

The dynamics of waste treatment

What are the challenges for residual waste treatment facility providers in the UK, asks **Natalie Cording**

■ **SINCE BEING FOUNDED IN 2009, TOLVIK CONSULTING HAS ESTABLISHED ITSELF AS A** leading provider of independent market analysis and commercial consulting across the waste sector, with a wide client base including project developers, investors and local authorities. Recent projects have included assessments of feedstock availability, end markets for mechanical-biological treatment (MBT) recyclates, mergers and acquisition advice and strategic development support.

Working with its European partners, Germany-based Prognos and Sweden's Profu, Tolvik also has access to trends in the more mature European markets, and is able to use these markets to draw comparators and benchmarks with the rapidly changing UK market.

In its recent report *Residual Waste in the UK*, Tolvik provides a set of key findings using three scenarios, each based on varying recycling and composting rates. The Central Case scenario, which assumes that England and Northern Ireland achieve the 50% recycling target by 2020/21, projects that residual waste tonnages will total 23.2 million tonnes (mt) by 2020. This compares with 29.8mt of currently planned residual waste treatment facility (RWTF) capacity. If all these RWTFs were actually built, the level of overcapacity at 28% would be greater than that currently seen in northern Europe.

But given the complexities associated with securing adequate feedstock to support investment, not all currently planned RWTFs will be constructed. Using a series of assumptions regarding the likelihood of development, the report estimates that around 19.6mt of RWTF processing capacity could be constructed, with the main shortfall likely to be capacity for the processing of commercial and industrial (C&I) waste.

With a total UK requirement in the Central Case for around 9mt of C&I waste capacity, the merchant RWTF market would appear to represent, post-PFI, the next golden opportunity for the waste industry.

Developers of merchant facilities may also be encouraged to note that Tolvik's analysis shows that, during the past 12 months, 1.9mt of additional RWTF capacity was consented, suggesting that (other than perhaps for large-scale EfW schemes) planning may

AT A GLANCE

How the complexities associated with securing adequate feedstock are likely to affect residual waste treatment processing capacity

be becoming more of a perceived rather than real project risk.

However, caution is needed. The key for developers will be whether they are able to aggregate sufficient residual C&I waste at a suitable gate fee within a reasonable catchment area to satisfy investors.

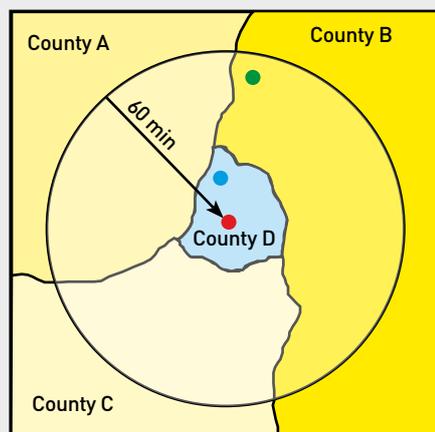
Typically, the absence of long-term C&I waste contracts results in gate fee uncertainty. In rising ones this represents an opportunity, but in falling markets, where merchant facilities are often less able to marginally price than local authority collected waste (LACW)-backed facilities, they can be at a disadvantage.

An additional gate fee pressure is the growing trend in the export of refuse-derived fuel (RDF) to facilities



Complexities of feedstock security mean that not all planned facilities will be constructed

DEVELOPMENT CHALLENGE



Catchment area overview in 2020 (thousands of tonnes)

	Population	LACW	Residual C&I waste	Total residual waste	RWTF capacity	Available waste
County A	400	110	60	170	225	70
County B	300	80	45	125		
County C	200	50	30	80	-	80
County D	500	135	80	215	175	40
TOTAL	1,200	375	215	590	400	190

“Planning may be becoming more of a perceived rather than real project risk”

in northern Europe offering lower gate fees. Recent analysis by Tolvik in *UK Waste Exports – Opportunity or Threat?* suggests that in 2011 there is likely to be a 10-fold increase in the export of RDF from the UK. With the Environment Agency’s current position that it “will not object” to the export of RDF for energy recovery in Europe, export is an increasingly economically attractive option for UK waste companies faced with rising landfill tax.

In such circumstances, it is not unreasonable to assume that until such time as incineration markets in Europe harden and/or the value of recyclables fall, spot gate RWTF fees are likely to be driven not only by landfill prices (which is increasingly becoming the disposal point of last resort) but by gate fees at facilities producing RDF for export. These are currently reported at £65-£70/tonne.

Aggregating feedstock

Consider the following example of the challenge, using the box above. A developer has planning permission for a 100,000-tonne a year (ktpa) merchant EfW facility (red dot) in County D, set in the middle of a 60-minute drive time catchment area (surrounded by counties A, B and C). A 175ktpa energy-from-waste (EfW) facility is already under construction in County D (blue dot) and, by 2020, it is expected to process 135ktpa of residual LACW. The remaining 40ktpa (22% of capacity) will be merchant.

Counties A and B are working together to procure a joint facility. The shortlisted bidders are proposing the development of a 225ktpa MBT/EfW solution (green

dot) with a merchant capacity of about 35ktpa (15%).

County C, with the smallest population of all the local authorities in the catchment area, has been advised that it has insufficient tonnage to support its own facility cost effectively. As a result, it has been in discussion with the developer about using the proposed EfW. For political reasons it will not procure a long-term treatment solution until construction has started.

The table above shows that, within the catchment area, it is projected that there will be 190ktpa of available waste in 2020. The developer therefore starts fund raising and the information memorandum highlights the ‘headroom’ of 90ktpa between the available waste and proposed EfW capacity and a required capture rate of just over 52%.

Investor 1 identifies the risks that County C will not contract with the developer as critical and, discounting County C’s LACW, the ‘available tonnage’ has reduced to 140ktpa. This requires a capture rate of over 70% of the C&I waste market. Investor 1 declines.

Investor 2 believes that, at the right price, the developer will be able to secure County C’s waste. But, based on European experience, it believes that the 50% LACW recycling rate is too low an assumption in the long term and that, post-2020, will increase to 60%. With a total 750ktpa of LACW in the catchment area, this would result in 75ktpa less residual waste than modelled – and so the available market is only 115ktpa and a capture rate of 87% is now required. Investor 2 also declines.

The developer is unable to raise the necessary funding and the project does not proceed.

The net effect is that within the catchment area, in 2020 only 400ktpa of treatment capacity will be constructed (67% of the expected total residual waste), a potential analogy for the UK market as a whole. ■

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