



Benalla Sustainable Future Group

Newsletter 10

May 2015

Benalla Sustainable
Future Group Inc.
PO Box 642
Benalla 3672

Next Meeting

The next general meeting of Benalla Sustainable Future Group will be held at

7:30 pm on Thursday 25th June

in the Uniting Church meeting room. The guest speaker for the evening will be Professor Deli Chan from The University of Melbourne.

Professor Deli Chen is the discipline leader in Soil Water, Nutrients and Greenhouse Gases, Melbourne School of Land and Environment, University of Melbourne, and Deputy Director of the Australia-China Centre on Water Resource Research. He was recently awarded the JA Prescott Medal for excellence and achievement in the field of soil science by the Australian Society of Soil Science.

Professor Chen's presentation is titled: 'How Australian agriculture can reduce greenhouse gas emissions - the role of nitrogen fertiliser management'.



President's Column

So much has been happening in the fields of sustainability, climate and renewables that it is difficult to decide what to comment on - the good, the bad or the ridiculous!

Climate change a UN-led ruse

Maybe I should start with the most ridiculous - the latest statement by Maurice Newman, Chair of the Prime Minister's Business Advisory Council. In an opinion piece written for *The Australian* on May 8th he wrote that scientific modelling showing the link between humans and climate change is wrong and the real agenda is a world takeover for the UN so that it can end democracy and impose authoritarian rule.

He writes, "*Calls to respond to climate change are about a new world order under the control of the UN. It is opposed to capitalism and freedom and has made environmental catastrophism a household topic to achieve its objective.*"

Jeff Sparrow writing for *The Drum* (Maurice Newman v the UN: logic behind the crazy, 11/5/15) says, "It's a rhetoric instantly recognisable to anyone familiar with fringe politics in the United States. The 'New World Order' is a key phrase in the lexicon of American paranoiacs, a term ubiquitous on the websites of gun nuts, religious fanatics and survivalists. Have a look for yourself. A Google search for "New World Order" sends you spiralling down an incredible warren of paranoia and craziness."

Is it any wonder that there have been many calls for Maurice Newman to resign from his position as the

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

Prime Minister's chief business advisor or for him to be stood down.

Bjorn Lomborg Consensus Centre

While this could be considered a ridiculous attempt by the federal government it could also be seen as outrageous!

The Federal Government made a grant of \$4 million to the University of Western Australia to establish the Australian Consensus Centre to which 'sceptical environmentalist' Bjorn Lomborg was appointed as an adjunct professor. It appears that the Danish researcher was handpicked by Prime Minister Tony Abbot. (*The Age*, 24/4/15) Bjorn Lomborg is well known for his 'contrarian' views on climate change and there has been speculation that is why he was chosen by the Prime Minister's office.

There was a strong reaction from academic staff at the university as they believed that Dr Lomborg did not have the necessary academic record to justify his appointment as an adjunct professor and that the \$4million research budget had been awarded without undergoing independent peer review as is normal practice. There was also a strong reaction from students and the public to the appointment.

On May 8th the University of West Australia announced that it had cancelled the contract for the Consensus Centre and would be returning the money to the government.

Despite all the negative and disappointing news we hear about issues of concern to us there are some 'good news' stories.

Grazing Ban Gets the Nod

A ban on cattle grazing in the Alpine and other national parks became law after it was passed by the Victorian Parliament's Upper House on May 5th. The current state government put forward the ban after the previous state government held a controversial grazing trial in the Alpine National Park to test if cattle grazing reduced bushfire risk. Scientific research going back at least 80 years has shown that grazing causes significant damage to the sensitive alpine environment. Studies have also shown that the fire risk is not reduced through cattle grazing.

Victoria seeks own Renewable Energy Target

Victoria wants to establish its own target to boost renewable energy but it first needs the Abbott government to lift legal barriers. Following moves to cut back the national target for clean energy, the Victorian government has urged the federal government to remove rules stopping states and territories introducing their own schemes. If that

happens the Andrews government has committed to reintroducing a renewables target for Victoria. The state target would seek to increase renewable energy's share of the Victorian power generation mix from about 13% now to about 20% in 2020.

