

INTRODUCTION	XXXVIII
STUDY GOALS AND OBJECTIVES.....	XXXVIII
REASONS FOR DOING THIS STUDY	XXXVIII
CONTRIBUTIONS TO THE STUDY AND FOR WHOM.....	XXXIX
SCOPE AND FORMAT	XL
METHODOLOGY	XLI
INFORMATION SOURCES.....	XLI
RELATED BCC WORK	XLII
REPORTS	XLII
OTHER PUBLICATIONS.....	XLII
BCC ON-LINE SERVICES.....	XLIII
INTERNET	XLIII
AUTHOR'S CREDENTIALS	XLIII
DISCLAIMER	XLIII
 EXECUTIVE SUMMARY	XLIV
TECHNOLOGIES OF INTEREST	XLIV
SUMMARY TABLE <i>WORLD GEOTHERMAL AND WASTE BIOGAS CAPACITIES AND REVENUE, THROUGH 2008</i>	XLV
SUMMARY FIGURE <i>WORLD GEOTHERMAL AND WASTE BIOGAS CAPACITIES AND REVENUE, 2002-2008</i>	XLVI
GEOTHERMAL AND BIOGAS SHARE OF WORLD RENEWABLE ENERGY	XLVI
 OVERVIEW	1
THE RENEWABLE ENERGY INDUSTRY	1
CONVENTIONAL VS. RENEWABLE ENERGY POWER PRODUCTION	2
TABLE 1 <i>WORLD POWER PRODUCTION CAPACITY (ALL SOURCES), THROUGH 2008</i>	3
TABLE 2 <i>SHARE OF INSTALLED CAPACITY BY THE MAJOR BULK POWER PRODUCTION TECHNOLOGIES, 2002 (%)</i>	3
FIGURE 1 <i>SHARE OF INSTALLED CAPACITY BY THE MAJOR BULK POWER PRODUCTION TECHNOLOGIES, 2002 (%)</i>	4
ECONOMIC COMPETITIVENESS OF RENEWABLE ENERGY SOURCES	5
TABLE 3 <i>AVERAGE COST OF ELECTRICITY FROM CONVENTIONAL AND RENEWABLE ENERGY TECHNOLOGIES, THROUGH 2008 (\$/KWH)</i>	6
ENVIRONMENTAL SPURS FOR THE RENEWABLES MARKETS	7
RENEWABLES SHARE OF GLOBAL GENERATING CAPACITY	8
TABLE 4 <i>WORLD GENERATION CAPACITY OF EACH OF THE MAJOR RENEWABLE ENERGY POWER PRODUCTION TECHNOLOGIES, 2002 (GW)</i>	8
FIGURE 2 <i>SHARES OF WORLD RENEWABLE ENERGY GENERATION CAPACITY BY TECHNOLOGY, 2002 (%)</i>	9
FIGURE 3 <i>RENEWABLES SHARE OF WORLD GENERATING CAPACITY, THROUGH 2008</i>	10
FIGURE 3 (CONTINUED).....	11

WORLDWIDE RENEWABLE ENERGY INDUSTRIES STRUCTURE	11
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET	
IN AUSTRALIA AND NEW ZEALAND	12
AUSTRALIA RENEWABLES STATUS.....	12
Residential Systems Registration—An Australian Innovation.....	13
NEW ZEALAND RENEWABLES STATUS	13
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET	
IN CANADA.....	14
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET	
IN EASTERN EUROPE	15
STATUS OF THE RENEWABLE ENERGY EQUIPMENT....(CONTINUED).....	16
STATUS OF THE RENEWABLES ENERGY EQUIPMENT MARKET IN BULGARIA.....	17
STATUS OF THE RENEWABLES ENERGY EQUIPMENT MARKET IN THE CZECH REPUBLIC	17
The Czech Republic State Environment Fund.....	18
STATUS OF THE RENEWABLES ENERGY EQUIPMENT MARKET IN HUNGARY	18
STATUS OF THE RENEWABLES ENERGY EQUIPMENT MARKET IN POLAND	19
TABLE 5 RENEWABLE ENERGY PRODUCTION CAPACITY GROWTH IN POLAND AS A RESULT OF THE RENEWABLES PORTFOLIO STANDARD, THROUGH 2008.....	20
STATUS OF THE RENEWABLES ENERGY EQUIPMENT MARKET IN ROMANIA	20
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET	
IN THE EUROPEAN UNION	21
THE EUROPEAN UNION RENEWABLE ENERGY DIRECTIVE	22
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN AUSTRIA	23
TABLE 6 RENEWABLE ENERGY PRODUCTION CAPACITY GROWTH IN AUSTRIA AS A RESULT OF THE RENEWABLES PORTFOLIO STANDARD, THROUGH 2008.....	24
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN BELGIUM.....	24
Status of the Renewable Energy Equipment...(Continued)	25
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN DENMARK	26
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN FINLAND	27
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN FRANCE	27

STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN GERMANY	28
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN GREECE.....	29
Laws Passed to Promote Renewables Development in	
Greece	29
Greek law 2773/99	29
Greek law 2364/95	30
Greek law 26013/99	30
Other Incentives	30
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN IRELAND	30
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN ITALY	31
Status of the Renewable Energy Equipment Market in	
Italy (Continued)	32
TABLE 7 RENEWABLE ENERGY PRODUCTION CAPACITY GROWTH IN ITALY, THROUGH 2008 (GW).....	33
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN LUXEMBOURG	33
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN THE NETHERLANDS.....	34
Status of the Renewable Energy Equipment Market The	
Netherlands (Continued)	35
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN PORTUGAL.....	36
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN SPAIN	36
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN SWEDEN	37
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN THE U.K.	37
TABLE 8 RENEWABLE ENERGY PRODUCTION CAPACITY GROWTH IN THE U.K. AS A RESULT OF THE RENEWABLES OBLIGATION, THROUGH 2010 (MW)	38
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET	
IN LATIN AMERICA	38
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN ARGENTINA	39
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN BRAZIL.....	40
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN CHILE	41
STATUS OF THE RENEWABLE ENERGY EQUIPMENT	
MARKET IN OTHER LATIN AMERICAN COUNTRIES.....	42

STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN THE NEAR EAST	43
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN INDIA	43
<i>TABLE 9 RENEWABLE ENERGY PRODUCTION CAPACITY GROWTH IN INDIA, THROUGH 2010 (GW).....</i>	44
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN ISRAEL.....	45
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN TURKEY.....	46
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN NORTH AFRICA.....	46
RENEWABLE ENERGY IN OTHER NEAR EAST COUNTRIES	47
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN PACIFIC RIM NATIONS.....	47
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN CHINA	47
<i>TABLE 10 RENEWABLE ENERGY PRODUCTION CAPACITY GROWTH IN CHINA, THROUGH 2008</i>	48
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN JAPAN	49
<i>TABLE 11 RENEWABLE ENERGY PRODUCTION CAPACITY GROWTH IN JAPAN, THROUGH 2008</i>	50
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN THE PHILIPPINES	51
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN SOUTH KOREA	52
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN TAIWAN	53
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN SOUTHEAST ASIA.....	54
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN SUB SAHARAN AFRICA	55
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN SWITZERLAND	56
STATUS OF THE RENEWABLE ENERGY EQUIPMENT MARKET IN THE U.S.....	56
STATUS OF THE RENEWABLE ENERGY THE U.S. (CONTINUED).....	57
<i>TABLE 12 RENEWABLE ENERGY PRODUCTION CAPACITY GROWTH IN THE U.S., THROUGH 2008 (GW)</i>	58
THE IMPORTANCE OF RENEWABLE PORTFOLIO STANDARDS	59
<i>TABLE 13 RENEWABLE PORTFOLIO CAPACITY REQUIREMENTS BY STATE</i>	60
RENEWABLES MARKET IMPLICATIONS OF THE KYOTO PROTOCOL	60

