

Supplementary Materials (SM)

SM Table S1. Table of input data for the KPIs (Benchmark, Minimum, Maximum values).

No.	Domain	Sub-domain	ID	Performance Indicator (PI)	Unit	Xvar	Min	Max
1	Environment (ENV)	Global Warming Potential (GWP)	ENV 1	Visual impact	Qualitative	2	5	10
2			ENV 2	Odour impact	Qualitative	3	2	10
3			ENV 3	Total Dissolved Solids (TDS)	mg/L	20,000	15,000	50,000
4			ENV 4	Total Suspended Solids (TSS)	mg/L	800	400	2,000
5			ENV 5	Biochemical Oxygen Demand (BOD)	g/day	11,000	5,000	30,000
6			ENV 6	Chemical Oxygen Demand (COD)	g/day	11,000	9,000	60,000
7			ENV 7	Phosphorus concentration in leachate	g/day	25	20	100
8			ENV 8	Ammonia concentration in leachate	g/day	400	100	800
9		Ozone Layer Depletion (OZLD)	ENV 9	Leachate temperature	°C	25	20	45
10			ENV 10	Carbon intensity	g/day	160,000	100,000	600,000
11			ENV 11	NO ₂ concentration	kg/day	30	20	70
12		Human Health & Ecotoxicity (HHE)	ENV 12	Deaths from respiratory diseases	deaths/100,000	25	10	120
13			ENV 13	Mortality rate	%	5	2	100
14			ENV 14	Sick days per field employee	hours/employee/year	50	40	200
15	Social (SOC)	Proximity & Land Use Alternatives (PLA)	SOC 1	Distance between facilities and households	m	300	200	1,000
16			SOC 2	Green coverage	ha/100,000 inhabitants	40	20	100
17			SOC 3	Pedestrian areas	m ² /100 inhabitants	30	20	100
18		People's Participation (PPT)	SOC 4	Individuals paying waste fees	%	60	50	100
19			SOC 5	Community participation in SWM	Qualitative	65	50	100
20			SOC 6	SWM service coverage	%	55	50	100
21		People's Awareness & Enlightenment (PAE)	SOC 7	Awareness programs per year	Qualitative	24	20	50
22			SOC 8	Community awareness	Qualitative	40	20	100
23			SOC 9	Public acceptance of SWM activities	Qualitative	30	25	100
24	Economic (ECO)	Design Cost (DCST)	ECO 1	Waste legislation and policy cost	\$	100	200	1,000
25			ECO 2	Recycling facility cost	\$	300	200	1,000
26			ECO 3	Composting facility design cost	\$	260	200	1,000
27			ECO 4	Incineration design cost	\$	300	200	1,000
28			ECO 5	RDF design cost	\$	350	200	1,000
29			ECO 6	ADF design cost	\$	600	200	1,000
30		Set-up Cost (SUCST)	ECO 7	Waste facility set-up cost	\$	2,500	1,000	5,000
31			ECO 8	Logistics set-up cost	\$	2,800	1,000	5,000
32			ECO 9	Landfill set-up cost	\$	3,500	1,000	5,000
33		Operating Cost (OPCST)	ECO 10	Expenditure on SWM services	\$/year	3,500	1,500	5,000

No.	Domain	Sub-domain	ID	Performance Indicator (PI)	Unit	Xvar	Min	Max
34			ECO 11	Collection cost per ton	\$/ton	35	30	100
35			ECO 12	Disposal cost per ton	\$/ton	40	30	100
36			ECO 13	Recycling cost per ton	\$/ton	20	15	100
37			ECO 14	RDF operating cost per ton	\$/ton	35	20	100
38			ECO 15	ADF operating cost per ton	\$/ton	32	20	100
39			ECO 16	Incineration operating cost per ton	\$/ton	28	20	100
40			ECO 17	Composting cost per ton	\$/ton	25	20	100
41		Contribution to GDP (CGDP)	ECO 18	Value-added raw materials	\$	2,000	1,500	5,000
42			ECO 19	Energy recovery value	\$	5,000	3,000	10,000
43			ECO 20	Jobs created by WM	\$	4,000	2,000	10,000
44			ECO 21	Investment in SWM	\$	8,000	1,000	10,000
45			ECO 22	Waste business turnover	\$	7,000	5,000	10,000