Most Australians view climate change as already causing weather extremes

A clear majority of Australians view global warming as already causing extreme weather events such as storms, droughts and floods and just 3 per cent say "there is no such thing as climate change", according to the findings in the latest Ipsos survey on Climate Change.

Just over 60 per cent of the 1063 respondents in the report viewed climate change as behind extreme events, with similar numbers also linking the destruction of the Great Barrier Reef and rising sea levels to warming global temperatures.

Separately, about 40 per cent of respondents viewed climate change as either entirely or mainly caused by human activity, while another 43 per cent said both human and natural forces are at play. Just 3 per cent dismissed climate change altogether and another 4 per cent viewed changes as entirely naturally. The Ipsos survey joins reports over the past year by the CSIRO and the Lowy Institute pointing to an upswing of concern among Australians about climate change.

Pope Francis steps up campaign on Climate Change

For some time Pope Francis has preached about the need to protect the environment but now he is preparing to deliver an encyclical statement on environmental degradation and the effects of human-caused climate change on the poor. Top Vatican officials have already held a summit to build momentum for a campaign by the pope to urge world leaders to enact a sweeping United Nations climate change accord in Paris in December. The pope has been invited to address the US Congress in September much to the alarm of many Republicans and conservatives in the states.

The pope's influence on the Paris climate accord may be strongest in Latin America where previously Latin American countries have resisted efforts to enact climate policy, arguing that developed countries have greater responsibility. But recently some Latin American governments have signalled a willingness to step forward on climate policy with Mexico becoming one of the first nations to submit a plan ahead of the Paris talks. It is expected that the pope's forthcoming encyclical will encourage more to do the same.

Source: *The New York Times*, April 27, 2015

Thank you

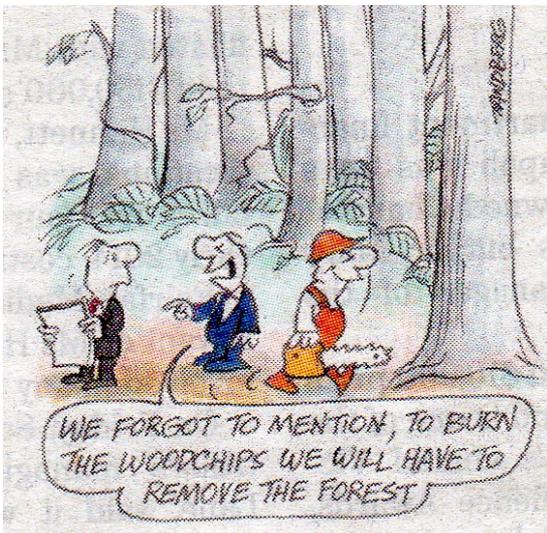
I would like to thank the people who have contributed articles as it certainly makes my task easier in preparing material for the newsletter. My thanks to Larissa Montgomery, Freida Andrews, Richard Morton, Peter Maddock and Ian Herbert for their articles. I trust you find them of interest.

John Lloyd

Renewable Energy Target - Breaking News!

A deal has finally been reached (18/5/15) to reduce Australia's renewable energy target (RET) to 33,000 gigawatt hours, or 23% of power, after the government agreed to drop regular reviews of the scheme but still wants included, as renewable energy, the burning of native forest wood. It is hoped the deal will unlock investment in Australia's renewable energy sector which has been stalled since the government launched its review of the target last year.

It appeared that agreement on the size of the target had been reached earlier but the government then introduced two sticking points. It wanted to keep reviewing the target every two years, which the industry hates as it could ultimately kill the scheme, and it also wanted to include in the scheme the burning of native timber for power production - a highly contentious idea.



Tanberg, The Age, 9/5/15

Labor was opposed to both these points and conservationists are appalled at the burning of native timber as they believe it could lead to a continuation of the wood chipping of native forests. The government finally withdrew the proposal to continue reviewing the target every two years after strong protests from the clean energy industry threatened the deal with Labor. However the legislation to be put before Parliament will still contain a plan to allow the burning of native timber to count towards the renewable energy target. The government hopes to pass this legislation with the support of the Senate crossbench. So watch this space!

