Database of Waste Management Technologies

The aim of the database is to provide with a description of the technological options incorporated in the tool, as well as the data (operational, environmental, and economic) relevant to each option.

The database is designed so as to be user friendly with short texts, photos and information "to the point", so that the user easily and quickly may find clarifications about the technological options of the tool. Additional information, for example references to legislation, is provided in the form of links (either to relevant web sites or to documents included in the tool).

A separate section of the database is the one called "case studies", where representative facilities for each technological option are presented. These facilities are in operation and contact details are provided.

The technological options included in the database are based on the selection of technologies and their preliminary disaggregation (Action 1a) as well as on the detailed disaggregation performed in Action 2a. Also, the potential combinations of the various technological components have been taken into account as described in action 2a.

The main structure of the database is presented in the following table.

Each "family" of technologies is represented by a document with the extension -00. This document contains generic information, mainly the definition of each process and the core concept on which the process is based to treat wastes (for example composting technologies are based on the aerobic decomposition of organic matter by aerobic bacteria).

The rest of the documents (extensions 01, 02, etc) refer to configurations/modules of each process (for example wet AD, dry AD, etc).

These documents include for each technology:

- Description
- Process Mass Flow Diagram
- Process Photo
- Operational data: area, energy/fuel consumption, water
- Environmental Indices: air emissions, wastewater and residual
- Economic data: investment cost, operational cost

The text as it has been included in the database is also attached at the end of this Annex. The database itself is included in a CD.

Technology	Code	Remarks	File Name	Title
Temporary Storage			*TS-00.doc*	*Temporary Storage Facilities*
Temporary Storage-1	Temporary Storage-1	Separately collected recyclables except glass	TS-01.doc	Temporary Storage 1: Storage in Bales
Temporary Storage-2	Temporary Storage-2	Separately collected glass	TS-02.doc	Temporary Storage 2: Storage in Containers
Material Recovery Facility			*MRF-00.doc*	*Material Recovery Facilities*
Material Recovery Facility-1	MRF-1	Low mechanical intensity (Handpicking)	MRF-01.doc	MRF 1: Sorting from comingled recyclables with low mechanical intensity
Material Recovery Facility-2	MRF-2	Medium mechanical intensity (Magnet for Fe and eddy current for Al)	MRF-02.doc	MRF 2: Sorting from comingled recyclables with medium mechanical intensity
Material Recovery Facility-3	MRF-3	High mechanical intensity (Magnet, Eddy Current & NIR for plastics)	MRF-03.doc	MRF 2: Sorting from comingled recyclables with high mechanical intensity
Composting			*Composting-00.doc*	*Composting technologies*
Composting-1	Composting-1	Open air windows	Composting-01.doc	Windrow Composting (Open System)
Composting-2	Composting-2	Covered windows	Composting-02.doc	Composting in covered windrows
Composting-3	Composting-3	Tunnels	Composting-03.doc	Tunnel Composting
Composting-4	Composting-4	Boxes	Composting-04.doc	Composting in boxes

Technology	Code	Remarks	File Name	Title
Composting-5	Composting-5	Closed halls	Composting-05.doc	Composting in closed halls
Anaerobic Digestion			*AD-00.doc*	*Anaerobic Digestion (AD) Technologies*
Anaerobic Digestion - 1	AD-1	Dry AD and open air composting	AD-01.doc	Dry AD followed by open air windrow composting
Anaerobic Digestion - 2	AD-2	Dry AD and covered windows composting	AD-02.doc	Dry AD followed by covered windrows composting
Anaerobic Digestion - 3	AD-3	Wet AD and open air composting	AD-03.doc	Wet AD followed by open air windrow composting
Anaerobic Digestion - 4	AD-4	Wet AD and covered windows composting	AD-04.doc	Wet AD followed by covered windrows composting
Anaerobic Digestion - 5	AD-5	Complete dry AD and covered windows composting	AD-05.doc	Complete Dry AD (Dry Fermentation)
Waste to Energy			*WtE-00.doc*	*Thermal treatment technologies*
Waste to Energy -1	WTE-1	Moving grates furnaces only power generation	WtE-01.doc	Grate incineration Technology
Waste to Energy -2	WTE-2	Moving grates furnaces combined heat power generation	WtE-01.doc	
Waste to Energy -3	WTE-3	Fluidised bed furnaces only power generation	WtE-02.doc	Fluidised Bed incineration Technology
Waste to Energy -4	WTE-4	Fluidised bed furnaces combined heat power generation	WtE-02.doc	

