



Benalla Sustainable Future Group

Newsletter 13

February 2016

Benalla Sustainable
Future Group Inc.

PO Box 642

Benalla 3672

Next Meeting

Our next General Meeting will be held on

Thursday February 25th at 7.30pm
in the Uniting Church Meeting Room
opposite the Coles Car Park,
Carrier Street Benalla

Our Guest Speaker will be Martina Rienzner who is Hume Region Strategic Coordinator for Statewide Engagement for Sustainability Victoria.

Martina will talk about the role of Sustainability Victoria and how it has changed under the current state government as well as Sustainability Victoria's role in relation to taking/encouraging action on climate change.

She will also report on the outcomes of the regional climate change forums that were held around Victoria.

<http://www.sustainability.vic.gov.au/services-and-advice/community/climate-change-community>

We look forward to seeing you at the meeting which will be followed by a light supper.



Memberships

A reminder that memberships are due for renewal.

You can renew at the General Meeting or go to our website to download our membership form which includes instructions on making a payment:

<http://www.bsfg.org.au/join.html>.

President's Column

What did you do once you knew?

Over the holiday period I read Bob Brown's book '*Optimism - Reflections on a life of action*'. One chapter I found of particular interest was titled 'The new religion'.

Bob opens this chapter by saying, "Modern materialism has sanctified using 120 percent of Earth's renewable living resources. That's why most of the world's fisheries are collapsing, there are fewer forests every day and the rate of extinction of life on Earth is the fastest since an asteroid struck the planet and the dinosaurs were eliminated 65 million years ago."

Bob argues that Materialism is the prevailing religion of the world. It is the motivator of nations and adores greater consumption. Materialism worships the god Growth and the high priests of Materialism warn that nothing so dreadful awaits us as the anti-Growth of an economic downturn.

However, Earth's resources, living or not, are all it will ever have and Bob wonders how the priests and scribes of Materialism think they will get ever more consumption from a finite storehouse. Common sense requires that *Homo sapiens* live within Earth's means.

"We have to tighten our belts, treat and empower everyone as equal, and respect the people and our fellow creatures who will breathe Earth's air in the future, as we respect ourselves. This will require a revolution in global culture, an exit from the worship of Materialism."

Bob closes this chapter with part of the poem 'Hieroglyphic Stairway' by the post-Materialism poet Drew Dillinger - see next page.

"Earth provides enough to satisfy every man's need, but not every man's greed." - Mahatma Gandhi

*It's 3:23 in the morning
and I'm awake
because my great great grandchildren
won't let me sleep
my great great grandchildren
ask me in dreams
what did you do while the planet was plundered?
what did you do when the earth was unravelling?
surely you did something
when the seasons started failing?
as the mammals, reptiles and birds were all dying?
did you fill the streets with protest
when democracy was stolen?
what did you do
once
you
knew?*

I found this a very powerful poem and those last seven words convey a sense of urgency about leaving the planet in a better condition for future generations, including **our** great great grandchildren. I think this is a question we should all give some thought to. *What did we do once we knew?*

Benalla Sustainable Future Group was established in response to a similar question, "What can we do about climate change?" The BSFG Statement of Purpose which can be found at www.bsfg.org.au/about.html outlines the primary purpose of BSFG as 'promoting sustainable living practices and development within the Benalla region so that the needs of the present can be met without compromising the resources available to future generations'.

The statement includes a number of specific aims about developing and implementing a sustainable vision for the Benalla region and then lists a number of strategies to help BSFG achieve those aims.

So some of us could answer our great great grandchildren by saying, "We established Benalla Sustainable Future Group", while others could say "We joined Benalla Sustainable Future Group." But is this enough?

What is BSFG doing to achieve those aims set out in the Statement of Purpose? Maybe I need to personalise the question and ask each member to ask themselves, "What am I doing to help BSFG achieve its aims? Am I doing enough for my great great grandchildren?"

Like any action group BSFG needs people to step up and say I am prepared to give some of my time to help the group achieve its aims. Groups often rely on committees to carry out the functions of the group but committee members can't do everything. Ordinary members are needed to help with many functions. From a BSFG perspective there are a number of action groups which need members to help with the group's activities.