The RET and your Electricity Bills

Many houses have solar panels on their roof. In most cases the motivation for doing so was probably one of economics. Spurred on by available feed-in tariffs, residents were able to reduce their electricity bills by a large amount. The payback period was just a few years - a much better investment than anything else available.

Is it still a good investment? Despite the feed-in tariff dropping to miserable levels, the answer is still a very positive yes. The sizing and time-of-use considerations have altered a bit but it still pays off.

The majority of power companies of course don't like it and they seem to have the ear of the government more than the people (our democracy at work). There is even a move afoot to charge people for feeding power back into the grid, despite the miserable feed-in rates now on offer. You feed it in at 8 cents per kwh and they sell it for 30 cents plus!

While this was going on the Renewable Energy Target (RET) was under review. The big power companies were lobbying for a reduced target. Rather than accepting this direction, many of them thumbed their noses at it and invested in some of the ageing coal-fired power stations.

Our personal account was with Energy Australia (a Hong-Kong based company). Hearing how they were lobbying against renewables, we looked for an alternative and have now changed over to Powershop (NZ based). They support the current (old) RET, were happy to take us on with our original high feed-in tariff and source much of their power from solar and wind.

As we were changing over we received a letter from Energy Australia saying rates for 2015 were going up by about 10 percent 'due to distribution costs'. Then of course we had a letter saying call us and we'll see what we can offer to induce you to stay. Too late!!

We're very happy with the changeover. Our bills are much less, even in the summer months when we have some air-con going and the pool pump on at night. We can buy green power at less cost than Energy Australia's coal-fired power rates as it really works like a shop with 'specials' on offer.

It's people power that will win out in the end. We're hopeful that in the near future the technology will change and the cost of batteries will come down. Then we can store power and maybe go off grid. It's not just economics with us (though we like the lower prices). We're primarily motivated by getting away from coal and gas generated power and reducing greenhouse gases. This is just a step along the way.

Ian Herbert



George Marshall and Getting Consensus on Climate Change

The climate change campaigner George Marshall gave a lecture in Shepparton on February 16th. I didn't go as I am reluctant to drive to such events. But you will find many links to George's talks on the internet.

Preview George's book 'Don't Even Think About It: Why Our Brains Are Wired To Ignore Climate Change' at Amazon <http://tinyurl.com/qx24nd2>

There are also a number of video presentations online, Ted Talks, <http://tinyurl.com/lln26zb> and another longer one I found on youtube <http://youtu.be/726BZat208A>

This link is presented as a trailer to his book on Climate Conviction a website dedicated to his book <http://www.climateconviction.org/>

I have purchased his book but find it hard going and realise we have a long way to go before we get a global consensus on reducing carbon emissions to avoid dangerous global warming.

Being concerned about the environment I have found Georges work to be confronting.

George's talks highlight how our actions are often out of sync with what we know about climate change. So in his talks he shows how despite our knowledge that increasing emissions are contributing to climate change we continue with high emission activities and life styles. For instance he showed newspapers chronicling the impending devastation to be caused by anthropogenic climate change but almost on the same page advertising for high carbon emission activities such as international air travel and tourism. And of course many environmentalists are criticised for their air travel attending conferences trying to convince people about the need to reduce carbon emissions. George highlights how he was talking to a climate scientist who absolutely had to have an overseas holiday involving extensive air travel. Tesco in the UK encouraged people to reduce emissions by installing low energy light bulbs, but to trade it off against flights!

Another problem he sees is that many people might agree with anthropogenic climate change but it is something that is not going to affect them, this week, this month this year or even in their lifetime. So doing something about their activities and lifestyle will not influence the direction we are headed.

In a previous newsletter article I identified my car use as a major source of my direct emissions. My direct emissions at home from gas and electricity amounted to 1.8 tonne CO₂-e with another 2.4 tonne CO₂-e from car use; 4.2 tonnes in total direct emissions. Data from the ACF indicates my total direct emissions are about 25% of my total emissions. The remaining 75% of my emissions then can be attributed to consumption expenditure which is therefore 12.6 tonnes; that's 16.8 tonnes total per annum.

