



## ENERGISE MARGARET RIVER

### COMMUNITY SURVEY REPORT

Augusta Margaret River Clean Community Energy and Transition Margaret River conducted a community survey as part of their **Energise Margaret River** project supported by funding from the Augusta Margaret River Shire Council. The aim of the project is to improve energy conservation and promote renewable energy through a community education and training program with benefits for householders and our environment.

The survey aimed to ensure that information workshops and community events conducted by Energise Margaret River meet the needs of our local community and address their concerns.

The survey was conducted between 31 May and 31 August 2018 through the SurveyMonkey platform and was able to be filled online and on a hardcopy form. There were a total of 30 questions (25 hard copy version as some questions were conflated in this version) obtaining demographic information and information on energy use, appliances and renewables.

The survey was widely publicised. It was advertised through the Transition Margaret River mail out which goes to 600 contacts, the AMRCCE mailing list to about 300 members and interested parties, and the Margaret River High School mailing list which goes to the parents/guardians of their 1000+ students. It was circulated through social media on the Facebook page of both organisations and through the Margaret River Community Notice Board. It was also advertised by the AMRSC and at a variety of relevant community events conducted by the above organisations. There were two media stories on the survey in our local newspapers.

Nine hard copy and 150 online responses were received by end of August making a total of 163 responses. The table below provides a breakdown of the age group of responders.

#### **Demographics**

As the table below shows, the responders were heavily skewed in favour of older members of the shire's population. This could be a reflection of the age of the membership of the groups associated with the survey and/or the fact that younger people may not see the survey as relevant to their circumstances if they are sharing or renting accommodation. In any case, there was a sufficient spread across the ages from 30+ year olds as to be meaningful to say that the results reflect the views of those above 30 years of age.

AGE GROUP	NUMBER	PERCENTAGE	COMP TO % IN AMR POPULATION
<30	4	2.5	35.3
30-39	20	12.3	15.8
40-49	40	24.5	15.8
50-59	27	16.6	13.4
60-69	39	24	12.0
>70	32	19.6	7.7

By far most of the responders lived in a house (61%). The next largest group lived in a rural property 30%. A small percentage (5.6%) of responders indicated they lived in a Flat/Townhouse/Duplex/Granny Flat/Studio and an even smaller percentage (3.1%) said “other” but failed to specify what this was.

Most responders indicated they owned their home outright 58.6%. Almost a quarter (22.9%) said they were buying their property while the remainder were renting or had another unspecified arrangement. One speculation is that the large proportion of responders owning their own home reflects the overrepresentation of an older cohort amongst responders.

In terms of household size, most respondents (37%) indicated that there were two people in their household and this group is slightly over represented among respondents. However, there is a reasonable spread of household sizes among respondents to make their responses meaningful across the board. The table below sets out their responses comparing them to the shire population.

Number of people in household	NUMBER	PERCENTAGE	COMP TO % IN AMR POPULATION
1	21	13	10.2
2	60	37	29.1
3	29	17.9	19.2
4	34	21	24.7
5	15	9.3	12.6
>5	3	1.9	4.1
TOTAL	158		







The responders were well distributed across the shire. The largest group of respondents (56.3%) indicated that they live in Margaret River. However, there were respondents from all the major areas including Augusta (4.4%), Burnside (4.4%) Cowaramup (5.6%), Gnarabup (5%), Forest Grove (3.1%), Osmington (3.8%), Redgate (3.1%), Rosa Brook (3.1%) and Witchcliffe (2.5%).

### Energy Consumption Index

In terms of the energy consumed the survey asked for respondents to rely on the information on their energy bill which provides daily consumption information in the way of “units” where each “unit” is equivalent to 1kWH. Responses varied greatly from zero to tens of thousands of units. A total of 136 respondents out of the 163 answered this question. There were a few respondents that were unable to answer this question and a couple that answered qualitatively, with answers such as “minimal” or “a lot”. The only way to make sense of the information provided is by grouping it into meaningful groups. The survey indicated that 4 respondents were self-sufficient using no energy from the grid at all. Twelve respondents indicated their usage was from 240 units to 2000 units

with one respondent stating they used 117,903 units. We can only assume that these figures include energy consumed for agricultural/industrial purposes rather than for residential purposes. For this reason, they have been excluded from the analysis below.

Units/kWh	0	<5	5-10	10-15	15-16	17-20	20-30	>30
Number/%	4/3.2%	17/13.5%	38/30.2%	19/15.1%	12/9.5%	15/11.9%	13/10.3%	8/6.3%
Median	0	3.8	7	11	15.5	17.9	21.8	36.4
Mean	0	3.5	7.2	11.5	15.5	17.9	23	37

Household size without swimming pool	Average daily consumption benchmark (kWh)
	12.30
	15.40
	18.40
	21.50
	24.50
	27.60

Graph Sourced from Energy Australia <https://www.lgenenergy.com.au/faq/buying-a-solar-system/what-is-the-consumption-in-kw-h-for-a-typical-australian-home>

Using the above information from Energy Australia as a guide, the people responding to the survey used considerably less energy than the average consumption benchmark. That benchmark indicates that the average consumption for households of one person is 12.3 units daily. 13% of respondents said they lived alone but almost half (48%) of those surveyed indicated they used less than that. Half of the respondents (50%) lived in households of 1 or 2 people yet 63.4% of respondents consumed less than the average of the benchmark for households of one or two people.

