



## Transition Town Haslemere

### CASE STUDY

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**What actions were taken?** *E.g. energy efficiency improvements, building work, growing vegetables, changing transport methods etc*

We changed our open fire into a neat wood-burning stove to supplement our central heating.

The house was a converted 19th century stable block, with solid walls and limited potential for insulation (though we did our best). Because we had a large supply of cheap or free firewood available locally, it seemed logical to go for a wood-burning stove.

Using the open fireplace to burn wood wasn't an option. The wood consumption rate was enormous, and also while it heated the area close to the fire, the rest of the house got colder due to the large inflow of fresh air from outside. Neither green nor comfortable!

To avoid having to enlarge the fireplace (costly!), we fitted an Aarrow convector wood burner, which fitted neatly into the existing fireplace. This stove has convector passages which draw in room air at the bottom and push out much warmer air at the top. Thus heating the whole room, not just the area near the fire. (This convector air flow is **TOTALLY** separate from the combustion air flow, which goes into the fire and up the chimney, in case you are wondering. So no smoke or soot in the house.) The stove has a glass front, for safety and sealing, which enables you to see the real fire, and monitor it for feeding.

After using this successfully for a year, we added a further tweak. A small fan was fitted to enhance the convection air flow, which consumed a tiny amount of electricity (about 5 Watts) but greatly enhanced the heat output. Then we could heat the whole open-plan downstairs, not just the sitting room, and use less fuel as well.

**What benefits have been achieved** *e.g. cost savings, reduced carbon emissions etc*

We achieved a much warmer house (it was quite cold before!). And lower fuel bills, because we got our wood either free or at very low cost. No detailed before-and-after figures, but I guess we saved at least 20% on our gas bills.

Cost – about £1500 including installation. We were advised that our chimney was in good condition and didn't require a new flue liner, so that saved some cost. A good stove doesn't wear out, so it adds to the house value when you come to sell.

p.s. We have since moved to a modern smaller house, and we did much the same thing on a much smaller scale. Even a tiny stove, costing a few hundred pounds, has noticeably increased our comfort and reduced our gas bills.

**Further Information:** *e.g. lessons learnt, suppliers, products, websites etc*

Lessons learnt:

Open fireplaces waste heat substantially, with or without a fire burning. A stove acts as a partial blockage, allowing some chimney ventilation, but not too much. If you have an open fireplace, and you don't want to fit a wood stove, you can partially block the flue by stuffing with crumpled newspaper. (Don't completely seal it – that can cause damp problems.)

If we had been bolder, we could have had a stove with a back-boiler, and could have heated the upstairs radiators from the stove as well as the downstairs rooms. The extra plumbing and hassle put us off this.

Lighting the stove must be done early in the evening to have a really useful effect, as it takes a while to really heat the place up. So if your house is empty till 6 or 7pm most days, you won't get a major benefit in terms of gas bills. We worked from home so it was easy to light up at 4 pm or so on a cold day. It would run for about 2 hours unattended.

Our little stove in our new house will also boil a kettle on it's top, given enough time, so we save ourselves some more gas (or electricity) that way.

A fan to blow air past the stove is a major enhancement. If you have a massive fireplace with a small stove in it, you will get lots of natural airflow past it. But if the stove fills more than half the fireplace, it needs some fan-assistance! (Even the "convector" types of stove.)

A stove can burn much cleaner than an open fire. We get our chimney swept each year (£30), but relatively little soot comes down.

Although a stove is very nice, it should probably be fairly low on the list of eco-improvements for your home. Maximising insulation, draught-proofing, refined central heating controls, and electricity saving measures of various kinds should have first call on your available money, as they will pay back faster. See my website article on the whole subject area at:

<http://www.fernhurstsociety.org.uk/greener01.html>

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