What a waste: refuse derived fuel.

Background
The Germans first burned tyres a replacement for fossil fuels in the 1950’s, kickstarting a movement to create so called “alternative fuels”.

One of these, refuse derived fuel (or RDF) is comprised of combustible waste, like plastic, which would otherwise be sent to landfill. Since its adoption, this has enabled millions of tonnes of Britain’s waste to be used as a renewable energy source.

The waste is processed prior to before becoming fuel, taking the form of either a uniform shredded mixture, or a compressed item, such as a pellet or log.

In the last 30 years Britain’s adoption of RDF in preference to fossil fuels has increased over tenfold.

Processing
Non-combustible materials like metal and glass are removed by magnet and mechanical screening respectively. Once these have been removed, an air knife separates the remaining light and heavy waste, the latter often continuing to landfill due to its lower calorific value. These smaller items are then shredded, following which further infrared separation may take place.

Then what happens?
The RDF is then burned in combustion facilities to produce electricity. It can also be used in cement kilns and, if sufficiently clean, can be commodotised by way of unused carbon credits sold via a carbon exchange.

Law
Interestingly, there are still no legislative guidance as to the classification of RDF, although Germany is leading the drive towards a global specification for the fuel.

Further forms of RDF?
Solid recovered fuels (“SRF”) also fall within the definition of RDF, as does the tyre-derived fuel mentioned in the introduction to this article.

There is a greater degree of specificity where SRF is concerned, thanks to the European standards of CEN/TC 343 for solid recovered fuel. This is helpful in that producers are asked to classify SRF by reference to content of chemicals such as chlorine, and heavy metals like mercury, as well as the net calorific value.

The increased quality control in SRF has led to a half-way house in the form of what is now referred to as “refined RDF.” The move toward producing better waste fuels has been reflected in the recent increase in the manufacture and design of sophisticated processing machinery and plant.

Threats to RDF
The chief threat to the wider uptake of RDF comes from the general public’s concerns as to emissions and noise, leading to ‘nimbyism’. The impact of Brexit (as with most things) is as yet unknown. However, the current environment of relaxed waste trading between EU states could well be disrupted as a result of our departure from the Union.

Following the implementation of the Landfill Directive, continental Europe has seen substantial investment in energy from waste plants. This means there is a significant demand for refuse derived fuel, some of which from Britain. It is hoped we will be able to continue trading our waste under similar conditions but in the event Brexit precludes us from doing so, we may be forced to increase our domestic usage of RDF.

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