One of those in particular is the Plastic Bag Action Group. We have been talking about working towards making Benalla a 'plastic bag free town' for a number of years but unfortunately have been unable to make

much, if any, progress. While it is called the Plastic Bag Action Group there are no group members and it has been left to a committee member to promote the idea.

This has not worked and we urgently need two or three (or more) people to become part of the action group and help to develop a plan to have Benalla move towards becoming a plastic bag free town. Many towns around Australia have done this and we can learn from their experiences and adapt one or more of the models that are out there.

Can I stress that this is an urgent need and encourage members to volunteer to help BSFG achieve this important objective. Please email or phone me if you are able to help. Contact details at end of newsletter.

Community Energy for Benalla?

A small working group of three people has been doing some preliminary investigation about the possibility of establishing a community owned renewable energy project in Benalla.

We have had meetings with some Benalla Rural City councillors as well as senior management and attended workshops about the New Energy Jobs Fund, which is where the money to support community projects will come from. Useful contacts have been made with individuals and groups involved in community energy projects. We are investigating a number of possible projects and at some time in the future will be holding a community meeting to seek wider support for a community owned renewable energy project.

I would like to point out that this is also an action group that would benefit from an extra member or two.

Greg Hunt - 'best minister in the world' ???

I expect the reaction of most readers of this newsletter upon hearing this news was exactly the same as mine - I was absolutely speechless! Apparently a media company selected the candidates and judging panel for the award. One wonders what criteria and information the judging panel relied on. I think Tandberg sums up this award very well in the following cartoons.

John Lloyd



The Age 11/2/2016



CSIRO changes raise health concerns

Much has been said about the proposed cuts to the CSIRO's climate researchers and now health groups are expressing concern. Michael Moore, CEO of Australia's peak public health body, the Public Health Association of Australia (PHAA) says that CSIRO's science is absolutely critical to the health of Australia.

"The proposed cuts to CSIRO will mean our national capacity to understand health issues related to climate science will be under threat. Australia's natural climate is hot and highly fire prone, with the world's most variable rainfall. This raises questions that have not yet been fully understood, on how these global changes will impact on health issues such as infectious disease vectors and general health, human migration and heat response planning. Changes in how crops and livestock will grow and behave, for example, require an ability to research changes needed in agriculture, the protection of natural systems and the impact it will have on maintaining a healthy Australian population."

Review of Victoria's Climate Change Act

An independent, expert review of the Victorian Climate Change Act was recently released and Environment Victoria says it paves the way for the State Government to adopt a nation-leading agenda to reduce greenhouse pollution and prepare for the impacts of climate change. Following is part of the media release from Mark Wakeham, CEO of Environment Victoria.

"This review is a landmark report which builds a strong case for Victorian leadership to reduce emissions in the state's interest. Now current and future Victorian governments have the green light and a clear agenda for moving swiftly to cut carbon pollution to zero in all sectors of our economy, and to prepare for the impacts of climate change."

"Climate change is already harming Victorian communities, businesses and our environment. We're already seeing increased risk of bushfires and more frequent droughts, and the Victorian government now must get on with the job of implementing the findings of this report. Environment Victoria welcomes key recommendations on:

- Setting short-term and long-term emissions reduction targets
- Creating a Climate Change Charter in Victoria's Climate Change Act

- Strengthening the legislative framework to ensure that climate change is a key consideration in decisions right across government
- Increasing the powers of the Environment Protection Authority (EPA) to regulate for emissions reduction
- Quantifying the impact of climate change on the Victorian economy
- Developing a comprehensive climate change strategy every five years

How the Andrews Government responds to this important review will be a key test of their leadership. We need swift development of the state's strategy on climate change, and in the meantime actions that reduce Victoria's greenhouse pollution must be funded in the upcoming state budget in May."

The review looked at the Victorian Climate Change Act, which was first brought into effect by the Brumby government. It was later amended by the Baillieu government, which removed the state target to cut emissions by 20 per cent against 2000 levels by 2020 following the recommendations of its own review that it would drive no extra national pollution cuts.

Tom Arup reporting in *The Age*, 12/2/2016, says the Andrews government, which commissioned the review, has immediately ruled out setting up a state-based emissions trading system or adopting a "shadow carbon price" on government decisions, which were both floated in the review's recommendations.