According to the benchmark, households of 4 people consume 21.5

### Assistance

These results are consistent with the answer to the next question where the majority of respondents 67.3% indicated that they did not need assistance to reduce their electricity consumption.

units of electricity daily but only 10.6% of respondents consumed between 20 and 30 units yet 21% of the households surveyed consisted of 4 people.

According to Synergy (Energy Comparisons by Suburb) the average energy consumed daily by households in Margaret River is 15.69 units but almost three quarters of respondents (73.2%) consumption was below that number of units (0-16 units). In fact, the average daily consumption across the sample was 12.69 units, which is 20% less than the average for Margaret River and is the actual target for energy consumption saving by the community in the Local Energy Action Plan (LEAP).

The above findings can be explained by the overrepresentation of people who have solar PV in the sample as the number of units in the energy bill is the net consumption from the grid after deduction of the energy produced by the PV system. See data below which indicates that the survey sample had double the proportion of people with solar PVs than is the case in the shire of Augusta Margaret River. Also, it is quite likely that self-selection amongst respondents could have led to an overrepresentation of respondents who are already environmentally aware and using energy reduction strategies.

Nonetheless, a third of the population (32.7%) of respondents indicated that they would need assistance. In terms of the assistance wanted, they wished for assistance with:

- general information on reducing energy consumption/appliances
- dealing with shade/fluctuations in winter/alternatives to solar
- retro-fitting alternatives and access to financial assistance for this
- heating alternatives
- information on PVs and batteries, choice, cost, cost/benefit, etc...

The majority of respondents (51%) indicated a website would be most useful for assistance but close to a quarter (21.8%) preferred a workshop while 17.4% wanted printed information. A few others said a combination of the above means would be useful.

The great majority of respondents (58.3%) said they would not be interested in an audit for their home energy consumption but the remainder (41.7%) were interested.

When taken together, the above statistics suggest that the population seems to be split into those who are able and knowledgeable on how to manage their electricity consumption and those who are not and could benefit from information.

### **Appliances Used**

In terms of appliances for water heating, the largest percentage of respondents (35.2%) indicated they used solar roof top water heating. When these responses are added to those using solar heat pump (8%) and those who answered “other”, and indicated that they used an electric heat pump or other renewable source, they indicate that almost half of the respondents (48.5%) are using a renewable means of accessing hot water. The great majority of respondents (85%) indicated that if they should need to replace their water heating they would choose a renewable system with solar roof top being the preferred (50.3%) system.

Woodfire was by far the largest (74.2%) means of heating. Under 2% used a heat pump and just under 10% used gas for heating. The remainder used electricity or air conditioners for heating purposes. However, when asked what they would choose to replace their heating, nearly one fifth (18.8%) of respondents indicated they would choose a heat pump and those wishing to rely on woodfires decreased to 65.8%.

By far the most common (73.6%) means of cooking was gas although electricity was also widely used (44.2%) with a small proportion (14.7%) indicating they used electric induction for cooking. A small percentage (6.8%) indicated they used a woodfire. The figures above suggest that many respondents are using dual fuel sources for cooking. Gas was still the preferred means of cooking (68.2%) when respondents were asked what they would choose next time they purchased a cooking appliance. Those wishing to rely on induction cooking doubled (31.2%) and those indicating they would choose woodfire reduced slightly to under 5%.

The reasons influencing the decisions as to choice of appliances for heating water, space heating and cooking were multifactorial with environmental reasons (68.5%)

mentioned by most respondents together with energy rating and cost savings mentioned by the majority of people. Convenience was mentioned by 47.5% of respondents as a reason while 11.1% had particular reasons for their choice ranging from an inability to choose due to being tenants, house not suitable for induction cooking, and age necessitating ease of use, as some of the reasons for choosing one appliance over another.

## Renewables

More than a third of the respondents (35.2%) had photovoltaic energy at home. This indicates that the surveyed population included a disproportionate number of those people in the shire who have solar photovoltaic systems. According to the Australian PV Institute, only 17.5% of dwellings in the Augusta Margaret River Shire have PV systems (<http://pv-map.apvi.org.au/historical#6/-32.880/115.620>). As indicated above, the sample has a very large proportion of respondents who owned their home outright making it more likely that this group be the kind of group that is willing and able to make the investment of a PV system.

The great majority of the respondents had small PV systems below 5kw. Of the 51 respondents that provided information on the size of their system, 31 had a system of between 3-5kw, 15 had a system of below 3 kw, 2 had a system of between 5-10kw and 3 people had systems of more than 10kw. This is consistent with data that indicates that the size of the average PV system in WA in 2015 was 4.5kW in 2015 (<https://www.solarchoice.net.au/blog/news/average-australian-solar-system-size-up-to-5kw-sunwiz-080715>). Six (6) respondents indicated they had batteries for storing energy at home.