I have tried to reduce my car use but how far do I go

in doing this? Much of my travel is to the Swanpool Cinema and I have tried to reduce this to once per week. I often get on the bike in Benalla rather than drive the car. I have even ridden my bike from Benalla to the cinema a number of times. In addition to reducing my emissions it's also good exercise. I could sell the car but this seems an extreme response.

However all my angst over my direct carbon emissions is secondary to emissions coming from my consumption expenditure. These emissions are embodied in the things I purchase such as food clothing entertainment and travel. I lead a fairly minimalist lifestyle so I seem to be running into a brick wall in trying to reduce my emissions.

One of our guest speakers from Beyond Zero Emissions highlighted in his talk on the Zero Carbon Energy Plan for Australia that the global per capita carbon emissions budget for 2 degrees of global warming by 2050 is 2.7 tonne. I have a long way to go to achieve this. I won't be around that long anyway but this budget applies to everyone, globally.

Perhaps I will write to local members of parliament pointing to my analysis of my carbon footprint, my concerns about the level of my carbon emissions compared to the global per capita carbon budget and the limits imposed on me by the high emissions intensity of our energy infrastructure in Australia.

I think we need 100% renewable energy, NOW!

Thanks, George!

Peter Maddock

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**Benalla
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Battery Storage Getting Closer

Encouraging news about the development of battery systems for the storage of power have been the focus of media reports of late.

New storage battery unveiled

On April 30 Tesla, the United States electric car and battery supplier, unveiled new batteries that can store electricity from either the grid or a renewable energy source like solar or wind.

The Powerwall is a compact, wall-mounted, rechargeable, lithium-ion battery designed for homes and small businesses. Most existing systems for home power storage use lead-acid batteries, which require much more space and, in some cases, maintenance. Powerwalls will come in two sizes – 7 kilowatt-hour and 10 Kwh. The units can be stacked together to increase power capacity. A typical four-person Victorian home uses between 16 and 20 Kwh a day, depending on the season. For households with solar, unused extra power is often sold to their power company for less than what they are charged for power. With a battery, however, they can store the excess power generated during peak production times in the middle of the day, and use it after dark when demand is greatest.

Households to reap profits from stored solar power

Little-known Australian start-up, Reposit Power, has developed technology which will be integrated with Tesla's residential battery storage unit. The intelligent GridCredits system has been designed to work with battery storage hardware and will be available with other batteries in addition to Tesla's. Founded in 2012 out of Canberra, Reposit launched a pilot of its GridCredits technology, partly funded by the Australian Renewable Energy Agency, late last year in Canberra.

The GridCredits system decides on behalf of households throughout the day whether to store energy in a battery or sell it back to the grid at a profit, enabling households to take control of their energy bills and directly participate in energy markets as a buyer and seller of electricity. The idea is to buy from the grid when prices are lowest, consume as much of your own solar as possible, and occasionally sell to the markets when prices spike. Each unit costs about \$15,000 and involves software that is integrated into the battery system.

Source: Business Insider, May 4, 2015

State Government powers up battery focus in energy plans

Emerging battery technologies that can help households and business better embrace renewable

energy will be a focus of the state government's pitch to expand clean power in Victoria. In recent weeks batteries have been a hot talking point in energy circles following the launch of a lower-cost home system by US company Tesla, which is famous for making electric cars.

As reported in *The Age* (11/5/15), the Energy Minister, Lily D'Ambrosio, talked up the potential of batteries to transform the way households and businesses produce, use and consume energy. "That will mean affordable clean energy," Ms D'Ambrosio said.

Battery storage would be an important focus for the government, which is promising detailed plans by later this year for how Victoria will grab a greater share of the renewable energy industry. She wanted to encourage storage technologies as one part of a \$20 million "new energy jobs fund" the government had established.

Ms D'Ambrosio said the ultimate ambition was to increase renewable energy's share of the energy mix. The renewables industry had huge scope to drive investment and new jobs into the state.

Hybrid Power Systems - a new way to control your power

Hybrid, or battery backed grid connect systems, are the new black of solar power. Everybody in our industry is talking about them and large bets are being made by large corporations that there will be many such systems installed over the coming years. To understand the benefits we need to look briefly at where they fit into the wider picture of electricity infrastructure.