On the other proposals the Andrews government has largely kept its powder dry, promising a broader response in the coming few months. "We went to the last election with a commitment to reintroducing an emissions reduction target and ... to put Victoria back as a leader responding to climate change, and this is one of the first steps," Victorian Environment Minister Lisa Neville said following the release of the report.

The editorial in *The Age* on 15/2/2016 says 'State must aim higher on climate action' The editorial argues that because Victoria's energy requirements are so reliant on coal-fired power stations the state should be doing much more to reduce emissions from industry. *The Age* believes Victoria should be at the vanguard of climate change action, and the government should lead the way.... A review of the state's Climate Change Act has proposed legislating a specific target for reducing emissions, and it has recommended the state's Environment Protection Authority regain the power to police greenhouse gas emissions. That enforcement action is essential if emissions targets are to have meaning."

"As well we believe the culture within government, within the bureaucracy, has to change to ensure that every level of decision-making reflects awareness of climate change, irrespective of which political party is in power. **Too much denialism, anti-science, short-term opportunism and sheer laziness has prevailed in recent years at both federal and state government levels,**" (My emphasis)

John Lloyd

2015 - The Hottest Year On Record

The latest report from the Climate Council has revealed that last year was the hottest on record by a huge margin.

Key findings from the report:

1. 2015 was the hottest year on record globally. Climate change was a major factor in driving the record-breaking heat in 2015 worldwide.

The global average temperature for 2015 was 0.90°C above the 20th century average, eclipsing the previous record set in 2014 by 0.16°C.

The record global warmth of 2015 is part of a long-term trend. All of the world's 10 warmest years have occurred since 1998. 2015 is the 39th consecutive year with above-average global temperatures.

2. Climate change is a major factor in extreme heat and fire in Australia.

Averaged across Australia, temperatures for nine of the 12 months of 2015 were above-average.

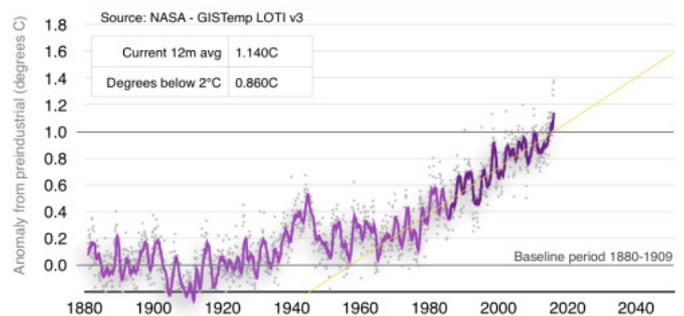
Severe bushfires across Australia over the 2015/2016 summer have been made worse by

climate change, particularly by the extreme hot weather.

3. Temperature records are being smashed across many regions of the world, largely through the influence of climate change.