RENEWABLES MARKET IMPLICATIONS OF THE KYOTO PROTOCOL.....	61
HOW MUCH RENEWABLE CAPACITY WOULD THE KYOTO PROTOCOL REQUIRE?.....	62
<i>TABLE 14 CARBON OFFSETS POTENTIAL FROM THE MAJOR RENEWABLE ENERGY TECHNOLOGIES.....</i>	63
FINANCIAL IMPLICATIONS OF THE CLEAN DEVELOPMENT MECHANISM (CDM).....	63
THE PROTOTYPE CARBON FUND	64
KYOTO PROTOCOL IMPACT ON THE RENEWABLES MARKET IN AUSTRALIA/NEW ZEALAND	64
Australia	64
New Zealand	65
KYOTO PROTOCOL IMPACT ON THE CANADA RENEWABLES MARKET.....	66
Federation of Canadian Municipalities (FCM) Green Funds	66
KYOTO PROTOCOL IMPACT ON THE RENEWABLES MARKET IN EASTERN EUROPE	67
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Bulgaria	68
Kyoto Protocol Impact on the Renewable Energy Equipment Market in the Czech Republic	69
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Hungary	69
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Poland	70
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Romania.....	71
Kyoto Protocol Impact on Russia	71
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Ukraine	71
KYOTO PROTOCOL IMPACT ON THE RENEWABLES MARKET IN THE EUROPEAN UNION.....	72
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Austria	72
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Belgium.....	73
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Denmark	73
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Finland.....	74
Kyoto Protocol Impact on the Renewable Energy Equipment Market in France	75

Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Germany	75
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Greece	76
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Ireland	76
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Italy.....	77
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Luxembourg.....	77
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in The Netherlands.....	77
ERUPT-3 Sets a Value on Carbon Credits	78
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Portugal	78
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Spain	79
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Sweden.....	79
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in the U.K.....	80
KYOTO PROTOCOL IMPACT ON RENEWABLES MARKETS	
IN LATIN AMERICA.....	80
Argentina: National Agreement to Reduce GHG Pressed by Economic Difficulties.....	81
Case Study: Panama and The Netherlands Formulate CDM Projects.....	81
KYOTO PROTOCOL IMPACT ON RENEWABLES MARKETS	
IN THE EAST	81
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in India	82
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Turkey.....	82
KYOTO PROTOCOL IMPACT ON THE RENEWABLE	
ENERGY EQUIPMENT MARKETS IN THE MAGHREB	
NATIONS OF NORTH AFRICA	83
KYOTO PROTOCOL IMPACT ON THE RENEWABLE	
ENERGY EQUIPMENT MARKETS IN THE PACIFIC RIM	
NATIONS	83
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in China.....	83
Kyoto Protocol Impact on the Renewable Energy	
Equipment Market in Japan	84

Kyoto Protocol Impact on the Renewable Energy Equipment Market in the Philippines	85
Kyoto Protocol Impact on the Renewable Energy Equipment Market in South Korea	86
Kyoto Protocol Impact on the Renewable Energy Equipment Market in Taiwan	87
Kyoto Protocol Impact on the Renewable Energy Equipment Market in the South Pacific.....	87
KYOTO PROTOCOL IMPACT ON THE RENEWABLE ENERGY EQUIPMENT MARKET IN SUB-SAHARAN AFRICA.....	88
KYOTO PROTOCOL IMPACT ON THE RENEWABLE ENERGY EQUIPMENT MARKET IN THE U.S.	88
KYOTO PROTOCOL IMPACT ... IN THE U.S. (CONTINUED)	89
KYOTO PROTOCOL IMPACT ... IN THE U.S. (CONTINUED)	90
THE WORLD GEOTHERMAL POWER GENERATION CAPACITY	
MARKET	91
GEOTHERMAL POWER PRODUCTION TECHNOLOGY	91
HOT DRY ROCK GEOTHERMAL TECHNOLOGY	
PROGRESSING	92
THE ECONOMICS OF GEOTHERMAL POWER PLANTS	93
<i>FIGURE 4 WORLD DISTRIBUTION OF GEOTHERMAL POWER PRODUCTION CAPACITY, 2002 (%)</i>	<i>94</i>
<i>TABLE 15 WORLD GEOTHERMAL POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW).....</i>	<i>95</i>
AUSTRALIA/NEW ZEALAND MARKETS FOR GEOTHERMAL POWER PRODUCTION EQUIPMENT.....	95
Australian Market for Geothermal Power Production	
Equipment	95
Geodynamics Ltd	96
New Zealand Market for Geothermal Power Production	
Equipment	97
Incentives to Develop Geothermal Capacity in New Zealand.....	98
New Zealand Geothermal Capacity Market Forecast.....	98
<i>TABLE 16 NEW ZEALAND GEOTHERMAL POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW).....</i>	<i>99</i>
CANADIAN MARKET FOR GEOTHERMAL POWER PRODUCTION EQUIPMENT	99
EASTERN EUROPE MARKET FOR GEOTHERMAL POWER PRODUCTION EQUIPMENT	99
Bulgarian Market for Geothermal Power Production	
Equipment	100

Forecast for Geothermal Power Production	
Capacity Development in Bulgaria.....	101
TABLE 17 BULGARIAN GEOTHERMAL POWER PRODUCTION CAPACITY	
MARKET, THROUGH 2008 (MW).....	101
Croatian Market for Geothermal Power Production	
Equipment	101
Czech Market for Geothermal Power Production	
Equipment	102
Hungarian Market for Geothermal Power Production	
Equipment	102
Hungarian Market For Geothermal Power	
Production Equipment (Continued).....	103
TABLE 18 HUNGARIAN GEOTHERMAL POWER PRODUCTION CAPACITY	
MARKET, THROUGH 2008 (MW).....	103
Romanian Market for Geothermal Power Production	
Equipment	104
EUROPEAN UNION MARKET FOR GEOTHERMAL POWER	
PRODUCTION EQUIPMENT	104
French Geothermal Power Generation Equipment Market	104
French Islands Geothermal Power Generation	
Equipment Market	105
Guadeloupe Geothermal Capacity Market	105
TABLE 19 GUADELOUPE GEOTHERMAL POWER PRODUCTION CAPACITY	
MARKET, THROUGH 2008 (MW).....	106
Martinique Geothermal Capacity Market	106
La Reunion Geothermal Capacity Market.....	106
German Geothermal Power Generation Equipment	
Market	107
Italian Geothermal Power Generation Equipment Market....	107
Incentives to Develop Geothermal Capacity in Italy	108
Italian Geothermal Capacity Market Forecast	109
TABLE 20 ITALIAN GEOTHERMAL POWER PRODUCTION CAPACITY, THROUGH	
2008 (MW).....	109
Portuguese Geothermal Power Production Equipment	
Market	109
Azores Islands Geothermal Power Production	
Equipment Market	109
LATIN AMERICAN GEOTHERMAL CAPACITY MARKET	110
Central American Geothermal Capacity Market.....	111
Central American Geothermal Capacity Market	
Forecast.....	111
TABLE 21 CENTRAL AMERICAN GEOTHERMAL POWER PRODUCTION	
CAPACITY, THROUGH 2008 (MW).....	111
Costa Rican Geothermal Capacity Market.....	112
El Salvadorian Geothermal Capacity Market.....	113
Guatemalan Geothermal Capacity Market	113

