

Portland Sustainability Group

# Sustainability Workshop



## How to.. Keep your home warm this winter for nix

**Saturday, May 2nd, Portland Library 10.30am till 12.30pm**

The first of the PSG's 2009 "How to" workshops.

We'll go through exactly what and how you can make your home warm and cosy all winter without spending a cent through simple behaviour changes.

Then show some very cheap and easy ways to make your home even warmer and cosier, as well as some of the more expensive but still great value ways to stop the shivers and save a packet on heating bills.

We'll also have some hot little giveaways to help you on your way with warming up your life. All for nix.

Don't forget your energy bills from last winter so we can show you how much you might save.

Gold coin donations will be warmly received to help us run these community events.

See our website [www.energised.com.au/psg](http://www.energised.com.au/psg) or contact Peter Reefman on 0408 307730 for more information

Thanks to workshop partners Pacific Hydro and Portland YMCA Youth & Community Services.



# Keep your home warm this winter for nix

- The first of the PSG's 2009 "How to" workshops.
- We'll go through exactly what and how you can make your home warm and cosy all winter without spending a cent through simple behaviour changes.
- Then show some very cheap and easy ways to make your home even warmer and cosier
- And some of the more expensive ways to stop the shivers and improve the value of your home.

# ***Stats and facts***

- The average household energy bill in Victoria per year is \$1,600. Of this, about 50% is used for heating our home and hot water, or about \$800 per year.
- A well insulated, energy efficient home will make the house around 5c warmer naturally, and each “free” degree saves about 10% of your heating costs.
- Remember 18 - 20 degrees is warm enough!

# ***Energy efficiency Vs Conservation***

- It's good to understand the difference between energy efficiency and conservation.

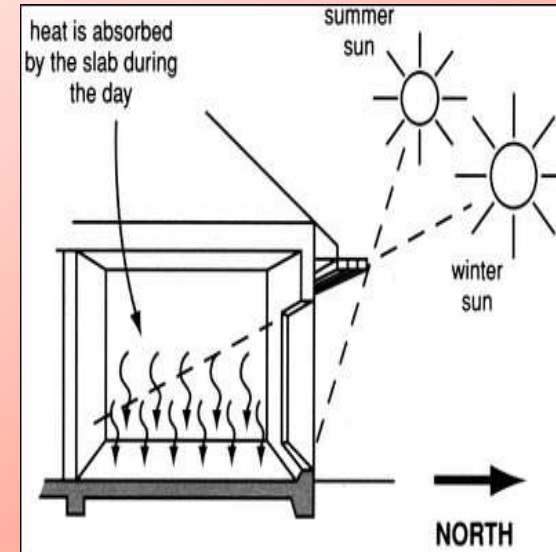
Energy efficiency is when something simply works better without you needing to change, like sealing drafts.

Conservation is when you make changes in the way you do things to conserve, like having the heater on a cooler setting.

Of course the best is when you can combine BOTH, but in most cases it's ALWAYS good to try to be more energy efficient, whereas you can pick and choose what you'd might like to conserve resources in.

# *Passive heated homes*

- Passive heating is when no artificial appliances are needed. Solar is the obvious source.
- To heat with solar, the house needs north facing windows to let the Sun's radiant heat in, and then be insulated and draft-free enough to trap that heat.
- Even on very cold days the house will still be warm, unless there is solid cloud cover.



# *Smart retro fitting*

- Find your house's weak points. This is where the biggest gains are.
- Once identified, prioritise the things to do, starting with the most effective & cheapest energy efficiency measures
- Then move through the less effective – more expensive - conservation measures.
- You will find that you can make some VERY big improvements without even looking at the expensive items.
- This is our goal.

# *Estimates*

- The figures and estimates shown are very likely to be inaccurate and are given for rough comparisons only.
- Your own house with its own strengths and weaknesses will alter the costs, for example you might need to spend far more on one thing and far less on another.
- So don't hold me to any of the cost estimates!

