

## SNUG Information meetings

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### Recap

Here are some notes on our successful session on Saturday, for your information.

### Draught-proofing

To ensure that you don't lose heat, you have to draught-proof your windows, external doors, loft hatch, letter-boxes (search for 'insulated letter plate'), pipe holes, floorboards on the ground floor and under the skirting boards.

<http://www.theguardian.com/environment/blog/2011/dec/16/1>

For the fireplace you can block it with a chimney draught-excluder such as Chimney Sheep or install a vent like this one to control the ventilation.



Think also to check if your cat flap has efficient insulation as well.

### Magnetic-strip secondary glazing

Cost of materials approx £30 per square meter + delivery if small order, and labour £20 per window.

Pros : Will not be as effective as full double-glazing as in modern windows, or secondary glazing with separate frames\*, but will eliminate condensation and ensure insulation. No more cold surfaces – we saw a 7° difference last Saturday between the glass and acrylic.

\* *Not generally permitted in listed houses*

Cons : you have to find a place to store the acrylic in summer (e.g. under a bed, behind a piece of furniture); to open the window you have to take off the acrylic, or find another way to air the room if you don't want to take off the acrylic sheet. On a windy day the panel may move and make a noise if the window is not airtight.

For the price, if you compare it with full double-glazing/secondary glazing, it's the cheapest option by far.

Note that magnetic secondary glazing is much more effective if the window is draught-proofed ; and draught-proofing plus magnetic-strip secondary glazing also ensure good sound insulation.

## Ventilation

In a house where nothing has been done about draught-proofing, there is natural ventilation via windows and doors, plus chimneys.

So the major problem after draught-proofing is the ventilation to get rid of humidity, specially in wet rooms, i.e. kitchens and bathrooms.

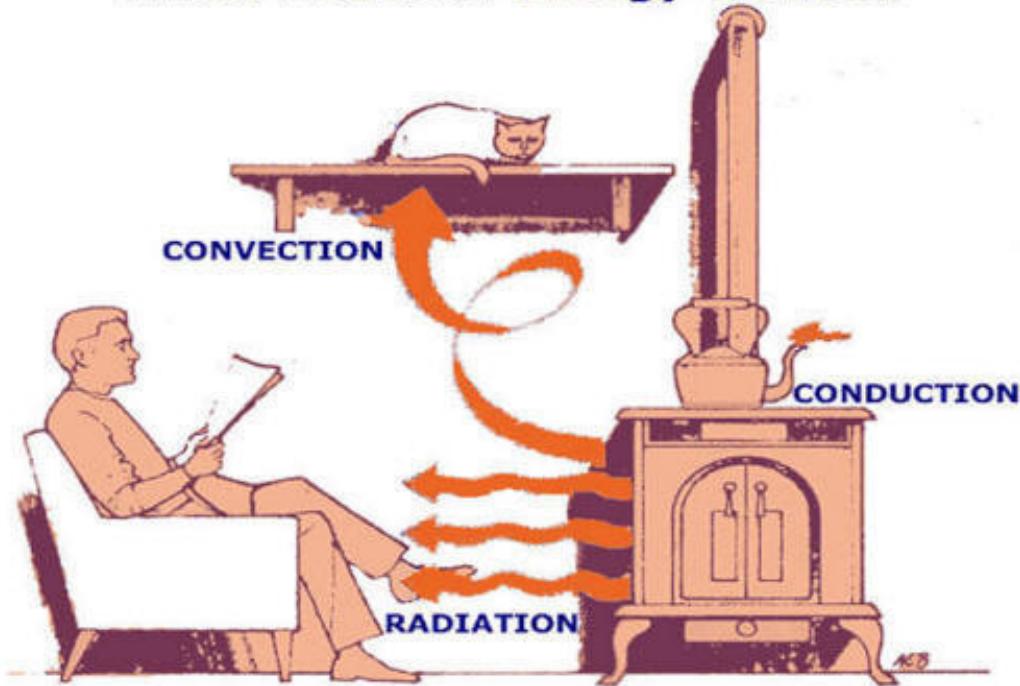
In the kitchen, have a hood connected to the outside, with proper ventilation, and use it !

In the bathroom, install a vent with a timer, so the vent stays on even after you've left the room for 15mns minimum. The vent will switch on automatically with the light or a sensor.

Also think of airing the other rooms of the house to let fresh air in !

## Some physics

### Three Modes of Energy Transfer



What is important to understand is that a radiator will heat up the air, but also send you its heat via radiation.

But a cold wall or ceiling, not insulated, will absorb your heat, and send you cold back. So a thermometer can measure 18° in a room, but you will feel the cold when you're near a cold surface like a single-glazed window, an external non-insulated wall, a cold tiled floor, and a ceiling under a non-insulated loft. I call these surfaces negative radiators, that send you cold instead of warm.

In a passive house  
[\(\[http://en.wikipedia.org/wiki/Passive\\\_house\]\(http://en.wikipedia.org/wiki/Passive\_house\)\)](http://en.wikipedia.org/wiki/Passive_house)

there mustn't be a difference of more than 3° between the temperature of the air and any surface in the room.

Regarding insulation, stable air is an excellent insulator, but it loses its benefits when it's not stable.

That is why you have to trap the air so it keeps its insulation properties. So a cavity wall will be properly insulated if you fill the gap with a product that will stop the air moving.

## Insulation

So cavity wall insulation (if you have cavity walls) is very important,



and loft insulation as well, with, if possible like this



## Central heating

It's better to switch off your central heating at night, and program it to start in the morning.

There are now some programmers/thermostats that are connected to the web, so you can program them from your desktop, or your smartphone, from anywhere in the world.

The simple one is the Hive, sold and installed by British Gas, and there is another model, Nest, more intelligent, but not as simple to understand. I'm working at it now, will let you know ! (only for combi boilers, does not manage hot-water tanks)

<https://www.hivehome.com/>

<https://nest.com/uk/>

## LED lights

All the bulbs that you normally find in a house are now available as LED, plus other types of lights such as strip-lights.

LED lights used to be more expensive to buy, but the prices have dropped rapidly and they are hardly more than other types – and of course cost a fraction of the electricity to run. For example a ceiling bulb for our sitting room costed £15, but consumes only 10W for the equivalent of a 60W, and it says lasts for an average of 30000 hours (like 10 years !). It's also dimmable. You can see all the benefits of LED lights on Jill's web-page: <http://www.jillgoulder.plus.com/green/>.

I recommend this shop in Lewes, have a look at the showroom upstairs. <http://www.eft-electrical.com/>

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There will be more Snug information meetings at times, so if you know other people who would be interested in attending, do ask them to contact us, and we can tell them when the next session is.

Olivier and Luke