Grid connect solar under differing Feed-in Tariff (FIT) regimes

The energy produced by standard grid connect solar systems is used by the householder if possible and exported to the grid if not. For those with Premium Feed-in Tariff (PFIT) agreements of 60 or 66¢, exporting is quite lucrative and the best outcome financially is to arrange the household's electricity use so that as little as possible is being used when the solar is producing power. This maximises the amount of electricity exported and the amount credited to your electricity bill.

Those on the Transitional FIT of 24¢, or on a net billing regime such as Momentum's business customers, benefit more or less equally whether they use their power or export it.

Use it or give it away

For the rest of us, on a 6¢ FIT, there is a strong financial disincentive to exporting power, as you will need to export around 5kWhr of your solar to pay for 1kWhr of coal fired electricity. This significantly undervalues the value of the solar electricity.

Artificially low FITs provide an incentive to use all our solar energy rather than exporting it and the simple way to minimise exporting is to push your electricity usage into times when there is the most sun, thereby avoiding buying power. This is sometimes practical, but there is a limit to how much usage we can shift to sunny days. This type of usage pattern also reduces a significant (though rarely discussed outside electricity engineering circles) advantage to grid connect solar, which is peak demand management.

Managing Grid Demand

This is a complex topic requiring many more words than space here allows, but basically, the more power that is required for short periods, the more it costs to produce it. Peak times for electricity are now hot afternoons and evenings, when a massive amount of power is consumed, mainly to cool inefficient and poorly designed buildings. Having solar systems all around the country exporting electricity during these times saves generation companies large amounts of money, both by minimising the use of expensive gas fired power stations, and by reducing transmission losses (the energy consumed in cables as it travels from Yallourn to you), which can account for more than 50% of usage during peak times.

This variation in electricity cost is reflected in the wholesale price of electricity, which varies from a fraction a cent per kWhr up to 30¢ or more during extreme peaks and will increasingly be reflected in retail electricity pricing as network providers such as Ausnet Services set out to recover the enormous investment they have made in installing smart meters, which register usage every 30 minutes and have many other functions not yet seen by consumers.

What does all this have to do with hybrid solar?

Given the strong disincentive that now exists to selling our solar power, storing it for later use has become a practical alternative and offers many other benefits in addition to getting the best value from the electricity produced by our solar systems.

Having our own battery storage offers a range of benefits and eliminates one of the most obvious downsides of standard grid connect solar, which is that your panels must switch off if there is a power failure. Batteries mean that not only do your panels stay powered on during power failures, but so does your house. This allows you to keep important things like lights and fridges running while the grid is fixed, and means you can forget about having to reset all those clocks every time the power is interrupted. This whole house UPS system also insulates you from grid voltage spikes, protecting your appliances and eliminating the need for the computer UPS devices many people currently use.

Consumers can also extend their period of autonomy from the grid by using their stored solar power into the evening and avoiding buying expensive fossil fired electricity for some or all of the period. When the batteries are depleted, the grid automatically kicks in to supply your house again and your solar array charges the battery bank again the next day.

The advantages of this type of setup will be magnified as retailers move to time of use tariffs that more closely reflect the cost of electricity production. Many retailers offer these now and it is likely that householders will increasingly be directed to such billing regimes in the future. Anyone who can avoid buying electricity from the grid during peak times will be able to save significant amounts of money.

Perhaps the most significant conceptual point of local battery storage is choice: choosing when and how we buy and sell our power gives consumers a degree of control that is otherwise impossible to achieve when dealing with such dominant organisations as power companies. These companies also stand to gain significantly from the arrangement, though it remains to be seen whether they will see the opportunities, or focus on the threat to their old business model.

