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SWANA RE MAN AREAD	W	TE is Ac	cepted Worldwide		
	Location Number of Facilities		Amount of MSW Managed by WTE as % of Total MSW Generated		
	USA	89	8-15% based on MSW reported by EPA and Biocycle data		
	Europe	400	varies from country to country		
	Japan	100	70 to 80%		
	Spurce: IWSA website; (s Other nations (T S C	tatistics as of 2004)	varies f		
SOLID WASTE MANAGEMENT CONSULTANTS	Brescia, Italy	CLE.	Vienna, Austria		





U.S. WTE Plants by Technology								
	Technology	Operating Plants	Daily Design Capacity (TPD)	Annual Capacity (1) (Million Tons)				
SOLID WASTE MANAGEMENT	Mass Burn	65	71,354	22.1				
	Modular	9	1,342	0.4				
	RDF -Processing & Combustion	10	15,428	4.8				
	RDF -Processing Only	5	6,075	1.9				
	⁽¹⁾ Annual Capacity equals dail (days/year) multiplied by 8 RDF typeapyssign duarantee of	/ tons per day 5 percent. Ei of annual fa c il	r (TPD) of design ca ghty-five percent of t ity throughput ^{4,592}	pacity multiplied by 365 he design capacity is a 1.4				
	(2) Total Plants includes RDF P Total U.S. Plants (2) WTE Facilities Kiser and M. Zann	rocessing fac 94 es, Integrated V	ilities that do not ger 98,791 Vaste Management Ser 92,716	erate power on site. 30.6 rices Association, April 8.004				
CONSULTANTS			- , -	2				









EXAMPLE EXAMPL	Alternative Conversion Technologies			
• Bio - - - - -	• Ological Aerobic Composting Anaerobic Digestion/ Codigestion Biodiesel Bioethanol Biological Pretreatment Vermicomposting	 Thermal/Chemical Acid Catalysis & Distillation Direct Combustion Gasification/Pyrolysis Microwave Processes Plasma-Arc Thermal Decomposition 		
SOLID WASTE MANAGEMENT		 Fiberboard and Construction Composites Refuse Derived Fuels 		
CONSULTANTS	Source: Gershman, Brickner & Brat	ton, Inc., September 2008.	28	



Alternative Technologies and Cost 22 Firms Reviewed							
	Technologies	Size Range (Tons per Year)	New York City \$ Per Ton	City of Los Angeles \$ Per Ton			
GBB	Gasification; Plasma; Anerobic Digestion; Mass Burn; Pyrolysis	180,000- 1,000,000	\$200-700	\$136-900			
SOLID WASTE MANAGEMENT CONSULTANTS					30		

















Plants Built in Japa Thermoselect Tech						Japan Techi	n Using nology	
	City	Start-up Year	Design capacity	Feedstock	Constructor	Owner	Syngas use	Power generated
	Chiba	1999	2X165	MSW + industrial waste	JFE	Japan Recycling Corporation (JFE)	Gas engine at steelworks	NA
	Mutsu	2003	2X70	MSW	Mitsubishi Materials Technological Corporation	Sumokita Local Authority Office Association	Gas engines	2X1.2 MW
	Kurashiki	2005	3X185	MSW+ Industrial waste	JFE	Mizushima Eco Works	Gas engines at steelworks	NA
GBB	Isahaya	2005	3X100	MSW	JFE	Kenou-Kennan KKK	Gas engines	Jenbacher engines 5X1.6 MW
SOLID WASTE MANAGEMENT CONSULTANTS	Tokushima	2005	2X60	nerman recarment Review. Wa	ste Managemert World, July – A Mitsubishi Materials Technological Corporation	Chuo Local Authority Office Association	Gas engines	0.9 X 2 MW 39







SWANA		Technologies and Risk					
STELE WATE ASSOCIATION If their Assess	Alternative	Risks/Liability	Risk Summary				
	Mass Burn/WaterWall	Proven commercial technology	Very Low				
	Mass Burn/Modular	Proven commercial technology	Low				
	RDF/ Dedicated Boiler	Proven commercial technology	Low				
GBB	RDF/Fluid Bed	Proven technology; limited U.S commercial experience	Moderate				
	Pyrolysis	Previous failures at scale, uncertain commercial potential; no operating experience with large scale operations	High				
SOLID WASTE MANAGEMENT CONSULTANTS	Gasification Source: G	Limited operating experience at only small scale; subject to scale-up issues ershman, Brickner & Bratton, Inc. Septemb	High er 2008. 43				

EPA Warm Model Comparison Between Recycling Rates with Composting or Waste to Energy								
	Baseline	Alternative	Total (MTC					
	Description		Baseline MSW Generation and Management	Alternative MSW Generation and Management	GHG Emission or Reduction Difference	Barrels of Oil Saved (bbls/day)		
	Waste landfilled	20% Recycling	110	(310)*	(420)	523		
GBB	Waste landfilled	50% Recycling	110	(543)	(653)	907		
SOLID WASTE MANAGEMENT CONSULTANTS	Waste	50% Recycling and Rest to	110	(597)	(707)	904 44		