Mexican Geothermal Capacity Market.....	114
Nicaraguan Geothermal Capacity Market	115
ICELANDIC GEOTHERMAL CAPACITY MARKET	115
NEAR EASTERN GEOTHERMAL CAPACITY MARKET	116
Turkish Geothermal Capacity Market	116
Incentives to Develop Geothermal Capacity in Turkey	117
Turkish Geothermal Capacity Market Forecast	117
TABLE 22 TURKISH GEOTHERMAL POWER PRODUCTION CAPACITY, THROUGH 2008 (MW).....	118
PACIFIC RIM GEOTHERMAL CAPACITY MARKET.....	118
Chinese Geothermal Capacity Market	119
TABLE 23 CHINESE GEOTHERMAL POTENTIAL (GW).....	119
Incentives to Develop Geothermal Capacity in China	120
Chinese Geothermal Capacity Market Forecast	120
TABLE 24 CHINESE GEOTHERMAL POWER PRODUCTION CAPACITY, THROUGH 2008 (MW).....	121
Japanese Geothermal Capacity Market	121
Incentives to Develop Geothermal Capacity in Japan.....	122
Japanese Geothermal Capacity Market Forecast	122
TABLE 25 JAPANESE GEOTHERMAL POWER PRODUCTION CAPACITY, THROUGH 2008 (MW).....	123
The Philippines Geothermal Capacity Market	123
Incentives to Develop Geothermal Capacity in the Philippines	124
Philippines Geothermal Capacity Market Forecast.....	124
TABLE 26 PHILIPPINES GEOTHERMAL POWER PRODUCTION CAPACITY, THROUGH 2008 (MW).....	124
Taiwanese Geothermal Capacity Market.....	125
SOUTH EAST ASIAN GEOTHERMAL CAPACITY MARKET.....	125
Indonesian Geothermal Power Production Equipment Market	125
Indonesian Geothermal Power Production Equipment Market (Continued).....	126
Incentives for the Development of Geothermal Capacity in Indonesia.....	127
Indonesia's Geothermal Capacity Forecast	127
TABLE 27 INDONESIAN GEOTHERMAL CAPACITY BY REGION, 2001.....	127
TABLE 28 INDONESIAN GEOTHERMAL POWER PRODUCTION CAPACITY, THROUGH 2008 (MW).....	128
SUB SAHARAN AFRICAN GEOTHERMAL CAPACITY MARKET—ETHIOPIA.....	128
TABLE 29 ETHIOPIAN GEOTHERMAL POWER PRODUCTION CAPACITY, THROUGH 2008 (MW).....	129
U.S. MARKET FOR GEOTHERMAL CAPACITY.....	129

<i>TABLE 30 U.S. GEOTHERMAL GENERATING CAPACITY BY STATE, 2001</i>	129
U.S. DOE Programs to Foster Geothermal Capacity	
Expansion	130
U.S. Military Markets for Geothermal Capacity.....	130
U.S. Military Appropriations Encourage	
Geothermal Power Production	131
Incentives for the Development of Geothermal	
Capacity in the U.S.	131
U.S. Federal Incentives for the Development of	
Geothermal Capacity.....	131
State-Level Incentives for the Development of	
Geothermal Capacity.....	132
Incentives to Develop Geothermal in Montana....	132
Incentives to Develop Geothermal in Oregon.....	132
Incentives to Develop Geothermal in Nevada	132
California's Geothermal Capacity Forecast.....	133
<i>TABLE 31 CALIFORNIA GEOTHERMAL POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW).....</i>	134
Hawaii's Geothermal Capacity Forecast	134
Nevada's Geothermal Capacity Forecast.....	134
<i>TABLE 32 NEVADA GEOTHERMAL POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW).....</i>	135
New Mexico's Geothermal Capacity Forecast	135
Oregon's Geothermal Capacity Forecast	136
Utah's Geothermal Capacity Forecast.....	136
U.S. National Geothermal Capacity Forecast.....	136
<i>TABLE 33 U.S. GEOTHERMAL POWER PRODUCTION CAPACITY, THROUGH 2008.....</i>	137
GEOTHERMAL PROJECT DEVELOPERS	137
<i>FIGURE 5 MARKET SHARES OF GEOTHERMAL POWER PLANT DEVELOPERS, 2001 (%).....</i>	138
Caithness Energy	139
Calenergy Company, Inc.	139
Calpine	140
CFE	141
Covanta Energy Corporation	142
ERGA	143
ORMAT	143
Unocal	144
Vulcan Power	145
GEOTHERMAL ASSOCIATIONS	145
Association for Efficient Environmental Energy Systems (AEEES).....	145
Geothermal Association of Imperial County (GAIC)	146
Geothermal Education Office (GEO)	146
Geothermal Energy Association (GEA)	146
Geothermal Resources Council (GRC)	146

Geysers Geothermal Association (GGA)	147
International Geothermal Association (IGA)	147
BIOGAS ENERGY CONVERSION EQUIPMENT MARKETS.....	148
THE WASTE GAS BUSINESS	149
ORGANIC WASTE GAS POWER PRODUCTION TECHNOLOGIES	149
WASTE GAS POWER GENERATOR OPTIONS.....	150
Reciprocating Engines.....	151
Gas Turbines.....	151
Steam Turbines	152
Fuel Cells	152
Fuel Cells (Continued)	153
Microturbines.....	154
The Difficult Financials of Microturbines.....	155
The Potential for Microturbine-Fuel Cell Hybrids.....	156
WORLD LANDFILL GAS POWER PRODUCTION MARKET	157
WORLD LANDFILL GAS POWER PRODUCTION MARKET (CONTINUED).....	158
WHY LANDFILL GAS POWER PROJECTS ARE WORTH PURSUING TO REDUCE THE GREENHOUSE EFFECT	159
WORLD LANDFILL GAS POWER PRODUCTION CAPACITY FORECAST	160
TABLE 34 WORLD LANDFILL GAS POWER PRODUCTION CAPACITY, THROUGH 2008.....	160
WORLD LANDFILL GAS ENERGY CONVERSION MARKET BY REGION THROUGH 2008.....	161
TABLE 35 WORLD LANDFILL GAS POWER PRODUCTION CAPACITY BY REGION, THROUGH 2008 (MW).....	162
LANDFILL GAS ENERGY CONVERSION TECHNOLOGIES MARKET FORECAST	162
Landfill Gas Energy Conversion Technologies Market Forecast (Continued)	163
TABLE 36 WORLD LANDFILL GAS POWER PRODUCTION MARKETS BY TECHNOLOGY, THROUGH 2008 (MW).....	164
AUSTRALIA/NEW ZEALAND LANDFILL GAS POWER PRODUCTION EQUIPMENT MARKET	165
Australian Landfill Gas Power Production Equipment Market	165
Incentives to Develop Landfill Gas Power Production Facilities in Australia.....	165
Australian Landfill Gas Power Production Capacity Market Forecast	165
TABLE 37 AUSTRALIAN LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....	166
Australian Landfill Gas Power Production Companies.....	166