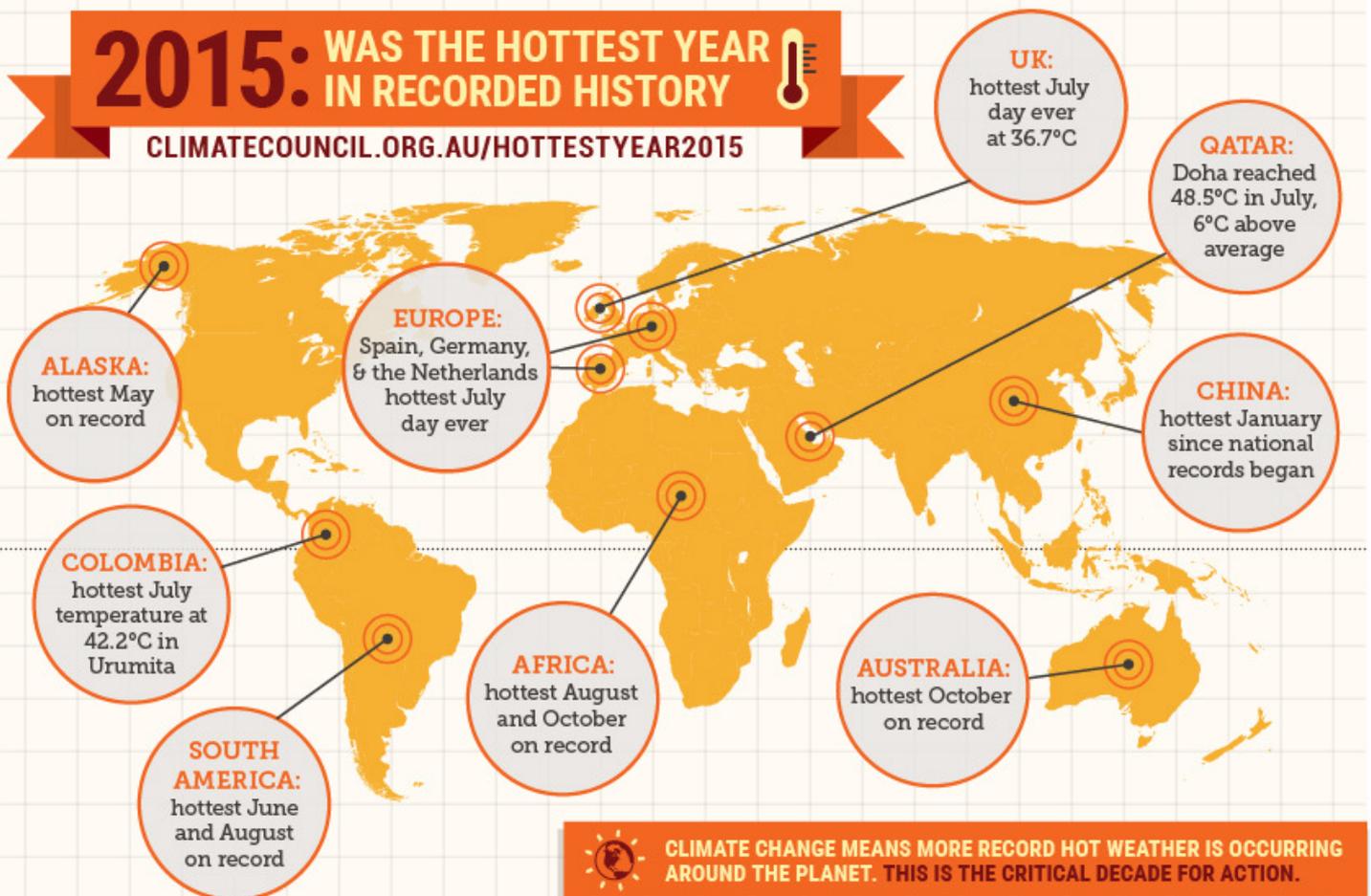
Nine months in 2015 broke global heat records with July 2015 the hottest month ever on Earth since records began in 1850.

The emission of greenhouse gases is driving record global heat. Countries must drastically reduce their emissions from coal, oil and gas to slow and then halt the escalating impacts of extreme heat and severe fires.



2015: WAS THE HOTTEST YEAR IN RECORDED HISTORY

CLIMATECOUNCIL.ORG.AU/HOTTESTYEAR2015



Sources: Al Jazeera 2015b; BoM 2015b; CMA 2015; Met Office 2015; NASA 2015; NOAA 2015b; NOAA 2015f; Statista 2015

CLIMATECOUNCIL.ORG.AU | crowd-funded science information

"We are the first generation to feel the impacts of climate change, and the last generation to be able to do something about it." US President, Barack Obama

Fire numbers point to big climate shift

The number of bushfires in Australia is on the rise - up 40 percent since 2007, local scientists have found. This figure comes from a recently published research paper by scientists from CSIRO and University of Tasmania. These scientists also say the increasing bushfire frequency indicates a major climatic shift. (Tom Arup, *The Age*, 11/2/2016)

The research team studied NASA satellite data from 2007 to 2013 to determine the number of bushfires, to try to develop a system to forecast where they might break out. They estimate that in 2007 Australia had an average 3284 bushfires a week. By 2013 that had risen to 4595. The study states, "In particular, a major increase in bushfire frequencies has been recorded from this data analysis since 2011 (which) indicates a major climatic shift."

Other research has indicated that while summer has always been fire season in Australia, extreme bushfires are happening three times more often than they did a century ago. Every summer, and increasingly every spring, we're frightened by the onset of another bushfire season. Habitats, properties and lives are at stake.

