Why ETS is hard to do with waste

The Government is considering how the UK emissions trading scheme will apply to the waste sector. **ANDREW OLIE** looks at some of the potential consequences

The conclusion of the recent consultation on the inclusion of energy-from-waste (EfW) in the UK ETS gives slightly more shape to the intended and unintended consequences of potentially one of the biggest changes since the introduction of landfill tax.

Several of consequences can be identified as potentially moot points and/or are relatively easy to address, for example:

- Refuse-derived fuel export will, to a large extent, be constrained by offtake options and are likely to have EU ETS tax costs in due course, so probably only need a 'light touch' adjustment, if anything.
- Competition from sustainable aviation fuels for residual waste will likely be constrained by the quality of waste feedstock needed and should need to account for fossil emissions in process in any event.
- Landfill tax will need to be adjusted to ensure that there is not a perverse move towards landfill, but there are simple solutions to the problem (arguably the bigger problem here is landfill tax avoidance and criminality).

The three biggest issues, then, as we see them at Monksleigh, are:

- The way this tax burden is measured at the EfW plant to make it as accurate and equitable as possible when residual waste varies so much in its composition.
- The way this huge tax burden will then have to be shifted from EfW operators down through the supply chain and, ultimately, into the cost of goods or council tax paid by the public because EPR will not be enough to offset it.
- That recycling efforts may not actually decarbonise the waste and lead to a lower 'fossil carbon cost' per tonne.

The fundamental issue is that where the UK ETS generally deals with the displacement of fossil carbon with known emission factors, such as oil, coal and gas, there is not the same consistency for waste. It faces factors such as variability from collection round, level of business waste, level of household affluence, recycling focus, level of pre-processing and seasonality. Also those managing waste tend to consider their total carbon footprint and not just their fossil carbon emissions.

The simplest and most consistent way to deal with the issue is to have centrally defined, default emission factors for different waste streams – avoiding the temptation to have too many waste streams that would reintroduce complexity. It also eliminates the risk of different approaches to the conversion of composition to fossil carbon which, from our current modelling, can vary by +/-15%.

Concerns: recycling efforts may not actually decarbonise waste

By all means these factors could be enhanced and improved over time with periodic sampling. But enacting widespread sampling of an inconsistent material will lead to huge unnecessary cost, confusion and potential multiple contractual disputes as all parties struggle to agree their fossil carbon cost.

The logic, of course, would have to extend to the 'output' measurement as well as the 'input' measurement: measuring C14 on the output and emissions factors on the input just creates a potential gap that EfW operators will struggle to reconcile. They may have to try to 'over-recover' to manage the risk to their business, so why create the problem in the first place?

But what of those who say this may not have the correct level of accuracy or might not lead to the decarbonisation of the waste streams?

I have three responses. First, the accuracy will only be as good as the limitations of sampling of a heterogeneous and highly variable and ever-changing material. Second, some materials may have limited options for removal, such as sanitary products with high plastic content. And third, recycling initiatives will not necessarily reduce the fossil carbon of the residual waste.

Why is this last point important? An increase in food waste recycling would lead to a drop in the biomass carbon, leading to a higher fossil carbon content in percentage terms. Recycling plastics – the highest contributor of fossil carbon, although our research shows that man-made textiles have a higher-than-expected impact – would lower the fossil carbon and lead to a higher biomass carbon percentage.

If recycling efforts 'balance', then the percentage of fossil carbon content of the waste will not have changed and the payment per tonne may be the same, even with the recycling effort and associated cost and potential emission incurred – and this ignores inert fractions that could also heavily distort the picture.

So, is the 'wolf' an incineration tax, in the 'wolf's clothing' of a carbon tax? With the limited ability to decarbonise the waste input, this certainly seems the case; indeed the supply chain could emit more carbon in the process.

We seem to have an incineration tax in all but name, with the ability to decarbonise through carbon capture and heat use being the only real options. In which case, perhaps we should accept it as such and focus on the goal of creating a simple mechanism to encourage greater diversion of waste up the hierarchy, just as landfill tax did in the past, and not kid ourselves that it is all about fossil carbon?

● *Andrew Olie is director of Monksleigh*