

# Double Glaze Matters

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## Knowing your Hot Water

I have a solar hot water system that preheats the water before it goes to my normal gas operated hot water service. I have been playing with the thermostat control on the front and reduced it from 3 to 2. The water in the shower was noticeably cooler so I did some further tests.

Firstly I found that changing the thermostat from 1 to 5 varies the temperature of the water from 50 to 55 degrees. Is this significant?

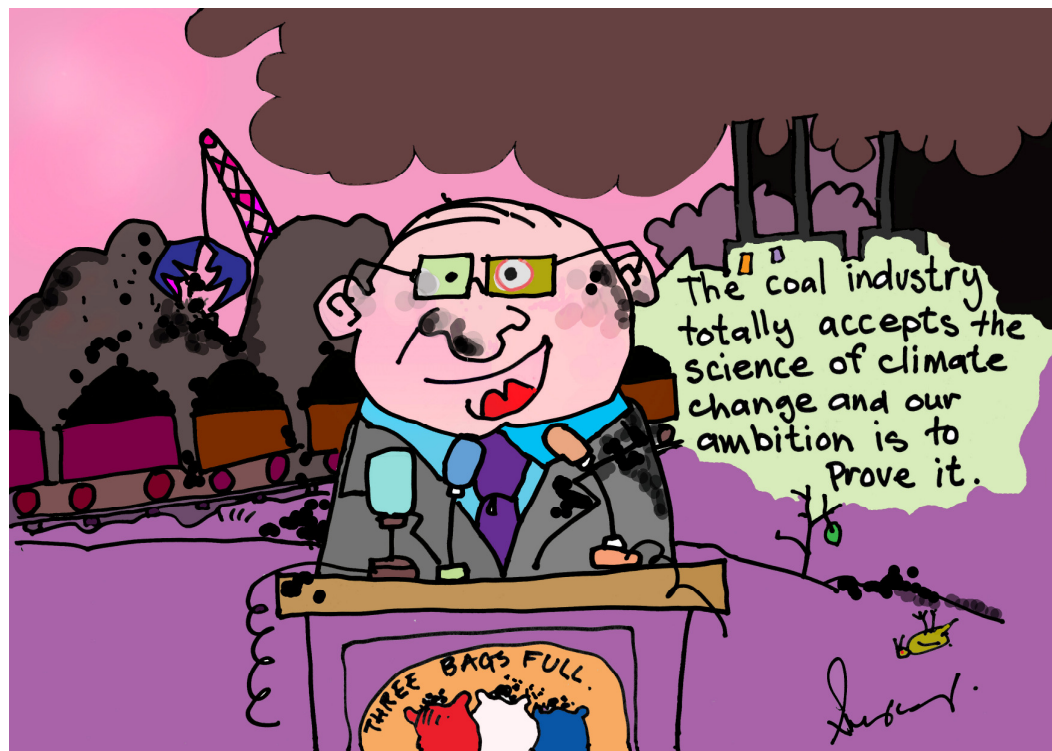
The answer is yes, it makes a big difference. If I just had a gas hot water service, it only needs to heat the water 35 degrees (15 to 50) rather than 40 degrees, a 12% reduction in gas. But what impact does it have?

For the shower it actually saves water! Normally you turn the hot on full, then increase the cold water until it is useable. If the hot wa-



ter is 5 degrees colder, you add less cold water, so the temperature is the same but there is less energy used heating the water. And you use less water too, unless of course you decide to have a longer shower since the water is not as strong.

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## Hot Water (Continued)

What about washing the dishes? This is quite different. In this case you need a fixed amount of water at a fixed temperature. If you normally add cold water to get the right temperature there is no change in energy usage. However at 50 degrees I found the water was too cold and I had to boil the jug. Boiling the jug is probably 3 times the emissions of the gas hot water service. However you only need to boil a small amount of water so it is not too bad, and it is more than offset by the shower savings.

Returning to my gas boosted solar system, I initially thought the savings from turning down the thermostat were even more impressive.

My solar system delivers water at 40 degrees in winter and 50 degrees in summer. With a 50 degree setting on the gas thermostat, it only has to heat 10 degrees in winter and 0 degrees in summer. When set at 55 degrees, it needs to heat 15 degrees in winter and 5 degrees in summer. Turning down the thermostat halves my gas usage, much more significant than the 12 % calculated earlier.

Then I realised that this is a 50% saving on 1/4 of the amount of gas usage, so the saving is identical in each case!

So.. Turn down your hot water thermostat - provided you can still get a hot shower!



## Air Operated Silicon Gun

I love to see the ingenuity of some people. I visited a customer of mine called Joe the other day to unload some glass for him. While talking in his garage I saw this beautiful piece of equipment—an air operated silicon gun!

Joe had to silicon seal an entire boat and so he decided to combine his air compressor with his silicon gun.

What I like about it is that it looks like it was built from whatever was lying around. It was a simple idea—an air operated piston to pull the handle on the silicon gun.

Joe, seems to have just grabbed whatever was lying around to make it, so an old piston pop riveted to the handle. A very elaborate set of brass connectors ( I am not sure why they were all required) and then a spring return on it.

Joe says it works brilliantly. Even if it doesn't work, it looks great and reminds me of some of my dad's work on the farm.



***A silicon gun operate by an air compressor***

## A Human Robot

Got this great link to a robot the other day which is really worth watching:

<https://youtube.com/embed/rVlhMGQgDkY?rel=0>

What is amazing is how human like the robot is walking through the snow and how "nice " it is. While the human tries to push him over or steal his box, he just keeps focused on his task. Is there such a s thing as "machine cruelty"