It doesn't help that new research points to 'extreme' blazes - fires that burn more than 100,000 hectares over the course of a week or so - becoming more frequent. A century ago, such conflagrations hit Victoria every 15 years. Since 2000 that interval has shrunk to between one and five years. (*Blueprint for Living*, Radio National, 2/1/2016)

Jason Sharples, Associate Professor at the University of New South Wales in Canberra says that while the best data comes from Victoria, there's good evidence that shows New South Wales and Tasmania are also experiencing an increased incidence of extreme fire.

According to the professor, several factors contribute to extreme fires, but atmospheric stability plays a large role. In a stable atmosphere, we might see weather conditions such as fog or drizzle. On the same day in an unstable atmosphere we might instead experience thunderstorms and turbulence.

Unstable atmospheric conditions mean fire plumes are able to develop higher than they otherwise would, leading to more severe fires at ground level. Unfortunately, climate change means Australia will experience more days of atmospheric instability.

Then there are the extreme weather fronts that give us our classic fire weather days—a hot, north-westerly wind followed by a strong southerly change. Sharples and his colleagues cite research showing these frontal systems will become more frequent and more intense:

'If you put it all together, we're looking at higher fire danger ratings, increases in the frontal systems that drive these extreme events and increases in the number of days of atmospheric instability conducive to fire development. The real implication is you can expect more extreme fires, which is slightly worrying.'

Giant solar plants finished

Solar plants large enough to power the Sydney suburb of Bondi 10 times over have been completed in western NSW.

Constructed by AGL and solar developer First Solar, the plants at Nyngan and Broken Hill will collectively produce 155 megawatts of electricity and power more than 50,000 homes.

The two plants consisting of more than two million solar panels in total, are the largest and second largest solar plants in Australia respectively. Combined they cover 390 hectares of land. The plants were jointly funded by the NSW government and the Australian Renewable Energy Agency (ARENA).

AGL estimate the plants will reduce greenhouse gas emissions by more than 300,000 tonnes of carbon dioxide annually.



The best way to protect us from climate change? Save our ecosystems

In a recent article on **The Conversation**, Tara Martin, Principal Research Scientist with the CSIRO, and James Watson, Associate Professor at The University of Queensland, wrote an article about the importance of intact ecosystems to protect us from climate change.

They say that when we think about adapting to the challenges of climate change, it's tempting to reach for technological solutions such as seeding our oceans and clouds with compounds designed to trigger rain or increase carbon uptake and to consider building grand structures to protect our coastlines from rising sea levels and storm surges.

The authors argue that our focus on these high-tech, heavily engineered solutions is blinding us to a much easier, cheaper, simpler and better solution to adaptation: look after our planet's ecosystems, and they will look after us.

What follows are extracts from the author's article for **The Conversation**:

Biting the hand that feeds us

People are currently engaged in wholesale destruction of the systems that shelter us, clean our water, clean our air, feed us and protect us from extreme weather. Sometimes this destruction is carried out for the purpose of protecting us from the threats posed by climate change.

For example, in Melanesia's low-lying islands, coral reefs are dynamited to provide the raw building materials for seawalls in an attempt to slow the impact of sea-level rise.

In many parts of the world, including Africa, Canada and Australia, drought has led to the opening up of intact forest systems, protected grasslands and prairies for grazing and agriculture. Similarly, the threat of climate change has driven the development of more drought-tolerant crops that can survive climate variability, but these survival abilities also make those plant species more likely to become invasive. On the surface, these might seem like sensible ways to reduce the impacts of climate change. But they are actually likely to contribute to climate change and increase its impact on people.

Sea walls and drought-tolerant crops do have a place in adapting to climate change: if they're sensitive to ecosystems. For example, if storm protection is required on low-lying islands, don't build a seawall from the coral reef that offers the island its only current protection. Bring in the concrete and steel needed to build it.

How ecosystems protect us

Intact coral reefs act as barriers against storm surges, reducing wave energy by an average of 97%. They are also a valuable source of protein that supports local livelihoods.



Similarly, mangroves and seagrass beds provide a buffer zone against storms and reduce wave energy, as well as being a nursery for many of the fish and other marine creatures that our fishing industries are built on.

Intact forests supply a host of valuable ecosystem services that are not only taken for granted, but actively squandered when those forests are decimated by land clearing.