Novera Energy.....	166
SCI.....	167
New Zealand Landfill Gas Power Production Equipment Market	168
Incentives to Develop Landfill Gas Power	
Production Facilities in New Zealand	168
New Zealand Landfill Gas Power Production	
Market Forecast	169
<i>TABLE 38 NEW ZEALAND LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....</i>	170
New Zealand Landfill Gas Power Production	
Facilities Developers	170
Montgomery Watson Harza (MWH)	170
CANADIAN LANDFILL GAS POWER PRODUCTION EQUIPMENT MARKET	171
Incentives for Landfill Gas Power Production Facilities in Canada.....	171
Canadian Landfill Gas Power Production Market Forecast....	172
<i>TABLE 39 CANADA LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....</i>	173
City of Edmonton Considering Waste Gasification/Power Generation	173
Canadian Landfill Power Production Facility Developers	173
Enmax	173
EPCOR	174
Maxim Power Corp.	175
Suncor.....	175
Toromont Energy Ltd.	176
Waste Management Canada	176
EASTERN EUROPEAN LANDFILL GAS POWER PRODUCTION EQUIPMENT MARKET	176
Czech Republic Landfill Gas Power Production Capacity Market	177
Incentives for Landfill Gas Power Production	
Facilities in the Czech Republic.....	178
Czech Republic Landfill Gas Power Production	
Capacity Market Forecast.....	178
<i>TABLE 40 CZECH REPUBLIC LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....</i>	179
Latvia's Landfill Gas Power Production Capacity	
Opportunity	179
Poland's Landfill Gas Power Production Capacity Market	180
Incentives for Landfill Gas Power Generation	
Facilities in Poland.....	180

Poland Landfill Gas Power Generation Capacity	
Market Forecast	181
<i>TABLE 41 POLAND LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW)</i>	182
Poland's Reciprocating Engine Manufacturer	182
PZL Wola	182
EUROPEAN UNION LANDFILL GAS POWER PRODUCTION	
CAPACITY MARKET	182
<i>TABLE 42 EUROPEAN UNION AGGREGATE LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008.....</i>	183
<i>TABLE 43 EUROPEAN UNION LANDFILL GAS ANNUAL NEW POWER PRODUCTION CAPACITY MARKET, BY COUNTRY, THROUGH 2008 (MW)</i>	184
Landfill Gas as Green Energy	185
Anaerobic Digestion of Solid Waste: a Growth Market in	
Europe.....	185
Factors Driving a 30% Growth Rate for Anaerobic	
Digestion of Solid Waste in the EU	185
Power Production Forecast for Anaerobic Digester Gas	
from Solid Waste	186
<i>TABLE 44 EUROPEAN UNION POWER PRODUCTION CAPACITY AT SOLID WASTE ANAEROBIC DIGESTER PLANTS, THROUGH 2008.....</i>	187
European Anaerobic Digester Companies	187
Organic Waste Systems NV	187
Austrian Landfill Gas Policies	188
Austria Reciprocating Engine Manufacturer:	
Jenbacher	188
GE Jenbacher AG.....	188
Belgium's Landfill Gas Policies.....	189
Denmark's Landfill Gas Policies	190
Finland's Landfill Gas Policies	190
France's Landfill Gas Policies	190
Germany's Landfill Gas Policies	191
German Reciprocating Engine Manufacturers.....	191
Deutz AG.....	191
German Landfill Gas Power Plant Developers.....	192
Rethmann Entsorgungs AG & Co.	192
RWE Umwelt.....	193
Greece's Landfill Gas Policies	193
Ireland's Landfill Gas Policies	193
Italy's Landfill Gas Policies.....	194
Luxembourg's Landfill Gas Policies.....	195
The Netherlands' Landfill Gas Policies	195
Netherlands Landfill Gas Energy Development	
Companies.....	195
Essent Energi	195
Portugal's Landfill Gas Policies	196

Scotland's Landfill Gas Policies	196
Spain's Landfill Gas Policies.....	197
Spain Landfill Gas Power Production Project	
Developers.....	198
Fomento de Construcciones y Contratas (FCC)	198
Sweden's Landfill Gas Policies.....	199
Switzerland's Landfill Gas Policies	199
Municipal Initiatives to Encourage Renewables in	
Switzerland.....	200
U.K. Landfill Gas Policies	200
U.K. Landfill Gas Power Production Project	
Developers.....	201
Biffa Waste Services Ltd.	201
Natural Power, Ltd.	202
Novera Energy.....	202
Shanks	203
European Union Landfill Gas Power Project	
Developers.....	204
Sita Group.....	204
Vivendi Environnement	205
LATIN AMERICA'S LANDFILL GAS POWER PRODUCTION	
EQUIPMENT MARKET	206
Brazil's Landfill Gas Power Production Capacity Market.....	206
Structure of the Brazilian Solid Waste	
Management Industry.....	207
Sao Paulo Waste Management	208
Possible Brazilian Landfill Gas Power Production	
Business Model.....	208
Possible Brazilian Landfill Gas Power	
Production Business Model (Continued)	209
Chile's Landfill Gas Power Production Capacity Market	210
Aepa	211
Mexican Landfill Gas Power Production Capacity Market	211
World Bank Funded Mexican Landfill Gas Power	
Production Capacity Opportunity.....	211
Mexican Landfill Project Opportunities Targeted	
for Loans by the U.S. ExIm Bank	212
TABLE 45 EXIM FUNDING OPPORTUNITIES FOR LANDFILL PROJECTS IN	
MEXICO.....	212
TABLE 45 (CONTINUED).....	213
Mexico's Landfill Gas Power Production Equipment	
Market Forecast	213
TABLE 46 MEXICAN LANDFILL GAS POWER GENERATION CAPACITY MARKET,	
THROUGH 2008 (MW).....	214
Latin America Landfill Gas Power Plant Developers	214

