The last resort

Carbon offsetting is a major tool in the fight against man-made climate change, yet it is much maligned with some people calling it a permit to pollute. So, what is carbon offsetting, and does it have a part to play in establishing a way for printers to be more environmentally friendly?

The basic idea behind carbon offsetting is that anyone who generates carbon emissions, through any activity from driving a car to turning on a PC, should pay towards the costs of a scheme that reduces an equivalent amount of carbon from the atmosphere. Typical carbon offsetting schemes include planting trees, which can soak up the carbon dioxide in the atmosphere, or setting up renewable energy schemes.

This article is part of the Verdigris series of stories about understanding the environmental impact of print. The Verdigris project is supported by Agfa Graphics, Canon Europe, Digital Dots, drupa, Fujifilm, HP, Ricoh and Screen.

On the face of it this would seem to be a good thing, but many people argue that carbon offsetting doesn't really solve anything. Friends of the Earth describes carbon offsetting schemes as a smokescreen against action to cut emissions. Tony Juniper, director of Friends of the Earth, commented: "We urgently need to cut our emissions, but offsetting schemes encourage individuals, businesses and governments to avoid action and carry on polluting."

The EU's own scheme for trading in carbon emissions only helps to add to this impression. The idea behind the Emission Trading System is to curb the emissions from within Europe by giving large energy and industrial installations an emissions allowance. Companies are allowed to trade their allowances so that those companies that do curb their emissions can sell off their excess allowance at a profit. However the scheme has been criticised for making the emissions allowance too generous.

A number of companies have sprung up offering to help firms measure their carbon output and to manage the way they invest in carbon offsetting schemes to counter this. Gareth Pickles, managing director of one of these companies, Delta-Simons, acknowledges that there's a lot of debate about offsetting, saying: "Our very strong

Gareth Pickles, managing director of Delta-Simons.

view is that it shouldn't be used as an excuse for highly polluting or CO2 generating activity." He adds: "There should be a design element so that the printer or mode of transport or whatever should be well designed in the first instance."

And there's a great deal that individual printing companies can do as well, as Ian Wilcock, service development manager of Heidelberg UK points out: "If you follow good environmental practice, in minimising the energy used, the inks wasted, the paper wasted and recycle as much as possible and you dispose of what you can't use appropriately, you are working to reduce your CO2 emissions."

But Wilcock admits that these things on their own can only reduce a company's environmental impact, not eliminate it altogether. As Pickles says: "Lots of things that we all do generate carbon dioxide and so you are always going to have an overrun of CO2 from any energy consuming activity and then it's a decision as to what do you do with it. But offsetting the left over has got to be the right thing to do."

Ian Wilcock, service development manager for Heidelberg UK.

Practical problems

However, there are a number of practical issues with carbon offsetting. Wilcock says: "I think the first key issue is where do you define what you are trying to offset and I think one of the key elements is that some take the view that you try and offset from factory gate in to factory gate out and you do it as a production facility for instance. Other thoughts and ideas are that you do it per product and then you look at the product from its inception as paper and ink and obviously the consumables and other aspects to it, through to the distribution of that product and then ultimately you try and work in some idea of the disposal or life of that product. It becomes very complex to do."

Another challenge is that of calculating the amount of carbon that a printing company is using. Different organisations have different methodologies and there's no fixed standard for industry in general, yet alone for the different sectors of the printing industry. That said, both the British Printing Industries Federation and the German Printing and Media Industries Federation (or Bundesverband Druck und Medien) are working to develop a model for calculating carbon footprints suitable for printers.

There are also questions as to the effectiveness of some of the individual schemes. As one example, planting new trees is perhaps the most obvious form of carbon offsetting, but there are different views as to how much carbon trees can sequester, and not all schemes take into account what happens if those trees die prematurely.

And there is also an issue as to how scrupulous the offsetting company is. How do you know for example, that if you invest money into a scheme to plant trees, that those trees actually are planted? Many companies appear to sell forward credits, for schemes that have yet to be implemented and which means these schemes are wide open to fraud. And of course, it's essential to ensure that the schemes are new schemes, and that people aren't simply paying an offset supplier, for a scheme that would have gone ahead anyway.

The Verdigris Project website is being built and will be live in November!

Pickles describes the situation as being like the wild west but says: "There are standards being developed but there isn't a consistent international one. The UK government has come out with some guidance on what to do with offsetting, but there isn't an international standard that everyone is bound to. Instead there is independent validation of the claims from companies like PricewaterhouseCoopers."

Carbon positive

There is already one very good example of a carbon offsetting scheme in the printing industry set up by Océ. This Carbon Positive Plus scheme applies to the black and white Varioprint 6000 series which already meet Pickles design criteria in that they have been developed to use around half the energy in day to day operation as the nearest rival. The idea is that Océ will pay to offset 200 per cent of the energy that each printer uses throughout its life.

The scheme is operated by Delta-Simons. Pickles explains: "Effectively we are harnessing more carbon dioxide from the atmosphere than that particular machine will ever create through its operational lifetime with that customer."

There are some limitations to the scheme, in that it doesn't take into account the resources used by Océ to develop, make and market the printer. Nor does the scheme include consumables such as the toner that the machine uses. It also seems unlikely that Océ will offer the carbon positive scheme with any of its existing printers, mainly because the scheme is designed to capitalise on the fact that the 6000-series has a fairly low carbon footprint to start with. Nonetheless, as Pickles points out: "If all the printer manufacturers did this the industry could have quite a positive impact."

Delta-Simons has put together an international portfolio of carbon offsetting schemes for the project. Pickles explains: "We've got renewable energy investment, things like wind turbines, hydroelectric power and so on, we've got methane capture, methane that is coming out of a landfill site in Germany that without the investment would have just been released to atmosphere. Methane is 13 times per potent than CO2 as a greenhouse gas so capturing that and then turning it into a fuel and burning it is kind of reducing 13 times its impact on the atmosphere and therefore you've got the equivalent of 12 carbon dioxides for every one of methane. These are done through the Carbon Neutral company which is itself then externally validated and verified and audited by PricewaterhouseCoopers. We are also working with the Woodland Trust and planting a woodland that Océ have been investing in with us. So they are all very robustly defensible schemes that we've selected."

He adds: "Of the 200 per cent, 150 per cent is with the renewable energy and the methane capture schemes, because they are recognised as being the most defensible in terms of how much carbon you are getting for your cash. You can measure a ton of carbon by turning on a wind turbine and the electricity it generate carbon free compared to what comes out of the national grid is very measurable. The same goes for methane capture, it's turned to fuel and you can burn the fuel. The difference with trees of course is that you can't do that and that's why we've gone down the most conservative route."

Océ's Varioprint 6000 series of monochrome printers has been designed from the ground up to have a smaller carbon footprint than its nearest rival.

Conclusion

The simple fact is that no matter how good your environmental policies there is always going to be an element of your activities that you can't account for or counter. This is where carbon offsetting comes in and if it is used as a last resort then it has a valid place.

The key to successful carbon offsetting lies in choosing a responsible supplier. It is no good simply paying money to a company which might not follow through on the scheme. And this of course is the biggest single problem, because it's difficult for individual printers to spot the cowboys from the genuine experts. Any decent scheme should be backed by a sensible level of verification, but of course without recognised standards it's hard to know the value of any certification. This in itself represents a

good opportunity for equipment vendors to find and recommend reliable partners for their customers.

There is also considerable variation on price, with different suppliers charging wildly varying amounts per tonne of carbon offset. But as a rough guideline, the verification process can be expensive so that the more costly schemes are likely to be the better ones.

– Nessan Cleary