Energy Matters

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Winter is Here!

As we move from Summer to Winter, we must reverse all of our thinking when managing our house. In summer, you keep the heat out, in winter you keep it in. So, what do we do.

..only open your windows when it is warm outside....

Remove window shading. Ideally this happens automatically. Eaves on North facing windows only let in winter sun. Deciduous trees lose their leaves and let in the sun. However if you have outside blinds or shade cloth, take them down. If bushes restrict heat from entering windows, trim them back. I even remove an external security door because it stops 20% of the heat from entering the window.

Block off evaporative cooling vents. Most units have an automatic baffle to minimise air flow. Even so, closing the vents in the ceiling helps, or even screw a cover over them. If the duct is not insulated, you lose a lot of heat through the first meter of the duct, so wrap insulation around it.

Change your home Ventilation times . In winter, close up your house as much as possible and only open your windows when it is warm outside, normally mid afternoon.

Close you curtains at night. In summer you close the curtains during the day to keep the heat out. In winter you close the curtains to keep the heat in. So you close them as soon as the sun sets and open them next morning. If there is no sun coming through the window and you don't need the light, leave your curtains closed during the day.

Turn on your ducted heating. Over summer, it is worth turning off your pilot light in your gas heater. Now you can turn it on and check that your ducts are not leaking.

Install your mirrors This probably doesn't apply to most, but I did find one house that uses a similar approach! I put mirrors under the window on the north side to reflect more light and heat in. It works quite well really!

Reverse your refrigerator outlet Again, this probably only applies to Climate Change Tragics, but I change the venting for my fridge so that the hot air coming from behind the fridge vents into the house in winter and into the roof in summer.

Inside this issue:

Most interesting item from an Assessment

Visited a self confessed plane tragic who had bought two second hand aeroplane seats for $50 and had them set up in his lounge room....

The Green Loans Program

.. By the end of March, the Green Loans Program will no longer contain Green Loans..

There have been rather abrupt changes to the Green Loans Program, they have suddenly stopped issuing Green Loans.

I find this most annoying since the previous advice I had was that they were extending the loan application deadline until June. Instead they officially stopped it as of March 20th. What is worse is that most financial institutions stopped offering loans in early March.

When you combine this with the fact that only half of the reports had been issued and the reports were required to get a loan, effectively half of the people doing an assessment were not able to apply and those that had a report were not told of the new deadline.

Unfortunately, there is little that can be done. There is a senate enquiry into the program and I intend to make a submission on this and other problems I had with the program.

It is unlikely to change anything, but it will make me feel better.

If anyone has any comments that they would like me to include, please pass them through before April 7th.

Renewable Energy for Base Load Power

..The tanks .. can drive the generators for 18 hours....

One of the big arguments against renewable energy is the inability for it to meet base load requirements. Solar power doesn't work at night and wind doesn't work if there is no wind.

A report by Zero Emissions can be found at www. beyondzeroemissions.org.

This shows how it can be done by focusing mirrors onto Solar towers. They heat molten salt to 600 degrees and store it in tanks which then drives generators as required. The tanks are approximately 30 metres diameter and 20 metres high and can drive the generators for 18 hours, allowing for 24 hour operation. They can be turned down when wind energy is available or can be fired by gas or Biomass when required.

Estimated cost to move all electricity generation to renewable was $400 billion. Over 10 years this is $1,500 per head per year. A lot of money, but not impossible.

I also heard a talk by Peter Seligman. He has been working on the storage problem and designed a rather novel solution.

It consisted of a network of high voltage transmission lines connecting to a storage facility in the Nullarbor. The storage facility was a dam 37 km diameter, 10 metres deep. This is on a 100 metre cliff overlooking the ocean. By installing big pumps (and I mean big!) they could fill the dam in 12 hours. This provided enough energy to drive the pumps backwards and generate all of Australia's energy for 12 hours (electricity/gas/petrol)

Thus you could generate power anywhere in Australia, store it and meet all requirements. You did lose around 35% in transmission and losses in the pumps, but that's not bad.

Cost... 50 cents per day per person for 20 years.

Details:- http://energy.unimelb.edu.au/uploads/Australian_Sustainable_Energy-by_the_numbers.pdf Section 4.2

In both cases, the cost of storage is less than 30% of the cost of production.

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