Proactiva-Zone Nord	214
FAR AND MIDDLE EAST LANDFILL GAS POWER	
PRODUCTION EQUIPMENT MARKET	215
India's Landfill Gas Power Production Equipment Market	215
Incentives for Landfill Gas Power Production in India	215
India's Landfill Gas Power Production Equipment Market Forecast	215
TABLE 47 INDIAN LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....	216
Pakistan's Landfill Gas Power Production Equipment Market	216
Pakistan's Landfill Gas Power Production Equipment Market Forecast	216
NEAR EAST LANDFILL GAS POWER PRODUCTION	
EQUIPMENT MARKET	217
Israel's Landfill Gas Power Production Equipment Market	217
Israel's Landfill Gas Power Production Capacity Market Forecast	218
TABLE 48 ISRAELI LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....	219
Turkey's Landfill Gas Power Production Equipment Market	219
The Financials of Developing Independent Power Facilities in Turkey	219
Incentives to Develop Landfill Gas Power Production Capacity in Turkey	220
Turkey's Landfill Gas Power Production Capacity Market Forecast	220
TABLE 49 TURKISH LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....	221
NORTH AFRICAN LANDFILL GAS POWER PRODUCTION	
EQUIPMENT MARKET	221
Algeria's Landfill Gas Power Production Opportunity	221
Egypt's Landfill Gas Power Production Equipment Market	222
PACIFIC RIM LANDFILL GAS POWER PRODUCTION	
EQUIPMENT MARKET	222
Chinese Landfill Gas Power Production Equipment Market	222
Incentives for Landfill Gas Power Production in China	223
China's Landfill Gas Power Production Equipment Market Forecast	223

China's Landfill Gas Power Production	
Equipment Market Forecast (Continued)	224
TABLE 50 CHINESE LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....	225
Japanese Landfill Gas Power Production Equipment	
Market <td>225</td>	225
Incentives for Landfill Gas Power Production in	
Japan..... <td>226</td>	226
Japanese Landfill Gas Power Production	
Equipment Market Forecast <td>226</td>	226
TABLE 51 JAPANESE LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....	227
The Philippines' Landfill Gas Power Production	
Equipment Market..... <td>227</td>	227
Philippines Cities and Islands Landfill Gas Power	
Production Opportunities..... <td>228</td>	228
South Korea's Landfill Gas Power Production Equipment	
Market <td>229</td>	229
Incentives for the Development of LFG-Fueled	
Projects in South Korea..... <td>229</td>	229
South Korea Landfill Gas Power Production	
Equipment Market Forecast <td>230</td>	230
Taiwan's Landfill Gas Power Production Equipment	
Market <td>230</td>	230
Incentives to Develop Landfill Gas Power	
Production Capacity in Taiwan <td>231</td>	231
Taiwan's Landfill Gas Power Production Capacity	
Market Forecast <td>231</td>	231
TABLE 52 TAIWANESE LANDFILL GAS POWER GENERATION CAPACITY MARKET, THROUGH 2008 (MW).....	232
U.S. LANDFILL GAS POWER PRODUCTION MARKET	232
Incentives to Foster Landfill Gas Power Production in the	
U.S. <td>233</td>	233
U.S. Landfill Gas Projects Forecast..... <td>234</td>	234
TABLE 53 U.S. LANDFILL GAS POWER PROJECTS, THROUGH 2008.....	235
U.S. Landfill Power Production Technologies and	
Capacity Forecast..... <td>235</td>	235
TABLE 54 U.S. LANDFILL GAS POWER PRODUCTION TECHNOLOGIES AND CAPACITY MARKET, THROUGH 2008.....	236
U.S. EPA Landfill Gas Utilization Opportunities Web	
Locator <td>237</td>	237
Analysis of Municipal Landfill Gas Energy Conversion	
Opportunities by State..... <td>237</td>	237
TABLE 55 U.S. MUNICIPAL LANDFILL COUNTS, CLEAN ENERGY FUNDS, RENEWABLE PORTFOLIO STANDARDS AND UTILITY AVERAGE PURCHASE PRICE BY STATE, 2003.....	238
TABLE 55 (CONTINUED).....	239

<i>TABLE 56 U.S. MUNICIPAL LANDFILLS, GENERATING CAPACITY AND AVERAGE CAPACITY BY STATE AND PUERTO RICO.....</i>	240
<i>TABLE 56 (CONTINUED).....</i>	241
<i>TABLE 56 (CONTINUED).....</i>	242
Federal Emergency Management Program (FEMP) Seeks	
Sewage Gas Project Proposals	242
FEMP Information Contact Information	242
ESPC Contact Information.....	243
U.S. Landfill Gas Project Developers	243
Acrion Technologies, Inc.....	244
Allied Waste Industries, Inc.....	244
Covanta Energy Corporation, Inc.	245
Casella Waste Systems, Inc.....	245
DTE Biomass Energy.....	246
Energy Developments, Inc.....	247
NRG Energy, Inc.....	247
Republic Services	248
SCS Engineers	248
US Energy Systems Inc	249
Waste Management, Inc.....	250
WASTEWATER TREATMENT PLANT GAS ENERGY PRODUCTION EQUIPMENT MARKET	251
THE GLOBAL POTENTIAL FOR WASTEWATER TREATMENT PLANT POWER PRODUCTION	251
WASTEWATER TREATMENT PLANT ENERGY CONVERSION TECHNOLOGIES.....	252
THE ECONOMIC ARGUMENT FOR WASTEWATER METHANE FUELED POWER PRODUCTION	252
GLOBAL MARKET FOR WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION EQUIPMENT	253
WORLD WASTEWATER TREATMENT PLANT ELECTRICAL GENERATION CAPACITY FORECAST.....	254
<i>TABLE 57 WORLD WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION CAPACITY, THROUGH 2008.....</i>	254
<i>TABLE 57 (CONTINUED).....</i>	255
<i>TABLE 58 CUMULATIVE WORLD WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION MARKETS BY REGION, THROUGH 2008 (MW).....</i>	255
<i>TABLE 58 (CONTINUED).....</i>	256
WORLD WASTEWATER TREATMENT PLANT ELECTRICAL GENERATION CAPACITY FORECAST BY ENERGY CONVERSION TECHNOLOGY	256
<i>TABLE 59 WORLD WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION MARKETS BY TECHNOLOGY, THROUGH 2008 (MW).....</i>	257
REGIONAL AND NATIONAL WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION EQUIPMENT MARKETS	257