Most people indicated they relied on a solar company (49.4%) or a friend (29.6%) when making a decision regarding photovoltaic and/or storage battery information. Less than 10% of respondents relied on information from school/university, Western Power, Plumber and television.

Most people who had solar hot water systems or solar PVs and storage batteries were either satisfied or extremely satisfied with their systems.

50.3% of respondents indicated that they would intend to buy solar PV. They gave a range of reasons for doing so including environmental and economic reasons. While a few had moderate expectations of savings from a PV system most people intending to buy them were hoping for a saving of 50% from their bill.

Those people indicating they were not intending to buy solar PVs (41.1%) were concerned with their cost and not saving enough money by purchasing them. A considerable number of those answering this question were tenants, a few answered that they lived in a shady environment and another few that they were too old to make it economically viable for them.

43.5% of respondents indicated an interest in buying storage batteries at some future date. A large reason (over 74.7%) for doing so was increasing independence from the grid and saving money in the long term. Environmental considerations were very important accounting for around 50% of the reasons for considering such a

purchase. Those considering buying storage batteries expected that by doing so they would be able to save more than half of their electricity cost and many wished to be self-sufficient saving 100% of their electricity.

Those people who were not considering purchasing storage batteries divided into two groups: those who thought it was too expensive (at least at present) and those who were unsure of the technology or they did not trust the technology as it was too new. A considerable number of those answering this question were tenants.

As to the major barriers to the uptake of energy conservation technology/renewable energy, the respondents were generally (86%) of the view that cost was the major barrier with lack of information and lack of confidence being other important barriers. Others cited lack of confidence with government arrangements in relation to rebates on renewables, shade and technical problems and the issue of being tenants and no agreed way to share benefits between owners and tenants.

## **Comments**

Other suggestions/comments included:

- need to provide assistance to those on lower incomes
- reducing cost of renewables through bulk purchase
- more information for people including on storage batteries
- that renewables be mandatory for new homes
- need to encourage electric vehicles
- wanting access to wind power
- problem with shading and bad weather
- lack of trust on renewables
- that this was not an area for local government to be involved in.

## **Conclusions**

From the viewpoint of implementing Energise Margaret River August-December 2018, the survey has confirmed our approach and allowed refinement of planning for information to be provided at the Fair Harvest Expo.

A fundamental principle of environmental education is the AT-TO – where is our target audience ‘at’ and where do we want to take them ‘to’ (outcome)? Increased awareness? Attitudinal change? Behaviour change? (See attachment).

As may be expected for a survey that depends on people choosing to commit to answering the questions, as distinct from a purely random sample, the results are skewed towards people who already have some interest and information. They tend to be people who own their own home, have below-average power use and above-average ownership of solar panels and solar HWS. Some do not require further information to save energy.

However, some people did feel that they need more information and gave us some indication of the topics, for example greater solar PV literacy and more information on storage batteries.

Our strategy with this group in our community would be to take them from 'interest and some information' to further behaviour change, using **interactive** communication methods in the **community involvement** sector. Provision of community workshops, Library training sessions on use of energy monitoring equipment, and the plan for technical experts to answer questions and demonstrate technology at the Expo are therefore relevant.

It is interesting that uncertainty about technology or cost-benefit is a barrier to uptake of renewables. At the same time, most people who had solar hot water systems or solar PVs and storage batteries were either satisfied or extremely satisfied with their systems. This would suggest that inviting solar-owners who are willing to share their experience may be a powerful communication strategy.

For those in the survey who are less informed, and the wider community in general, information linked to a 'hook' such as the pedal-power activity planned for 8 September (Organic Garden), Sustainability Pavilion and the Expo, are suitable.

Some of the feedback from the survey is useful input for the Augusta Margaret River Shire' LEAP and Scheme review, for example:

- some groups are excluded from renewables;
- cost is a barrier to renewables for those on lower incomes;
- older community members perceive they don't have enough time to realise the cost benefit of purchasing renewables;
- a need for tenancy agreements to allow sharing benefit of renewables between owners and tenants and work towards incentivizing rental property owners into putting PV on their rental properties to ensure those renting are not excluded from having access to renewables;
- reducing cost of renewables through bulk purchase;
- the need to explore the benefits of battery systems through pilot(s);
- that renewables and/or energy efficient appliances be mandatory for new homes;
- people want general information on reducing energy consumption; dealing with shade/fluctuations in winter/alternatives to solar; retro-fitting alternatives and access to financial assistance for this; heating alternatives; information on PVs and batteries, choice, cost, cost/benefit, etc

Some 51% prefer a website as a source, and environmental issues and cost are high priorities. Upgrading the Sustainability advice on the Shire website and advertising this in a framework of cost and environmental benefit, with web links to more technical information and local services, may be a cost-effective response.

The relatively large number (41.7%) interested in a home audit suggests this may be a good strategy at a later date. In terms of the current Energise project it is hoped that the Energy Saving Workshops and the demonstrations and equipment to be left at the Library will allow a at least a percentage of people to do their own audit.

# ATTACHMENT

## Communication model