# ***Behaviours***

- **Things you do. Choices you make.**
- **Most of these are based on conservation rather than energy efficiency.**
- **But none will ask you to shiver!**

# *Behaviour*

- **Wear warm clothes** – Socks and woollen hat. Also, thermals are a fantastic way to feel much warmer without feeling like you're wearing snow gear, and remember to layer clothes to trap air.
- Temperate benefit 2c.
- Cost - \$0.
- **Winter savings - \$160**
- **Payback period – 0**



# *Behaviour*

- **Close doors** - There's no need to heat your entry, laundry, etc. The smaller the area the better.
- Temperate benefit 2c.
- Cost - \$0.
- **Winter savings - \$160**
- **Payback period – 0**



# *Behaviour*

- **Use warm areas of house** - If you have a bedroom or other room which is naturally warmer than the rest of the house, why not turn it into a cosy winter lounge?
- Temperate benefit 2c.
- Cost - \$0.
- **Winter savings - \$160**
- **Payback period – 0**



# *Behaviour*

- **Be active** - If you get your blood moving a few times during the day your core temp will stay higher all day, giving you an internal heater.
- Temperate benefit 1c.
- Cost - \$0.
- **Winter savings - \$80**
- **Payback period – 0**



# *Behaviour*

- **Let the sun in** - Make sure you have curtains open to any sunshine, but perhaps close curtains if there's no sun and the window is single glazed.
- Temperate benefit 1c.
- Cost - \$0.
- **Winter savings - \$80**
- **Payback period – 0**



# *Behaviour*

- **Cuddle up with someone (or a pet) -**  
Share your heat and watch it grow.
- Temperate benefit 1c.
- Cost - \$0.
- **Winter savings - \$80**
- **Payback period – 0**



# *Behaviour*

- **Cuddle up with a blanket** - A nice blanket is as good as a heater for reading, TV, etc.
- Temperate benefit 1c.
- Cost - \$0.
- **Winter savings - \$80**
- **Payback period – 0**



# *Behaviour*

- **Use a hot water bottle** – Uses about 2c to heat and lasts far longer.
- Temperate benefit 1c.
- Cost - \$0.
- **Winter savings - \$80**
- **Payback period – 0**



# *Behaviour*

- **Put an extra blanket on your bed -**  
Some people use the same blanket in winter than summer. Why?!
- Temperate benefit 1c.
- Cost - \$0.
- **Winter savings - \$80**
- **Payback period – 0**



# *Behaviour*

- **Set your ceiling fans to warm** – Make it slowly push the warm air back down.
- Temperate benefit 1c.
- Cost - \$10.
- **Winter savings - \$80**
- **Payback period – 0.1 years**



# *Behaviour*

- **Don't block your heater with furniture -**  
Don't have a sofa or other furniture blocking the warmth from getting into the main room.
- Temperate benefit 0.5c.
- Cost - \$0.
- **Winter savings - \$40**
- **Payback period – 0**



# Behaviour

- **Lower your hot water temperature - Fact.** People use more hot water in winter, while your hot water system has to work harder to keep the water hot. Dropping the water temp a little means you won't waste extra energy keeping the water hot.

- Temperate benefit 0c.
- Cost - \$0.
- **Winter savings - \$40**
- **Payback period – 0**



# *Behaviour*

- **Have a hot tea or soup** - Another great way to warm up your insides.
- Temperate benefit .5c.
- Cost - \$0.
- **Winter savings - \$40**
- **Payback period – 0**



# *Behaviour*

- **Turn off heaters before going to bed.**
- Temperate benefit 0c.
- Cost - \$0.
- **Winter savings - %Lots!**
- **Payback period – 0**



# *Behaviour*

- **Take your annual holiday to somewhere sunny** - Not particularly eco if you factor in the travel, but if you're going sooner or later anyway, why not make it during the middle of winter?
- Temperate benefit - Lots.
- Cost - Lots.
- **Winter savings - \$NA**
- **Payback period – 0**



# ***Cheap and effective***

- **Things you improve in your house.**
- **Most of these are based on energy efficiency rather than conservation**
- **All of these will pay their costs off**

# ***Cheap and effective***

- **Insulate your roof** - Roofs need more than anywhere else, and are by far the easiest to install. A no brainer and even if you have roof insulation, consider putting more up there.
- Temperate benefit 3c.
- Cost - \$0 (rebate!).
- **Winter savings - \$240**
- **Payback period – 0**