Richard Morton
SUN REAL Renewable Energy Systems



FILMS

'PLANET RE-THINK'
'SURVIVING EARTH'
'THE SALT OF THE EARTH'

SPEAKERS

Fiona Armstrong
Climate and Health

Prof Kate Auty
Speaker and MC

Peter Charles Downey
Director 'Surviving Earth'

LIVE MUSIC

Luke R Davies from
the Recycled String Band

SATURDAY 13 JUNE
SWANPOOL CINEMA
1 pm to 9.45 pm

**Brought to you by Swanpool Landcare and
Benalla Sustainable Future Group**

**Afternoon tea and dinner provided by the
Swanpool Catering Team**

**Tickets \$20 and booking essential -
phone 0498 007 988 for reservations**

**Program details available on the cinema
website www.swanpoolcinema.com.au**

Climate Change, Coal Mining and Power Generation, and My Health

As one of the more senior members of our community and one who has always found hot weather particularly draining, I am always dismayed when I hear predictions in terms of the effects of climate change on our health. The *World Health Organisation* tells us that these effects are overwhelmingly negative. The social and environmental determinations of health are affected i.e. air, water, food and shelter.

Bringing it a little closer to home and focussing on what Australia is doing, or not doing about this, questions invariably arise about the health risks associated with coal mining and associated methods of power generation. Given that coal electricity generation accounts for 75% of our electricity supply, one would expect that considerable research would have been conducted in Australia to address these very important questions, however this is not the case. We do know however that every aspect of coals life cycle – mining , transportation , combustion and the disposal of waste – produces pollutants that affect human health. Research conducted elsewhere, shows that:

People living within 50 kilometres of coal burning plants have a three to four times greater risk of premature death than those living at a greater distance.

Health risks from coal include lung cancer, bronchitis, heart disease and other health conditions.

In the United States, coal contributes to four of the five leading causes of mortality: heart disease, cancer, stroke and chronic respiratory disease, with 50,000 deaths each year being attributed to air pollution from coal fired power generation.

Globally, air pollution from coal combustion accounts for over 200,000 deaths per year.

A review of air pollution and cardiopulmonary disease in Australia conducted in 2005 did conclude that air pollutants were associated with an increase in cardiovascular and respiratory mortality and hospital admissions. In Australia more than 3000 deaths each year are attributable to outdoor air pollution in our four biggest cities. Half of these deaths are due to coal combustion. The cost to the community of illness, hospital admissions, time off work and death is considerable and would be saved by orderly replacement of coal burning by renewable energy. The *US Environmental Protection Agency's review of America's Clean Air Act* found that every dollar spent

on cleaner air can produce \$30 in health benefits. *William Nordhaus, Sterling Professor of Economics at Yale University*, found that in the US, the economic costs of health and environmental harms arising from coal fired power stations outweigh the value provided by as much as 5.6 times. It is estimated that in Australia the economic costs, not to mention human ones, amount to \$2.6 billion annually.

Environmental Justice Australia, has completed a 3 month study tracking 5 years of data voluntarily submitted by polluters to *Australia's National Pollutant Inventory*, which tracks particle emissions estimates for 93 toxic substances. Emissions of fine particle pollution – called PM2.5 – from the coal industry had increased by 52% in the past five years, compared with a general increase across all industries of 14%. The study also found that there had been a doubling of coarse-particle (PM10) pollution from coal mining in the same period.

And then there are coal fires. These fires have been shown to cause atmospheric pollution, acid rain, hazardous land subsidence, the degradation of fauna and flora habitats, human fatalities and increased coronary and respiratory disease. Here in Victoria we have an example of just how dangerous these fires can be – the *Hazelwood Mine Fire* in February 2014. An Inquiry was held into this fire with a report being released in September 2014. Action to implement the recommendations in the report has not been taken due to a change of government in November 2014.

Surely these risks to human health and the environment, together with the associated costs, reinforce the need for Australia to look at the damage our coal industry is causing to the global community in general and to our own people and environment in particular. *The Climate Council of Australia* has made the following recommendations:

Consistent air, water and soil quality monitoring at and around every coal mine and power station in Australia is urgently needed. It is critical that the monitoring be overseen by an independent authority to ensure its veracity.

Adequate funding must be allocated for **research to evaluate the health, social and environmental impacts of coal** in coal mining communities and more broadly across Australia.

Coal's human health risks must be properly considered and accounted for in **all energy and resources policy and investment decisions**.

