

# TERU Focus Report - Recovery: Molecules, Energy, or Both?

## European Debate over Plastics Recycling Provides a Global Context

May 5, 2015 -- Michael Theroux

### Introduction

When we attempt to define highest and best use of materials recovered from waste, some would contend that incineration for generation of heat and power provides the most bang for the ton of trash. Others feel that such complete thermal conversion is the anathema, and that it is with *molecular recovery* that we should be most concerned. The international market for recovered plastics has recently been under close scrutiny with greatly reduced and tightened acceptance into China paralleling dropping prices and an overabundance of waste plastic.

Professor Dr. [Helmut Maurer](#) serves as an advisor in the European Commission (EC) "waste management" unit, and spoke at last week's [Identiplast 2015](#) conference in Rome, Italy. Dr. Maurer proffered that when seeking markets for recovered plastic, energy recovery should be the last resort in concert with his work in development of a European plastic waste strategy for the EC, and in context of the broader coherence of European waste legislation. Not restricted to Europe, that same argument surfaces regularly in North America, as a lively and contentious debate over available options for waste management.

Dr. Maurer's pronouncements caught the attention of Kristian Dales, Sales and Marketing Director of [FCC Environment](#), one of the UK's leading waste and resource management companies. Part of FCC's mantra is that *disposal to a landfill* is actually the last resort in waste management, far less preferred than any form of recovery despite the fact that FCC has control over 44 operational landfill sites. Mr. Dales [published](#) a considered, concise response to Dr. Maurer that argues for an integrated approach utilizing both waste-sourced plastics conversion to goods, and plastics conversion to energy. We feel that Mr. Dales' premise holds for any sector of waste management. His response argument is presented verbatim, below.

### Energy vs. Molecular-level Recovery

*Kristian Dales, Sales and Marketing Director, FCC Environment:*

"It's all very well and good arguing for plastics recycling over energy recovery but is there a commercially viable market for recycled plastics? Where is the certainty given the downturn in the global commodities market and the recent spiralling of oil prices, the impacts of which are already impacting on demand for recovered plastic polymers? Quality will continue to be a crucial price differentiator, but this is heavily reliant on influencing consumer behaviour to address issues of contamination. There is no sign yet of the scale of funding we saw back in the early 2000s to orchestrate new public education campaigns to tackle this.

"There is also a shortfall of reprocessing capacity in the UK to deal with greater volumes of recovered materials. In addition, national recycling rates appear to have plateaued – with no firm policy framework in place to help stimulate the secondary commodities market, developing a robust business case to invest in new materials recovery facilities remains challenging. Given the current state of play, are we entering an era of diminishing returns with regards to recycling?

"The thermal treatment of residual plastics through Energy from Waste (EfW) can act as a complementary technology choice. We currently have a buoyant UK export market for refuse derived fuels (RDF), driven by demand for feedstock from overseas EfW facilities, low shipping costs and the strength of sterling. RDF exports offer the industry a cost-effective treatment/disposal route for residual waste while helping to deliver against zero waste to landfill aspirations.

"But in exporting our RDF, we are also exporting huge value out of the UK as well as the fact that exporting RDF while importing energy in other forms also undermines domestic energy security. RDF has the potential to offer so much more if a domestic market can be built for it, both in terms of meeting the UK's

future energy requirements and offering businesses a closed loop solution to help power their logistics and production processes.

“Despite the current lack of spare capacity in domestic EfW facilities to take advantage of the amount of RDF being produced, there are enough EfW facilities either under construction or in the planning process across the UK to match future RDF capacity to demand. But it remains unclear as to how many of these plants will eventually become operational.

“It is difficult to gauge investor confidence with regard to large-scale EfW projects, especially in the wake of the Government’s decision to withdraw funding for a series of major PFI municipal waste contracts. This, coupled with the seemingly confusing mix of incentives and credits under the Feed-in Tariff, Renewables Obligation Certificates and Contracts for Difference regimes, has resulted in an inconsistent policy approach that is only creating more uncertainty for the sector. That said, EfW remains a proven and bankable technology. Recently we have seen a handful of new merchant facilities come on-stream in the UK and over the next five years we will inevitably see more, especially as EU 2020 landfill and renewable energy targets draw closer.”

### Parting Shots

There is an old saw regarding "environmentalists" - we tend to eat our own.

In our opinion, Mr. Dales presents a realist's perspective. If there is insufficient combined money, infrastructure, political will, or public sentiment to drive markets toward the best conceivable approach, we *still* must contend on a daily basis with the veritable Tsunami of Trash that globally, we all generate. As with Fuel considerations: our ever-growing and insatiable actions demand a far more direct response than our best intentions would dictate.

Until we find ourselves magically transmogrified into a perfect world, we will continue to need every trick at our "disposal".

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