Technology	Code	Remarks	File Name	Title
Mechanical Biological Treatment			*MBT-00.doc*	*Mechanical Biological Treatment facilities*
Mechanical Biological Treatment with advanced recycling & covered windrows composting	MBT1	Ballistic separator, 2 stages sieving, magnet, eddy current & NIR Composting with covered air windrows	MBT-01.doc	Advanced Recycling / Composting of the organic fraction
Mechanical Biological Treatment with advanced recycling and tunnel composting	MBT2	Ballistic separator, 2 stages sieving, magnet, eddy current & NIR Composting with tunnels	MBT-01.doc	
Mechanical Biological Treatment with advanced recycling & composting in boxes	MBT3	Ballistic separator, 2 stages sieving, magnet, eddy current & NIR Composting with boxes	MBT-01.doc	
Mechanical Biological Treatment with advanced recycling & composting in closed hall	MBT4	Ballistic separator, 2 stages sieving, magnet, eddy current & NIR Composting with closed halls	MBT-01.doc	
Mechanical Biological Treatment with advanced recycling & dry AD	MBT5	Ballistic separator, 2 stages sieving, magnet, eddy current & NIR Dry AD and covered windows composting	MBT-02.doc	Advanced Recycling / AD of organic fraction
Mechanical Biological Treatment with advanced recycling & wet AD	MBT6	Ballistic separator, 2 stages sieving, magnet, eddy current & NIR Wet AD and covered windows composting	MBT-02.doc	
Mechanical Biological Treatment with advanced recycling & complete dry AD	MBT7	Ballistic separator, 2 stages sieving, magnet, eddy current & NIR Complete dry AD and covered windows composting	MBT-02.doc	
Mechanical Biological Treatment with conventional recycling & covered windrows composting	MBT8	Ballistic separator, 2 stages sieving, magnet, eddy current Composting with covered air windows	MBT-03.doc	Conventional Recycling / Composting of the organic fraction

Technology	Code	Remarks	File Name	Title
Mechanical Biological Treatment with conventional recycling and tunnel composting	MBT9	Ballistic separator, 2 stages sieving, magnet, eddy current Composting with tunnels	MBT-03.doc	
Mechanical Biological Treatment with conventional recycling & composting in boxes	MBT10	Ballistic separator, 2 stages sieving, magnet, eddy current Composting with boxes	MBT-03.doc	
Mechanical Biological Treatment with conventional recycling & composting in closed hall	MBT11	Ballistic separator, 2 stages sieving, magnet, eddy current Composting with closed halls	MBT-03.doc	
Mechanical Biological Treatment with conventional recycling & dry AD	MBT12	Ballistic separator, 2 stages sieving, magnet, eddy current Dry AD and covered windows composting	MBT-04.doc	Conventional Recycling / AD of the organic fraction
Mechanical Biological Treatment with conventional recycling & wet AD	MBT13	Ballistic separator, 2 stages sieving, magnet, eddy current Wet AD and covered windows composting	MBT-04.doc	
Mechanical Biological Treatment with conventional recycling & complete dry AD	MBT14	Ballistic separator, 2 stages sieving, magnet, eddy current Complete dry AD and covered windows composting	MBT-04.doc	
Mechanical Biological Treatment with hand-picking & covered windrows composting	MBT15	2 stages sieving, magnet, eddy current Composting with covered air windows	MBT-05.doc	Combination of hand picking and mechanical sorting to recover recyclables / Composting of organic fraction
Mechanical Biological Treatment with hand-picking and tunnel composting	MBT16	2 stages sieving, magnet, eddy current Composting with tunnels	MBT-05.doc	
Mechanical Biological Treatment with hand-picking & composting in boxes	MBT17	2 stages sieving, magnet, eddy current Composting with boxes	MBT-05.doc	
Mechanical Biological Treatment with hand-picking & composting in closed hall	MBT18	2 stages sieving, magnet, eddy current Composting with closed halls	MBT-05.doc	
Mechanical Biological Treatment with with hand-picking & dry AD	MBT19	2 stages sieving, magnet, eddy current Dry AD and covered	MBT-06.doc	Combination of hand picking and mechanical sorting to recover recyclables / AD of the organic fraction

Technology	Code	Remarks	File Name	Title
		windows composting		
Mechanical Biological Treatment with with hand-picking & wet AD	MBT20	2 stages sieving, magnet, eddy current Wet AD and covered windows composting	MBT-06.doc	
Mechanical Biological Treatment with with hand-picking & complete dry AD	MBT21	2 stages sieving, magnet, eddy current Complete dry AD and covered windows composting	MBT-06.doc	
Biodrying			*Biodrying-00.doc*	*Biodrying*
Biodrying-1	Biodrying-1	Biodrying with RTO, air separator, 2 stages sieving, magnet, eddy current	Biodrying-01.doc	Biological drying of shredded MSW / Post-mechanical treatment to produce SRF / RTO for treating off-gases
Biodrying-2	Biodrying-2	Biodrying with biofilter, 2 stages sieving, magnet, eddy current	Biodrying-02.doc	Biological drying of shredded MSW / Post-mechanical treatment to produce SRF / Biofilter for treating off-gases
Biodrying-3	Biodrying-3	Biodrying, double screening, air separator, optical scanner & vibrating plates, magnet, eddy current	Biodrying-03.doc	Combination of mechanical sorting to recover recyclables and Biological drying to produce SRF