# ***Cheap and effective***

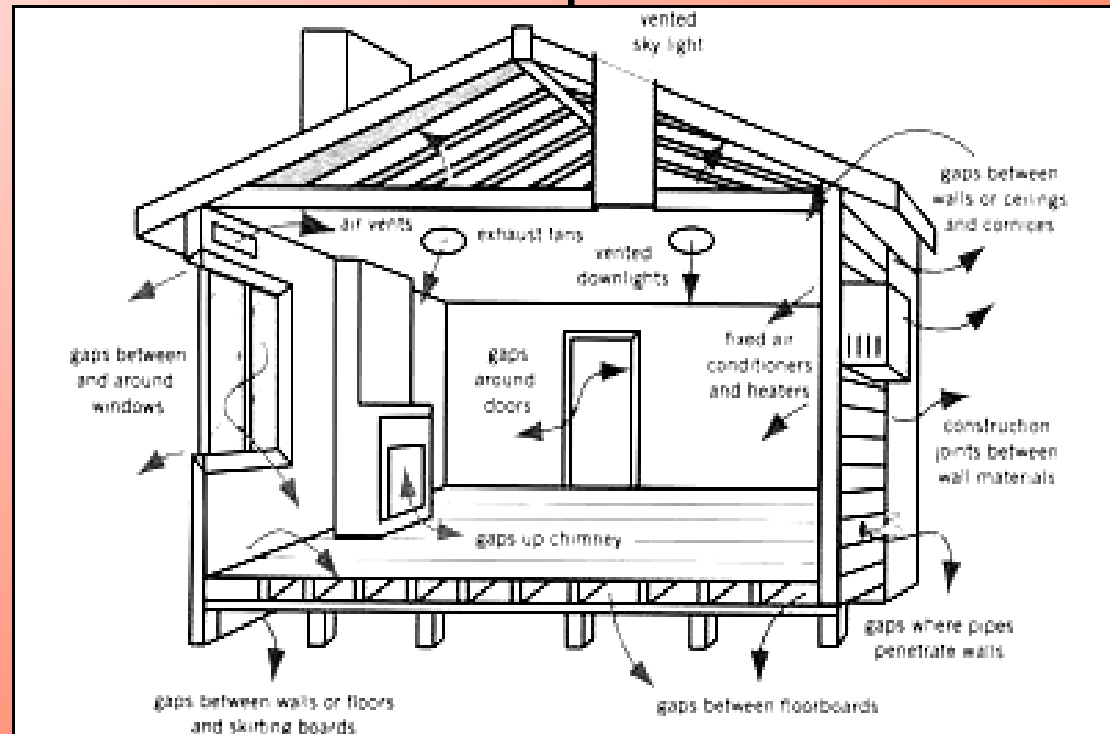
- **Fit low-flow shower heads** - As said above, we use more hot water in winter. With a low flow you'll use less water for the same shower, which means less energy to heat that water.
- Temperate benefit 0c.
- Cost - \$0 (rebate!).
- **Winter savings - \$150**
- **Payback period – 0**



# ***Cheap and effective***

- **Draft sealing** - This is by FAR the best thing to spend money on. Almost all houses have spacings, gaps, and cracks which are effectively little air conditioners blowing icy cold air into your house, or letting your warm air escape.

- Temperate benefit 1c.
- Cost - \$50.
- **Winter savings - \$80**
- **Payback period – 0.6 years**



# ***Cheap and effective***

- **Use a programmable thermostat** - Very handy as you can fine tune when, how, long, and how warm to make the house, which can save a lot of energy.
- Temperate benefit 0c.
- Cost - \$150.
- **Winter savings - \$50**
- **Payback period – 3 years**



# ***Cheap and effective***

- **Replace your electric storage hot water system with a gas-boosted solar system** - There's some great rebates for solar hot water systems. In some cases you only need to pay for the labour to install it. Of course a Solar system won't do as well in winter, but still helps and will reduce you annual bills significantly.
- Temperate benefit 0c.
- Cost - \$800.
- **Winter savings - \$150**
- **Payback period – 5 years**



# ***Cheap and effective***

- **Make sure your curtains don't have gaps around them (pelmet)** - This is REALLY important, as windows are any house's weak point, and good sealed curtains are even better than double glazing (or if you already have DG, it's like TRIPLE glazing)
- Temperate benefit 1c.
- Cost - \$500.
- **Winter savings - \$80**
- **Payback period – 6.3 years**



# ***More expensive***

- **These are the big ticket items**
- **Most of these are based on energy efficiency rather than conservation**
- **Most of these WON'T pay their costs off, but are larger investments that will add value to your house.**