AUSTRALIAN WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION EQUIPMENT MARKET	257
Forecast of Electricity Generation Capacity at Wastewater Treatment Plants in Australia	258
<i>TABLE 60 AUSTRALIAN WASTEWATER TREATMENT PLANT POWER PRODUCTION EQUIPMENT MARKET, THROUGH 2008 (MW).....</i>	259
TABLE 61 MAXIMUM CAPACITY OF WASTEWATER TREATMENT PLANT POWER PRODUCTION IN AUSTRALIA, BY STATE.....	259
Grants Available in New South Wales for Wastewater Treatment Plant Projects.....	260
CANADIAN WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION EQUIPMENT MARKET	260
Canadian Wastewater Treatment Plant Power Production Capacity Forecast.....	261
<i>TABLE 62 CANADIAN WASTEWATER TREATMENT PLANT POWER PRODUCTION EQUIPMENT MARKET, THROUGH 2008 (MW).....</i>	261
Opportunities for Wastewater Treatment Plant Power Production in Canada	261
Canadian Wastewater Treatment Plant Companies	262
ADI Systems.....	262
CH2M Hill Canada	263
EASTERN EUROPE WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION EQUIPMENT MARKETS.....	264
Environmental Spending Level Requirements and Targets for New Members of the EU.....	264
Funding Sources: BCC Research, EU Instrument for Structural Policies for Pre-Accession (ISPA)	265
Baltic States Wastewater Treatment Plant Gas Power Production Equipment Markets	265
Czech Republic Wastewater Treatment Gas Power Production Equipment Market.....	265
EU Wastewater Treatment Plant Funds in Hand	266
Czech Republic Wastewater Treatment Plant Power Production Capacity Forecast.....	266
<i>TABLE 63 CZECH WASTEWATER TREATMENT PLANT POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW)</i>	266
Floods Lead to Large Spending Plans for Czech Wastewater Treatment Plants.....	267
Hungarian Wastewater Treatment Plant Gas Power Production Equipment Market.....	267
Incentives to Develop Wastewater Treatment Plant Power Production Capacity in Hungary.....	267
Hungarian Wastewater Treatment Plant Power Production Capacity Forecast	268
<i>TABLE 64 HUNGARIAN WASTEWATER TREATMENT PLANT POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW)</i>	269

Poland's Wastewater Treatment Plant Gas Power	
Production Equipment Market.....	269
Incentives to Develop Wastewater Treatment Plant	
Power Production Capacity in Poland	270
Poland's Wastewater Treatment Plant Power	
Production Capacity Forecast	270
TABLE 65 POLISH WASTEWATER TREATMENT PLANT POWER PRODUCTION	
CAPACITY MARKET, THROUGH 2008 (MW)	271
Business Contact for U.S. Companies Wishing To	
Do Wastewater Facility Business in Poland	271
Russian Wastewater Treatment Plant Gas Power	
Production Equipment Market.....	271
Slovak Wastewater Treatment Plant Gas Power	
Production Equipment Market.....	272
Slovak Wastewater Treatment Plant Power	
Production Capacity Forecast	273
TABLE 66 SLOVAK WASTEWATER TREATMENT PLANT POWER PRODUCTION	
CAPACITY MARKET, THROUGH 2008 (MW)	273
EUROPEAN UNION WASTEWATER TREATMENT PLANT	
GAS POWER PRODUCTION EQUIPMENT MARKETS.....	273
Forecast for Wastewater Treatment Plant Electricity	
Production Capacity in the European Union	274
TABLE 67 EUROPEAN UNION WASTEWATER TREATMENT PLANT GAS	
ANNUAL NEW POWER PRODUCTION CAPACITY MARKET, BY COUNTRY,	
THROUGH 2008 (MW)	275
Austrian Wastewater Treatment Plant Gas Power	
Production Equipment Market.....	276
ENTECH Environmental Technology	
Umwelttechnic, Gmbh.....	276
Belgian Wastewater Treatment Plant Gas Power	
Production Equipment Market.....	277
Aquafin NV.....	277
Danish Wastewater Treatment Plant Gas Power	
Production Equipment Market.....	278
Finnish Wastewater Treatment Plant Gas Power	
Production Equipment Market.....	278
French Wastewater Treatment Plant Gas Power	
Production Equipment Market.....	279
French Wastewater Treatment ... Equipment	
Market (Continued)	280
German Wastewater Treatment Plant Gas Power	
Production Equipment Market.....	281
Incentives for Germany to Convert Sewage Gas	
into Electricity	281
Forecast for Power Generation Technologies at	
German Wastewater Treatment Plants	282

TABLE 68 GERMAN WASTEWATER TREATMENT GAS POWER PRODUCTION

TECHNOLOGIES AND CAPACITY MARKET, THROUGH 2008.....	283
Reciprocating Engines	283
Gas Turbines (Single cycle with heat recuperation).....	283
Fuel Cells.....	283
Microturbines.....	283
Bio-System GmbH	283
The Potential for Gasifiers in the German Wastewater Treatment Plant Gas Power Production Market.....	284
Greek Wastewater Treatment Plant Gas Power Production Equipment Market.....	285
Psytallia Island Wastewater Treatment Plant Opportunity	286
Irish Wastewater Treatment Plant Gas Power Production Equipment Market	286
Italian Wastewater Treatment Plant Gas Power Production Equipment Market.....	287
Malta's Scarcity of Wastewater Treatment Opens an Opportunity	287
Luxembourg Wastewater Treatment Plant Gas Power Production Equipment Market.....	288
Dutch Wastewater Treatment Plant Gas Power Production Equipment Market.....	289
Portuguese Wastewater Treatment Plant Gas Power Production Equipment Market.....	289
Spanish Wastewater Treatment Plant Gas Power Production Equipment Market.....	290
Spanish Wastewater Treatment ... Equipment Market (Continued)	291
FCC—Dominant Wastewater Treatment Plant Company in Spain	292
FCC	292
Swedish Wastewater Treatment Plant Gas Power Production Equipment Market.....	292
Swiss Wastewater Treatment Plant Gas Power Production Equipment Market.....	293
United Kingdom Wastewater Treatment Plant Market.....	293
Scottish Water Authority Planning Big Sewage Treatment Build-out.....	294
Scottish and Southern Energy—Green Power Suppliers	295
Forecast for Power Generation Technologies at United Kingdom Wastewater Treatment Plants	295

TABLE 69 UNITED KINGDOM WASTEWATER TREATMENT GAS POWER PRODUCTION TECHNOLOGIES AND CAPACITY MARKET, THROUGH 2008	296
Reciprocating Engines	296
Gas Turbines (Singlecycle with heat recuperation).....	296
Fuel Cells	296
Microturbines.....	296
LATIN AMERICA WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION EQUIPMENT MARKETS	296
Latin America Wastewater Treatment ... Equipment Markets (Continued)	297
Argentinian Wastewater Treatment Plant Power Production Equipment Market.....	298
Forecast for Wastewater Treatment Plant Gas Fueled Generation Capacity in Brazil	299
TABLE 70 BRAZILIAN WASTEWATER TREATMENT PLANT GAS ANNUAL NEW POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW)	300
Chilean Wastewater Treatment Plant Power Production Equipment Market.....	300
Aguas Andinas Opportunities in New Wastewater Plant Construction	300
State-Owned Wastewater Treatment Plant Project Opportunities in Chile.....	301
Concessionary Wastewater Treatment Project Opportunities in Chile.....	301
Forecast for Wastewater Treatment Plant Gas Fueled Generation Capacity in Chile	301
TABLE 71 CHILEAN WASTEWATER TREATMENT PLANT GAS ANNUAL NEW POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW)	302
Colombian Wastewater Treatment Plant Power Production Equipment Market.....	302
Forecast for Wastewater Treatment Plant Gas Fueled Generation Capacity in Colombia.....	303
TABLE 72 COLOMBIAN WASTEWATER TREATMENT PLANT GAS ANNUAL NEW POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW)	303
Costa Rican Wastewater Treatment Plant Power Production Equipment Market.....	303
Costa Rican Wastewater Treatment ... Equipment Market (Continued)	304
Mexican Wastewater Treatment Plant Power Production Equipment Market	305
ExIm Bank Funding Opportunities for Wastewater Plants in Mexico	305
TABLE 73 EXIM FUNDING OPPORTUNITIES FOR WASTEWATER TREATMENT PLANT PROJECTS IN MEXICO	306