If these recommendations were adopted it would provide us with a sound basis for taking action to improve the health of people directly affected by coal mining and its associated industries, as well as hopefully contributing to a reduction in our reliance on

coal. Who knows – we may even start to take the threat of climate change seriously and become a responsible global citizen in addressing it. In the meantime I will continue to swelter through our ever increasing hot, dry summers and count myself lucky that I don't live near a coal mine and/or coal-fired power generator.

Freida Andrews

Sources:

Climate Change: An Opportunity for Public Health
<http://www.who.int/mediacentre/commentaries/climate-change/en/>

Climate Council Briefing Paper: Health Effects of Coal
<https://www.climatecouncil.org.au/health-effects-of-coal>

Dr David Shearman, Emeritus Professor of Medicine at the University of Adelaide and Honorary Secretary of Doctors for the Environment Australia

Environmental Justice Australia: National Pollutant Inventory Data
<https://envirojustice.org.au/blog/national-pollutant-inventory-data-shows-dangerous-increase-in-air-pollution>

Hazelwood Mine Fire Inquiry <http://hazelwoodinquiry.vic.gov.au/>

Benalla Rural City Council Update

Environment Strategy Review

The Council is currently reviewing its Environment Strategy, which sets out principles and directions for the Council's environmental management. A series of interactive posters have been displayed throughout the community in April, along with an online survey and one page questionnaire. The responses received will be used to frame discussions in a series of workshops with interested stakeholders and Council staff in June and July.

If you would like to be kept informed of progress, participate in the workshops or receive a copy of the draft revised Environment Strategy, please email me your contact details at larissa.montgomery@benalla.vic.gov.au

Watts Working Better Streetlight Project

The Goulburn Broken Greenhouse Alliance will receive \$2.95 million dollars to complete this \$4.68 million project which will involve changing 12,661 street lights to more energy efficient alternatives. This is a partnership between the Councils of Benalla, Campaspe, Mansfield, Mitchell, Moira, Murrundindi, Greater Shepparton, Strathbogie and Wangaratta.

The benefits to our community will be measured both in terms of reduced greenhouse gas emissions and in reduced operating costs across the street light network. Across the nine councils, this project is expected to reduce energy use by 3,644,863 kWh per year.

That's a saving of \$782,921 per year. Over 95% of the components of the old lights are also being recycled.

The first stage of installations has now been completed with 373 lights replaced with T5s in Benalla in late November and the second stage is expected to be completed before the end of the year. It is also anticipated that some decorative lighting in parks, gardens and possibly public toilets will be able to be included in the project.

An interesting fact to note is the state of Victoria currently rates second in the world for streetlight replacement to energy efficient alternatives. 232,000 lights will be replaced in the next four years, just under the total to be changed in New York City of 250,000 street lights.

Victorian Adaptation and Sustainability Partnership Projects

The Victorian Adaptation and Sustainability Partnership (VASP) is an established partnership between the State Government and Victoria's 79 councils. The VASP helps the State Government and local governments work together on climate adaptation and environmental sustainability issues.

Benalla Rural City Council was successful in three partnership project applications to the 2013 VASP funding program which will be completed over the next two years.

Climate-Smart Agricultural Development in the Goulburn Broken

Partner councils in this project include Greater Shepparton, Strathbogie, Mansfield, Murrindindi and Moira. This project will generate and communicate specific long-term data and information which will be incorporated into a spatial data tool and strategic plans that will enable local government and agribusinesses in the region to adapt to climate change effectively.

Resilient Community Facilities

Partner councils in this project include Wodonga, Alpine, Indigo, Towong and Wangaratta. This project will identify actions and works to improve the value of community facilities as a resource for communities adapting to climate change impacts. Guidelines developed with this experience will be used to build resilience into future projects.

Rec Less

This project between Benalla Rural City Council and Alpine Shire Council will allow Council to assess, prioritise and identify new ways of managing open spaces so they are adaptable to climate change and continue to meet Council and community needs. It will consider aspects such as maintenance requirements, watering needs and source, shading and species selection. This will provide Council and the community with a clear understanding of how open spaces will be managed, particularly during prolonged drought and heat waves.

Larissa Montgomery
Environmental Sustainability Coordinator
Benalla Rural City