# *More expensive*

- **Get a (much) better heater** - Heaters AIN'T heaters! If you have an old radiant electric heater get rid of it and replace it with a MUCH more efficient reverse cycle air conditioner (heat pump), or if you have an old gas furnace the new ones are much better too. The saving will pay the system off quickly and you'll be burning much less fuel.
- Temperate benefit 0c.
- Cost - \$2,500.
- **Winter savings - \$1,000**
- **Payback period – 2.5 years**



# *More expensive*

- **Fit new doors (or curtain) to break up large open plan areas** - If your house has been (badly) designed to have a vast open space area that can't be reduced with a closed door, consider getting one (or more) installed, or at least get a nice heavy drape fitted to do the job. 50% less space means even more than 50% less heating required, as smaller areas are far more efficient at retaining warmth.
- Temperate benefit 2c.
- Cost - \$1,000.
- **Winter savings - \$160**
- **Payback period – 6.3 years**



# *More expensive*

- **Insulate floors** - Once the roof is done...  
But really gaps are the main problems with floors. Fill those and you're 90% there.
- Temperate benefit 1c.
- Cost - \$1,000.
- **Winter savings - \$80**
- **Payback period – 12.5 years**



# *More expensive*

- **Fit Heavy curtains** - Sheer or very thin fabrics just don't cut it. If you want a warm house you need warm curtains.
- Temperate benefit 2c.
- Cost - \$3,000.
- **Winter savings - \$160**
- **Payback period – 18.8 years**



# *More expensive*

- **Carpet cold floors** - Don't shiver on floorboards, cover them with as big a rug as you can, or even wall to wall carpet (100% wool of course)
- Temperate benefit 1c.
- Cost - \$2,000.
- **Winter savings - \$80**
- **Payback period – 25 years**



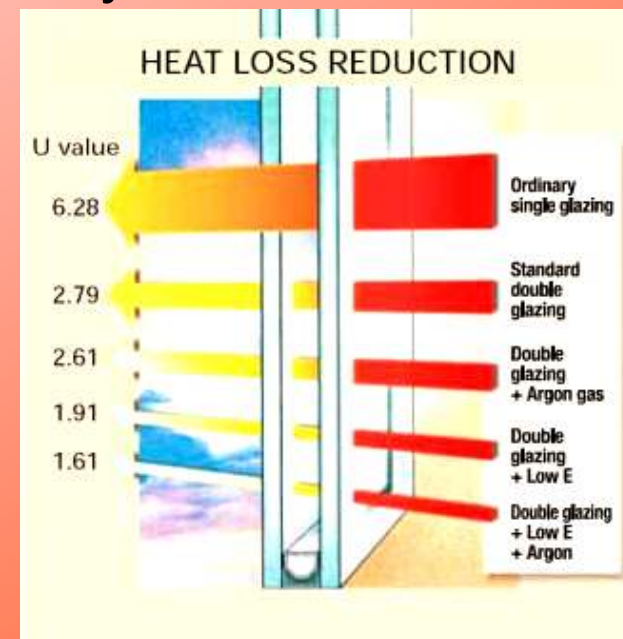
# ***More expensive***

- **Insulate walls** - Yes this is hard and usually expensive. But worth it if you've done all the cheap things and want to go to the next step. The best place to start is the top half of the living room external walls.
- Temperate benefit 2c.
- Cost - \$4,000.
- **Winter savings - \$160**
- **Payback period – 25 years**



# *More expensive*

- **Laminate and/or Double glaze your windows** - Very expensive but a longer term investment. This will increase the value of your home, but remember that you don't need to do ALL the rooms, and cheap aluminium frames still let lots of cold in through the conductivity of their frames. Choose timber, thermally broken aluminium, or uPVC.
- Temperate benefit 2c.
- Cost - \$30,000.
- **Winter savings - \$160**
- **Payback period – 187.5 years**



# *More expensive*

- **Renovate your home to be more energy efficient** - Yes a big and expensive project. Far too much to cover here, but this might be inspired by the 'warm room' in the behaviour change section above.
- Temperate benefit 5c.
- Cost - \$100,000.
- **Winter savings - \$400**
- **Payback period – 250 years**



# ***More expensive***

- **Sell your cold home and buy/build a much warmer one!** - It's possible to have a house built that doesn't need ANY artificial heating (or cooling) through passive solar design principles and enough insulation and other good materials & building techniques. Again, far too much to cover here...
- Temperate benefit 10c.
- Cost - \$350,000.
- **Winter savings - \$800**
- **Payback period – 437.5 years**