World Bank Underwriting Project in Tlalnepantla.....	306
Forecast for Wastewater Treatment Plant Gas	
Fueled Generation Capacity in Mexico.....	307
TABLE 74 MEXICAN WASTEWATER TREATMENT PLANT GAS ANNUAL NEW POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW)	307
NEAR EAST WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION EQUIPMENT MARKET	308
Israeli Wastewater Treatment Plant Power Production Capacity Market.....	308
Arrow EcologyLtd.—Israel Wastewater Digester Company	309
Lebanese Wastewater Treatment Plant Power Production Equipment Market.....	309
Turkish Wastewater Treatment Plant Power Production Equipment Market.....	310
PACIFIC RIM WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION EQUIPMENT MARKETS	310
Chinese Wastewater Treatment Plant Gas Power Production Equipment Market.....	310
Forecast for Wastewater Treatment Plant Gas Fueled Generation Capacity in China	311
TABLE 75 CHINESE WASTEWATER TREATMENT PLANT GAS ANNUAL NEW POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW)	312
Opportunity for a Wastewater Treatment Plant Project in Shanghai	313
ENVIROASIA Ltd.....	313
Japanese Wastewater Treatment Plant Power Production Equipment Market	313
Is There a Trend toward Sewage Aggregation Centers?	314
Forecast for Wastewater Treatment Plant Gas Fueled Generation Capacity in Japan	314
TABLE 76 JAPANESE WASTEWATER TREATMENT GAS POWER PRODUCTION TECHNOLOGIES AND CAPACITY MARKET, THROUGH 2008	315
Reciprocating Engines	315
Gas Turbines (Single cycle with heat recuperation).....	315
Fuel Cells	315
Microturbines.....	315
Japan: Active in Wastewater Treatment Plant Fuel Cells.....	316
Nippon Jogesuido Sekkei Co., Ltd.....	316
South Korean Wastewater Treatment Plant Power Production Equipment Market.....	317

Contacts for U.S. Firms Wishing to Participate in the South Korean Sewage Treatment Plant Build-Out	317
Quasi-private Environmental Management Corporation (EMC)	318
Forecast for Wastewater Treatment Plant Gas Fueled Generation Capacity in South Korea	318
Forecast for Wastewater Treatment Plant ... in South Korea (Continued).....	319
TABLE 77 SOUTH KOREAN WASTEWATER TREATMENT PLANT GAS ANNUAL NEW POWER PRODUCTION CAPACITY MARKET, THROUGH 2008 (MW)	320
Taiwanese Wastewater Treatment Plant Power Production Equipment Market.....	320
U.S. WASTEWATER TREATMENT PLANT GAS POWER PRODUCTION EQUIPMENT MARKETS	320
Wastewater Treatment Plant Facilities by State	321
The Best Places in The U.S. to Convert Sewage Gas to Power	321
The Best Places in The U.S. to Convert Sewage Gas to Power (Continued).....	322
The Best Places in The U.S. to Convert Sewage Gas to Power (Continued).....	323
TABLE 78 ELECTRIC RATES, RPS, SBC, CLEAN ENERGY FUNDS, AND WASTEWATER TREATMENT PLANTS BY STATE, 2002.....	324
Forecast for Wastewater Treatment Plant Gas-Fueled Generation Projects in the U.S.....	324
TABLE 79 U.S. WASTEWATER TREATMENT PLANT GAS POWER PROJECTS, THROUGH 2008	325
Forecast for Wastewater Treatment Plant Gas Fueled Generation Capacity and Technologies in the U.S.	325
TABLE 80 U.S. WASTEWATER TREATMENT GAS POWER PRODUCTION TECHNOLOGIES AND CAPACITY MARKET, THROUGH 2008	326
Reciprocating (Gas) Engines.....	326
Gas Turbines (Single cycle with heat recuperation).....	326
Fuel Cells	326
Microturbines.....	326
Federal Emergency Management Program (FEMP) Seeks Sewage Gas Project Proposals	327
Contact Points for FEMP ESPC Project Opportunities	327
Supplemental State Funding for Environmental Projects under EPA Rules	328
Fuel Cell Energy Targets California Wastewater Treatment Plants for Fuel Cells	329
Wastewater Treatment Project Developers.....	330
Alpha Environmental Technology Ltd.....	330

Earth Tech.....	331
Lemna International.....	331
Stereau	332
Suez	332
Trigen	333
 AGRICULTURE ANIMAL WASTE GAS POWER PRODUCTION	
EQUIPMENT MARKETS	334
OVERVIEW	334
THE DIGESTION PROCESS.....	335
THE MAGNITUDE OF THE RESOURCE	336
<i>TABLE 81 WORLD POPULATION OF CATTLE, POULTRY AND SWINE, THROUGH 2008 (MILLIONS)</i>	336
<i>TABLE 82 WORLD MANURE ENERGY POTENTIAL OF CATTLE, POULTRY AND SWINE, 2002</i>	337
ANIMAL WASTE GAS ENERGY CONVERSION TECHNOLOGIES	338
ANAEROBIC DIGESTERS AS THE GAS PRODUCTION TECHNOLOGY.....	339
THE WORLD LARGE-SCALE AGRICULTURAL DIGESTER MARKET IN 2003.....	339
Standardized Designs Needed for Anaerobic Digesters.....	339
Forecast of World Anaerobic Digester-Based Manure Fueled Power Plants	340
<i>TABLE 83 WORLD DISTRIBUTION OF LARGE-SCALE AGRICULTURAL DIGESTERS USED WITH POWER PRODUCTION DEVICES, THROUGH 2008.....</i>	340
Minimal Herd and Flock Manure and Litter Output for 1 MW Generating Capacity	340
<i>TABLE 84 LIVESTOCK HERD/FLOCK HEAD COUNTS TO PRODUCE SUFFICIENT MANURE/LITTER TO GENERATE 1 MW CONTINUOUS POWER.....</i>	341
GLOBAL MARKETS FOR ANIMAL WASTE GAS POWER	
PRODUCTION EQUIPMENT	341
WORLD ANIMAL WASTE GAS ELECTRICAL GENERATION CAPACITY FORECAST	341
<i>TABLE 85 WORLD MANURE GAS POWER PRODUCTION CAPACITY, THROUGH 2008 (MW).....</i>	342
<i>TABLE 85 (CONTINUED).....</i>	343
<i>TABLE 86 WORLD MANURE GAS POWER PRODUCTION CAPACITY BY REGION, THROUGH 2008 (MW).....</i>	343
EASTERN EUROPE ANIMAL WASTE GAS POWER	
PRODUCTION EQUIPMENT MARKET OPPORTUNITIES	343
Eastern European Countries with Factory Farm Activity	344
<i>TABLE 87 EASTERN EUROPEAN NATIONS ACTIVE IN AGRIBUSINESS ANIMAL HUSBANDRY.....</i>	345
EUROPEAN UNION ANIMAL WASTE GAS POWER	
PRODUCTION EQUIPMENT MARKETS	345
Distribution of Large Scale Animal Husbandry	
Operations in the European Union	345

