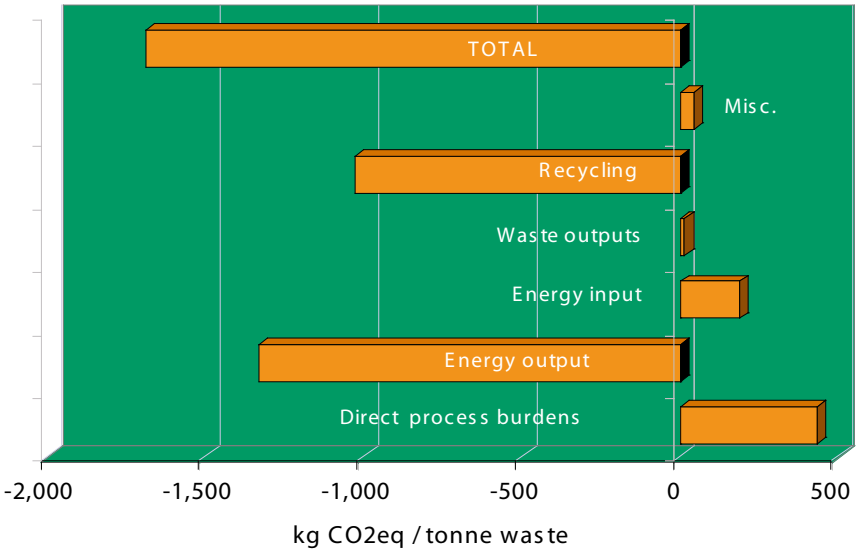
Environmental Benefits of the ART Technology

Extract of full report by Tony Yates, Principal of SLR Consulting Ltd.

ART believe that their technology provides a solution to solid waste management that delivers optimum environmental performance. A detailed carbon footprint has been prepared for the process using the Environment Agency's Life Cycle Assessment Tool "Waste and Resource Assessment Tool for the Environment" (WRATE).
The WRATE software is a life cycle assessment tool specifically designed to model environmental impacts of waste and waste management processes. Its use is endorsed and encouraged by the UK's Environment Agency (EA) and Department for Environment, Food and Rural Affairs (Defra).

The carbon footprint is calculated on a life cycle assessment (LCA) basis; that is account is not only taken of the direct emissions from the process but also of the indirect impacts associated with supplying resources and materials to enable the process to function correctly and from the subsequent management of any waste outputs. In essence all inputs and outputs to the process are included in the carbon footprint calculation.

Carbon Footprint of the ART Process



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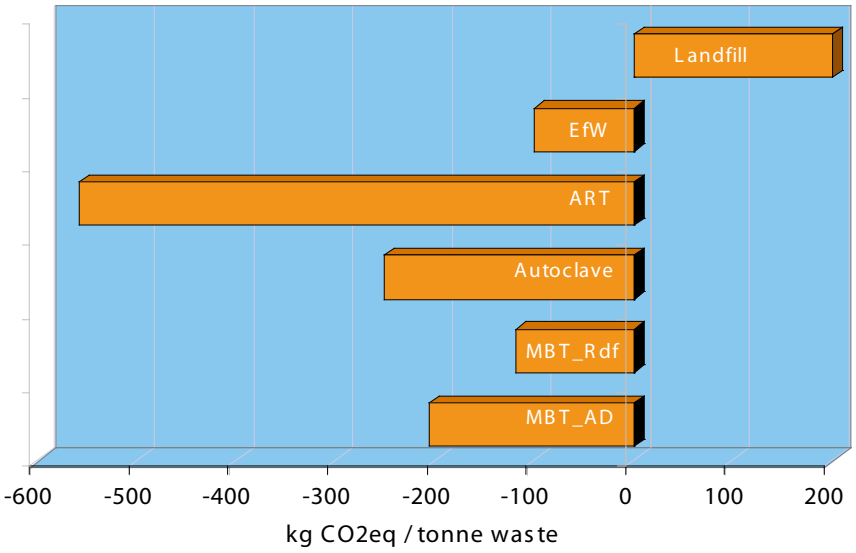
The excellent environmental performance of the process is due to a number of factors:

1. **Maximising the recovery of recyclable materials such as metals and rigid plastics;**
2. **Converting organic elements of the waste into biomass type fuel (RDH) that can be combusted in a dedicated biomass to energy and heat plant;**
3. **Converting other combustible elements of the waste into a high calorific value fuel (RDF) that can be used as a direct replacement for fossil fuels;**
4. **Selecting energy facilities that exhibit high energy efficiency technologies so that maximum energy can be extracted from the fuel;**
5. **Minimising the energy demand of the process;**
6. **Minimising the amount of waste sent to landfill.**

Comparison of the ART Technology

For the reasons highlighted above the ART technology out performs all other waste management technologies currently available at commercial scale in the UK.



In summary, by following the principles of the waste hierarchy, promoting recycling over recovery over landfill; and by minimising the process energy demand, the ART process can be considered to offer optimal environmental performance for the management of solid waste.

To view full report, please contact UK@art-environmental.eu

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