From: newsletter@terrainfirma.co.uk
Subject: **The Low Carbon Agenda #3, April 2008: How Not To Take A Carbon Footprint**
Date: 29 April 2008 15:07:13 BST
To: gareth@terrainfirma.co.uk
Reply-To: newsletter@terrainfirma.co.uk
2 Attachments, 21.6 KB

The Low Carbon Agenda

No.3 / April 2008

How Not To Take A Carbon Footprint

This month, we're going to look at Carbon Footprinting in more detail, but focussing on some past disasters. Personally, I like learning from other people's mistakes, particularly whoppers like these!

If you are a new subscriber, you should check out last month's Low Carbon Agenda first, or this one won't make a huge amount of sense.

All the very best,

Gareth

Gareth Kane, Terra Infirma Ltd
gareth@terrainfirma.co.uk

The Big Green Hummer

In March 2007, an obscure market research company called CNWMR published a report called 'Dust To Dust'. It appeared to show that, taking into consideration energy over the whole lifecycle, the energy cost of a Toyota Prius hybrid car was $3.25 per mile whereas that of the huge Hummer H3 was only $1.949 per mile (dig the precision). If you assume energy cost roughly equates to carbon footprint then it appears the Hummer is much greener.

This caused jubilation amongst the reactionary press and blogosphere, and outrage amongst their progressive counterparts. While many of the latter produced long lists and reports of what was wrong with the CNWMR analysis, there is one big fatal flaw.

CNWMR factored in the different driver behaviour of the two vehicles - a Prius driver will drive an average of 100,000 miles across the car's lifetime whereas a Hummer driver will do 400,000-ish. This immediately cut the *per mile* energy figure of the H3 by a factor of 4 relative to the Prius. If you compare the two vehicles over the same distance, say 100,000 miles, the energy cost of the Hummer would be roughly $8 per mile - two and a half times *more* than the Prius.

To put it in layman's terms the CNWMR argument is: the Prius is more damaging because its drivers drive less. Excuse me?

This assumption renders the analysis useless as a guide to the consumer - any one individual is unlikely to drive a Hummer more than a Prius (except to the petrol station which doesn't really count).

This is a clear case of WYGIWYN - 'What You Get Is What You Need' - the unerring tendency for studies to end up with the results that suit the person paying for it.

For Peat's Sake

Another example of bad practice comes courtesy of the compost company, William Sinclair, who put a 'cradle to gate' carbon label on their peat products - covering manufacturing, but not use. This is very naughty as peat is a fossil fuel and will decompose after it is applied to produce 5 times as much carbon dioxide as the figure on the label. A bit like saying petrol has a small carbon footprint as long as you don't actually put it in your fuel tank and start your engine.

How To Do It Properly

Basically, when you're taking your footprint, you need to be very careful with three things:

1. The scope of the study;

2. The assumptions you use to build your model;

3. Data quality - how reliable is the data you input into that model.

1. Scope Revisited

On the scope, as we said last month, a product carbon footprint will normally include the whole life cycle. Only an organisational footprint can ignore what happens after your product leaves the gate - unless the latter is truly insignificant in carbon terms, for example in the case of a brick (but not peat).

In practice you will have to have to use 80:20 thinking to prune the scope down to a practicable level. 'Back of the fag packet' style calculations should be used to quickly identify what is significant and what is not. This should always be documented.

2. Assumptions

Given the uncertainty in the world, you will have to make a large number of assumptions particularly if you are doing a product footprint. How long will the product be used for before it breaks or, more likely, goes out of fashion? How much will it be used? How will it be disposed of?

These assumptions must be relevant, valid, transparent and documented. If you are doing a product or organisation comparison, then I recommend you get an outside view on whether the assumption is 'fair'. I generally err on the side of caution, rather than picking a favourable assumption.

The assumption in the Hummer/Prius example that the differing driving patterns was relevant to the comparison of the two vehicles was a joke.

3. Data Quality

I use a very simple data quality indicator (with a traffic light colour code to match) to track the reliability of data:

- High (green): the data is measured from the system itself (eg from energy bills) or can't be argued with (if you have 2 identical vans then you have two identical vans)
- Medium (amber): generic data from a published source (eg the Carbon Trust publishes typical energy use per square metre for different types of building and DEFRA publishes data on the carbon intensity of different forms of energy);
- Low (red): the data is derived using rules of thumb or guesstimations.

Then you can do a simple sensitivity analysis on the red data - tweak it and see if there's a significant change in the results. If so, go back and find better data.

Next Month

There's an old farmer's saying: "A pig never got fat by weighing it", so we're going to leave all this measurement aside for a while and look at what you can do to reduce the carbon footprint of your organisation or product.

News:

The Energy Performance of Buildings Directive kicks in for non-residential buildings later this year. From Oct 2008, Energy Performance Certificates are required to be provided on the construction, sale or lease of all buildings. In addition, Display Energy Certificates (DEC) must be, er, displayed in public buildings over 1000m2.

According to ENDS, seven companies have been kicked off the FTSE4Good indices of companies with good social/environmental standards for failing to disclose carbon emissions. They include Eastman Chemical and the owner of Castle Cement.

The UKs Renewable Transport Fuel Obligation (RTFO) came into force on 15 April 2008. The RTFO requires transport fuel suppliers to ensure that, by 2010, 5% of all road vehicle fuel is supplied is from sustainable renewable sources. This has reinvigorated the debate over the

sustainability of biofuels.

Tip(s) of the Month

If you use compressed air on site, then maintaining the system properly will pay dividends. Regularly check for leaks using an ultrasonic detector, use the optimum pressure your equipment needs and make sure there are no redundant lines in the network. And make sure your compressor's intake is taking in cool air and not sucking in its own hot exhaust. The efficiency drops dramatically as the incoming air temperature rises.

terrainfirma
bringing sustainability to life