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## The Low Carbon Agenda

No.12 / January 2009

### Happy New Year!

Just before Christmas I left you with the teaser that buying 'green' electricity has much more in common with carbon offsetting than most people imagine. This is because you are drawing the same electrons out of the grid as everyone else, but are relying on somebody else to put enough green electricity into the grid to match your consumption. But unfortunately it is not as simple as that.

Our overseas readers may find this edition rather UK-centric, but the basic principles apply anywhere, so do read on...

All the very best,

Gareth

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### The Bad News

In the UK, the electricity you buy from a green energy scheme is not nearly as 'green' as you would hope it would be. In fact in 2008 the environment ministry DEFRA pronounced that the carbon intensity of "green tariff" electricity should be taken to be the same as that of normal grid electricity when taking carbon footprints or calculating figures for compliance with environmental legislation.

Why?

Just like carbon offsetting, it's our old friend '[additionality](#)' again, and it is all down to the way the UK energy system works.

### The Energy System

To promote the uptake of renewables, the UK Government has introduced the "Renewables Obligation". This obliges large energy providers to either produce a certain proportion of their electricity from renewables, or, buy Renewable Obligation Certificates (ROCs) from small renewable energy generators to match that amount of energy. This market in ROCs incentivises small generators by giving them a financial bonus for every unit of green energy generated.

However if all the green energy suppliers sell all the ROCs they are given, there is no green energy entering the grid above and beyond that required by the Obligation. Therefore if you are paying more than the normal electricity rate for 'green' electricity and the ROCs for that electricity are being sold, you are being conned.

### Two Approaches to Greening Energy

There are two approaches that green energy firms take to tackle this situation.

- a. Some 'retire' (tear up) some of their ROCs so that proportion of energy is above and beyond the obligation. However the maximum current retirement of ROCs is just 15%, so only 15% of your electricity would be genuinely zero carbon.
- b. Others promise to invest in low carbon ventures, eg offsetting schemes, investing in new renewable energy systems or investing in research and development.

## Which to Choose?

The choice is yours, but personally I would never pay over the odds for electricity where all the ROCs are sold - you may as well stick with your existing supplier. I would also be reluctant to choose an offsetting based scheme or a research and development programme as you have little visibility of the effectiveness of the results.

So this leaves two options:

1. Going for the maximum retirement of ROCs that you can get for your money, or,
2. Pay the market rate to a supplier who is directly investing in installing new renewables.

To compare the green-ness of the different suppliers, take a look at the [Green Energy Marketplace](#).

## Next Month

Staff engagement is a critical issue in low carbon ventures, so next month we'll discuss why this needs to be more substantial than lunchtime lectures and the occasional chocolate for those who switch their PCs off at night.

## Low Carbon News

A row has broken out over the carbon intensity of [a single Google search](#). An independent researcher, Alex Wissner-Gross, has come up with 7g CO<sub>2</sub> per search, but the company claims the figure is closer to 0.2g. Whatever the 'correct' amount is, the debate has focussed attention on the energy consumption of data centres - the EU has just published [a code of practice](#).

Scientists, politicians and campaigners are getting very excited about the use of 'biochar' (finely ground charcoal to you and me) to sequester carbon in soil. If the cheerleaders are right, this is one 'technofix' that could make a real difference.

Another idea that could slow the effects of climate change is [painting your roof white or cladding it in reflective material](#). This might sound a bit simplistic, but light from the sun has to be absorbed by a surface and re-emitted as heat before it can cause global warming - think of the heat from a black tarmac road on a hot day. By having plenty of reflective surfaces, the light will be reflected back out to space without being converted to heat.

## Tip of the Month

Make sure hot water pipes and valves are properly lagged to cut heat loss. Pipes in roof and floor voids should be treated as a priority as heat is more likely to 'leak' externally from these areas.

The small print:  
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