shafts. It's also needed for the high ratio reverse gear to keep reverse speed down.

It is possible in the case of a front engine/rear wheel drive car to remove the gear box altogether and couple the propeller shaft direct to the electric motor for a substantial weight saving.

In this case, reverse relays and some form of speed limiting would be required, otherwise the vehicle would be capable of traveling just as fast in reverse as it would in forward motion and many EVs not running a gearbox are capable of 160 kph plus.

I prefer to buy the components I need through local importers. It might seem a bit more expensive but you know where you stand with duties, taxes & freight costs etc.

There is several months wait for some motors due to high demand in America. In the case of my motor the local importer had a few in stock.

Unfortunately converting a modern car to electric power is very expensive because specialized component volumes are low and are usually made in high labor cost countries. However the rising price of oil combined with the threat of peak oil and climate change is making the cost of conversion more viable and the idea more appealing, particularly to the home converter. The story continues.....*Geoff Clifton VK3 HGG*

**NEWS FROM THE WEB** *Continued from page 8*

**CHINESE AMATEUR RADIO OPERATORS PROVIDED INFORMATION**

**FROM THE CENTER OF THE RECENT EARTHQUAKE** . This included an

HF link for the Red Cross from the disaster area back to Beijing. BY8AA continuously coordinated VHF and UHF communications for a 100 km radius from the capital of Sichuan. Additional repeaters were set up in two other cities that were among the worst hit areas outside the epicenter.

## Brucellosis, and the reason why no one under 30 has ever heard of it!

*By Graeme Brown VK3BXG*

In the late sixties our biggest buyer of beef was that great land in the North East Pacific (and I don't mean Canada). Amongst many other things they told the world was that by the 1990's they would be free of Brucellosis in cattle, and that they would not buy beef from any country which still had it - the usual trade barrier tactic. At the time they also tried to imply that perhaps blood or meat could carry the disease but this was never proved.

What was well known at the time was that this disease a bacteria, caused undulant fever in people (not to be confused with glandular fever) and it caused cows to lose their calf at about six months of pregnancy.

People usually caught it by drinking milk from cows which had the disease or in the case of those who worked with cattle, the usual urine splashing or attending to cows that had aborted a calf.

The disease in people caused recurring fever which waxed and waned over a six week period hence the term "undulant fever". This could occur for months, sometimes years but there are no recorded direct deaths from the disease, however I do know of heart-attacks in a couple of relatively young men and a suicide because of it.

By 1970 a national programme to eradicate the disease from all cattle in Australia was underway. (After all they reasoned if you clean up the disease in cattle then no humans will catch it). The authority responsible was each state or territory's Department of Agriculture or Primary Industries to administer the programme.

The first stage was to vaccinate all female calves between the ages of three to nine months over the next ten years. The vaccine was a "live" vaccine and gave the heifers a dose of the disease so that their own immune system would protect them against further infection; nevertheless it did not stop some from getting the disease though it did stop the majority of those from losing a calf. But because the vaccine was "live" it was considered dangerous and could only be administered by authorised personnel - that is a veterinary surgeon, but many a vet gave themselves a dose of Brucellosis from a jab or a scratch from a vaccine laden needle.

*Continued over*

*Continued from previous page* **Brucellosis Explained**

By the late seventies the next stage was underway with the aim to blood-test every cow and bull in the state, in fact the whole country for the disease. Bulls could also catch it, but there was no record of them passing it on; but still better to be sure than sorry.

In Victoria at the time it was the Department of Agriculture (Vic.) which was the responsible authority for the programme's administration and so fit energetic people were employed and trained in the art of collecting blood samples from cattle. The samples were taken from under the tail - square-on and well up towards the thicker business end, and using the newly developed "vacutainer"- the rubber stoppered 10ml tube with a vacuum. [It is interesting to note that we were using these on cattle at least ten years before they appeared in doctors' pathology clinics!]

