

Energy efficiency – A great investment!

Never before has our way of life been so heavily dependant on copious amounts of energy. Every aspect of our lives: how we travel, how our food is produced, how we heat and power our homes, all these tasks require vast amounts of energy. Energy we have come to take for granted.

Over the past few years the UK has become a net importer of energy (oil, gas and electricity). In 2010, total UK energy consumption was 218.5 million tonnes of oil and oil equivalents, 3% higher than in 2009. This upward trend in the UK is mirrored on an international scale and it is becoming increasingly clear that global demand for energy is having a direct effect on the cost of energy in the UK. This trend will continue until such time that our energy demands can be met from domestic energy generation, and this can only happen if we drastically reduce our demand for energy as well as significantly increase our use of renewable energy generation. Nuclear power will play a role in the solution, but as we start to electrify our transport system and heat our homes with new, electrically powered technology (such as heat pumps), demand for electricity will greatly exceed the predicted grid input from Nuclear energy.

Many mainland European countries started to tackle the energy issue several years ago. Austria, Germany and Denmark started to enforce high levels of building energy efficiency standards and the use of renewables in the 1990s and are now reaping the rewards. In the UK we are only now enforcing building standards close to those in Europe and, with the introduction of renewable energy incentives such as the Feed in Tariff in 2010, we are only just beginning to see the necessary growth in the use of renewable energy.

In the UK we actually enjoy the cheapest gas and electricity prices in Europe, yet we have the highest proportion of people living in 'fuel poverty' (where a household cannot afford to keep adequately warm at a reasonable cost). A large proportion of the UK building stock is old and highly energy inefficient, it is this issue which is most pressing, and has received very little focus from the Government and home owners alike, (until very recently when the UK has suffered particularly cold winters). 47% of the UK's Carbon emissions are from heating our buildings.

What can you do?

The first thing you can do as a home owner is to make your home as energy efficient as possible, increasing insulation, installing double or secondary glazing, dry lining, installing low energy lighting, and reducing draughts will make a significant difference.

Tip: If you are already doing or planning building or decorating work, this is often a great opportunity to improve your energy efficiency at the same time.

For period properties, some of the above measures can have a negative impact on internal air quality and increase moisture, but advances in Heat Recovery Ventilation are solving these issues. Also, simply thinking about how you use energy and adapting your behaviour can make a big difference. In my household, by using an energy monitor, we reduced our annual consumption of electricity by 30% through simple behaviour change.

For most of us, an oil boiler is the main source of house and water heating and replacing this with something more sustainable is often difficult. Alternative systems such as heat pumps (Ground source and Air source) require very high levels of insulation and more physical space in the home for

the equipment itself. Solar thermal systems can produce hot water for much of the year and wood burners are great for space heating in the winter, this can all reduce your dependency on oil. Wood burners with backboilers are a more integrated way of using a wood source to heat both your home and hot water.

Tip: Depending on the efficiency of your oil boiler, it is possible that using the immersion heater to heat your water during off-peak times is cheaper than using your oil boiler.

All of these options vary in terms of cost, ease of use and suitability for the many different types, shapes and sizes of houses in our community, but new incentives such as the Renewable Heat Incentive (RHI) are making them more affordable. For those of you who are lucky enough to have a south facing roof and your house isn't listed, installing solar PV is a good option. The production might of China has had a dramatic effect on the price of solar PV, so even with the recently reduced tariff, it is still a viable investment.

The scale of the energy issue for the UK cannot be underestimated and its target of deriving 15% of its energy from renewables by 2020 is a monumental challenge, but we can all play our part. 42% of all carbon emissions from the UK are as a direct result of individual household actions (rather than, for instance, from industry). Taking action to mitigate our carbon emissions will benefit us all directly as well as the community at large. Reducing our exposure to this issue will result in a stronger and more resilient community.

The relative affordability of taking these measures is unlikely to improve over time. Global competition for the resources needed for transforming our energy infrastructure is likely to lead to higher costs relative to income. However, some of the measures discussed above will be eligible for funding from the 'Green Deal', a Government initiative due to be launched in November next year to enable people to borrow from a 'Green Investment Bank' to pay for energy efficiency measures, and the loan repaid from the energy saving benefit it brings, thus protecting home owners from large outlays of capital.

I think in summary, the sooner we take strides to reduce our exposure to rising energy costs, the sooner we will benefit. Recent advice from energy watchdogs to 'shop around' can only provide a very temporary respite from the inevitable price rises across the whole energy sector.

A pound spent on energy efficiency today will guarantee you a return tomorrow!

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