There is now clear evidence that intact forests have a positive influence on both planetary climate and local weather regimes. Forests also provide shelter from extreme weather events, and are home to a host of other valuable ecosystems that are important to human populations as sources of food, medicine and timber. Forests play a key role in capturing, storing and sequestering carbon from the atmosphere, a role that will likely become increasingly important in avoiding the worst of climate change. Yet we continue to decimate forests, woodlands and grasslands.

Northern Australia is home to the largest savannah on earth, containing enormous carbon stores and influencing both local and global climate. Despite its inherent value as a carbon store, there has been discussion around whether these northern regions might be opened up to become Australia's new food bowl, putting those extensive carbon stores in jeopardy.

Instead of turning cattle to graze on native grasslands and savannah during times of drought, farmers struggling to sustain livestock in marginal areas could instead be funded to farm carbon and biodiversity by restoring or preserving these ecosystems. This might involve reducing the number of cattle, or in some cases even removing cattle entirely. Australia is very well-informed about the carbon value of its many and varied ecosystems, but is yet to fully put that knowledge into practice.

There is no doubt that technological solutions have a role to play in climate adaptation but not at the expense of intact functioning ecosystems.

It is time to set a policy agenda that actively rewards those countries, industries and entrepreneurs who develop ecosystem-sensitive adaptation strategies.

Using PV solar for hot water

In the last BSGF newsletter (issue 12 December 2012) I wrote about our new solar tracker. I am pleased to report that it has tracked faultlessly throughout the summer and we're feeding more electricity into the grid. The amount was boosted a few weeks back when I removed some overgrown silver wattles which were shading the panels in the morning.

I concluded the article by saying my next project is to maximise the amount we feed in to the grid by improving our hot water heating year round. Our solar hot water system works OK during the summer months but it could be better. So I am now investigating directly heating the hot water with photo voltaic (PV) panels and doing so 'off the grid', an idea that was mentioned at the last BSGF/BRCC Sustainable Housing Forum.

I was hoping that by the time this newsletter came out that we would have made some progress towards this goal. Well, not too much has been achieved physically as yet but the wheels are in progress.

We've ordered and received a new 320 litre hot water service and cleared out a place inside the house to locate it. It has two elements - a 2.5 kW element in the base and a 3.6 kW boost element half way up.

I thought about directly connecting up a bank of PV panels to the base element via the thermostat but there's a problem with that; I would have to add a DC switch as the thermostat is only designed to switch AC. The other problem is that the output of the PV panels would not be optimised - no 'maximum power point tracking' (MPPT).

I then searched on the web for possible solutions and found out that a cunning firm in New Zealand has already come up with a solution. They have an inverter with MPPT to connect up to a bank of PV panels. The output is AC and varies from 30 volts up to 260 volts max. The output feeds directly to the hot water service and, best of all, there is no connection to the grid.

In fact it will feed power into any device that takes AC but most appliances need a steady 240 volts, not power which goes up or down when the sun shines or doesn't.

So I contacted the firm and asked about ordering and they put me in touch with their Australian distributors who just happen to be based in Albury! The NZ firm is called Easy Warm, the device is called Hot PV and the Albury firm's name is Eco Power & Lighting. They have systems already installed. The package we settled on will have 2 kW of high quality PV panels (eight panels) to be mounted north facing at 45° on the roof above our hot water tank.

So what should be the advantages of this design?

First off it is all electric and has no moving parts. All components, including the stainless steel HWS tank, have long warranties and expected very long lives. The same cannot be said for heat pump or glass tube solar hot water systems.

The purchase price is a bit higher but in the future I expect the price of these PV based systems may come down considerably; it always costs a bit more to be ahead of the pack!

I also expect the system to heat more hot water all year round for a couple of reasons. First off the hot water service will now be housed indoors in a well-insulated cupboard. Secondly, the wavelength range that PV panels operate over and their efficiency is such that they will deliver power throughout the year, just as household grid-connected systems do.

This solution is obviously not practical for everyone - you do need shade free space for the north facing panels and the panels do take up more room than a glass tube bank.

For us though it's one step more towards being independent of the grid and more sustainable.

Ian Herbert

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**Benalla
Sustainable
Future
Group**

www.bsfg.org.au

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has." Margaret Mead