Before long a healthy competition developed amongst the operators as to the number of cows they could bleed in an hour or a day in good facilities. And like riding a bike you never forget how it is done and even after twenty years I can still manage the rate of one per minute in good facilities. Anyway these blood samples, labelled with the animal's identification were then sent to a Veterinary Pathology Laboratory established for the purpose and the samples analysed. Any animal that gave a positive reaction was removed from the farm under compensation - well that was the theory and that was my job.

The end of the road for these reactors was the abattoir, usually for export trade - with the vast majority probably going off to made into hamburgers in the great land to the North-East across the Pacific. Ironic isn't it.

In 1982 all vaccination stopped and by 1985 the last of the infected herds were cleaned out, literally; with the last few herds totally depopulated - ie wiped out. There were no more cases, and after seven years by 1992 it was considered all over and by 1997 there was no doubt it was all over.

And what has this got to do with amateur radio? Well for twenty years it paid my wages which financed the hobby, if that helps.

The experience no doubt had its amusements. I remember one occasion I arrived to help at a dairy where the cows were to be lined up in a long race under a shelter. Now as any experienced stock -man or -woman knows, anything that puts cows out of routine causes them to get the "runs" and all becomes quite messy.

So it was in this case that a young wife, in her early 20's who was going to record all the cows' numbers for us, came in carrying a very large sturdy cardboard box. "Here, will you take him," she said to her husband as she lifted the box over the \_top\_ of the cows and over the \_top\_ of the race. The young man took the box and placed it in a corner beside us. "What's in that?" I said. "A kid," was her reply. Taking it quite literally and expecting just that - a goat, I lifted the lids of the box to take a look. "Oh! It's a baby" was my startled reply, looking at this little baby looking back at me all snugly wrapped up in his blanket. "Why have you got him in there?" I asked. "So he doesn't get covered in cow s---" was her reply. She certainly proved to be right.

*Graeme Brown VK3BXG*

## GENERAL MEETING MINUTES JUNE 2008

**Date:** 20 June 2008

**Start time:** 8:00 PM.

**Location:** Guide Hall Cranbourne.

**Chairperson:** Ian Jackson VK3BUF

**Minute Taker:** Phil Pavey VK3YB

**Present:** As per sheet

**Visitors and Guests:** Ray VK3CEO

**Apologies:** Chris VK3QB, Ross VK3ZAP, Ron VK3EXJ & Jenny, Noel VK3CJJ, Ian VK3KSZ and Val, Bruno VK3BFT, Russ White VK3MWR

**Correspondence Received:** Nil

**Correspondence Sent:** Nil

**Treasurer's Report:** as tabled. **Read by:** Albert VK3BQO **Moved By:** Helmut VK3DHI **Seconded By:** Geoff VK3ZGW **Carried:** Yes

**Income:** \$545, **Expenditure:** \$732.95, **Balance** (i.e. net income for month): \$187.95 **TOTAL** = \$6310 exactly

**New Call signs:** Mark Glickman VK3FMKG, Rob Simpson VK3FACL

**Previous Minutes:** As per Phil's emailed minutes. Accepted by all.

**Business Arising from Previous Minutes:** as per magazine... moved Mike VK3KTO, seconded Brian VK3NBS.

### **Business Arising**

Albert reported on the projector. Got a free screen!

Mid year dinner happened. 39 attendees. Featured a quiz.

Hamfest – 10 tables left... now 9 left... Food planning meeting in shack this coming Monday 23<sup>rd</sup> June 7pm.

Foundation course did not proceed due to only one starter. Discussion took place on why we are not getting participants. Ian moved the idea of a regular "open day" / publicity about the general meeting.

RFID system has been replaced on shack and is working well

Next month's general meeting will be Shane Clayton talking on home solar power systems and how you can put power back into the grid.

We have some VK3BJA cards printed. A few more to be run off.

Club magazine. Some magazines still en-route....

Albert has callbooks for sale - \$23 each.

Foundation Course books \$15.

Steve VK3EGD donated the registration of domain name (www.ggrec.org.au). Thanks Steve!

**New Business:** Nil

**Next Committee Meeting:** 30 June **Next Prac Night** 4 July

**Next General Meeting :** 18 July

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