<i>TABLE 88 ANIMAL HUSBANDRY CONCENTRATIONS IN THE EUROPEAN UNION BY NATION, 2002</i>	346
Market Considerations for Manure Methane Power in the EU	346
Forecast for Power Manure Fueled Generation Capacity in the European Union.....	347
<i>TABLE 89 EUROPEAN UNION AGRIBUSINESS ANIMAL WASTE GAS ANNUAL AGGREGATE POWER PRODUCTION CAPACITY MARKETS, BY COUNTRY, THROUGH 2008 (MW)</i>	348
Austrian Animal Waste Gas Power Production Equipment Market	348
Belgian Animal Waste Gas Power Production Equipment Market	349
Danish Animal Waste Gas Power Production Equipment Market	350
Finnish Animal Waste Gas Power Production Equipment Market	350
French Animal Waste Gas Power Production Equipment Market	351
German Animal Waste Gas Power Production Equipment Market	352
<i>TABLE 90 POULTRY, SWINE AND CATTLE POPULATION IN GERMANY, 2002</i>	352
Market Considerations for Animal Waste Gas Power Production in Germany.....	352
Forecast for Reciprocating Engines, Microturbines and Fuel Cells in German Agribusiness Biogas Applications	353
<i>TABLE 91 GERMAN AGRIBUSINESS BIOGAS POWER PRODUCTION TECHNOLOGIES AND CAPACITY MARKET, THROUGH 2008</i>	354
Irish Animal Waste Gas Power Production Equipment Market	354
Italian Animal Waste Gas Power Production Equipment Market	355
Dutch Animal Waste Gas Power Production Equipment Market	355
<i>TABLE 92 POULTRY, SWINE AND CATTLE POPULATIONS IN THE NETHERLANDS, 2002</i>	355
Portuguese Animal Waste Gas Power Production Equipment Market	356
Spanish Animal Waste Gas Power Production Equipment Market	357
Swedish Animal Waste Gas Power Production Equipment Market	357
United Kingdom Animal Waste Gas Power Production Equipment Market.....	358

PACIFIC RIM ANIMAL WASTE GAS POWER PRODUCTION EQUIPMENT MARKET	358
Chinese Animal Waste Gas Power Production Equipment Market	358
Poultry Litter Leads the Way, Perhaps Mistakenly, in China.....	359
Forecast for Power Manure Fueled Generation Capacity in China	360
<i>TABLE 93 CHINESE AGRIBUSINESS BIOGAS GENSET CAPACITY MARKET, THROUGH 2008 (MW)</i>	361
Japanese Animal Waste Gas Power Production Equipment Market.....	361
Forecast for Power Manure Fueled Generation Capacity in Japan.....	362
<i>TABLE 94 JAPANESE AGRIBUSINESS BIOGAS GENSET CAPACITY MARKET, THROUGH 2008 (MW)</i>	363
NEW ZEALAND'S ANIMAL WASTE GAS POWER PRODUCTION EQUIPMENT MARKET	363
U.S. ANIMAL WASTE GAS POWER PRODUCTION EQUIPMENT MARKET	364
The AgStar Program	364
EPA Regulations 2002	364
Where Are the Animals? Large Population = Market Opportunity	365
<i>TABLE 95 POULTRY, SWINE AND CATTLE POPULATION IN THE U.S., 2002</i>	365
The Top 10 CAFO States	365
<i>TABLE 96 TOP 10 STATES FOR CATTLE, SWINE AND POULTRY POPULATIONS IN THE U.S., 2001</i>	366
<i>TABLE 97 STATES IN THE TOP TEN FOR AT LEAST TWO TYPES OF LIVESTOCK POPULATIONS IN THE U.S., 2001</i>	366
<i>TABLE 98 NUMERICAL RANKING OF THE TOP EIGHT LIVESTOCK STATES IN THE U.S., 2001</i>	367
Total Livestock Populations in All States	368
<i>TABLE 99 STATES RANKED BY LIVESTOCK POPULATION; CATTLE, POULTRY AND SWINE, 2001</i>	368
<i>TABLE 99 (CONTINUED)</i>	369
Other Factors to Consider when Marketing Digester/GensetSystems	369
U.S. Livestock Biogas Power Production Equipment Market Forecast	370
<i>TABLE 100 U.S. AGRIBUSINESS BIOGAS POWER PRODUCTION TECHNOLOGIES AND CAPACITY MARKET, THROUGH 2008</i>	371
California Animal Waste Gas Power Production Equipment Market Incentives	371
New York Animal Waste Gas Power Production Equipment Market	372

North Carolina Animal Waste Gas Power	
Production Equipment Market	372
Texas Animal Waste Gas Power Production	
Equipment Market	373
The Largest Feedlots in Texas.....	373
Wisconsin Animal Waste Gas Power Production	
Equipment Market	373
 COMPANY AND ASSOCIATION PROFILES	374
ANAEROBIC DIGESTER COMPANIES.....	374
ANAEROBICS, INC.....	374
BIOGAS NORD GMBH.....	375
BTA – BIOTECHNISCHE ABFALLVERWERTUNG GMBH &	
CO KG	375
ENVIRONMENTAL POWER CORPORATION	376
FARMATIC BIOTECH ENERGY AG	376
KOMPOGAS AG.....	377
RESOURCE CONSERVATION MANAGEMENT, INC.....	378
CONCENTRATED ANIMAL FEEDLOT OPERATORS.....	379
CACTUS FEEDERS.....	379
CARGILL, INCORPORATED.....	379
SMITHFIELD FOODS, INC.....	380
TYSON FOODS, INC.....	380
LIVESTOCK ASSOCIATIONS	380
KANSAS LIVESTOCK ASSOCIATION.....	380
NATIONAL CATTLEMEN'S BEEF ASSOCIATION	381
NATIONAL PORK BOARD	381
NATIONAL PORK PRODUCERS COUNCIL	381
TEXAS CATTLE FEEDERS ASSOCIATION.....	381
THE INTERNATIONAL EGG COMMISSION.....	381
U.S. POULTRY & EGG ASSOCIATION.....	382
FUEL CELL MANUFACTURERS.....	382
AFCO	382
FUELCELL ENERGY.....	383
IHI.....	383
SIEMENS WESTINGHOUSE POWER CORP.....	384
UTC FUEL CELLS	385
MICROTURBINE MANUFACTURERS.....	385
ALM MICROTURBINE	386
BOWMAN POWER SYSTEMS LIMITED	386
CAPSTONE	387
ELLIOTT ENERGY SYSTEMS, INC.....	387
INGERSOLL-RAND POWERWORKS.....	388
TURBEC AB	388
RECIPROCATING ENGINE MANUFACTURERS	389

AVS AGGREGATEBAU GMBH	389
CATERPILLAR	389
CUMMINS, INC.	390
DRESSER, INC.	391
FIAT GROUP	391
GRUPO GUASCOR.....	392
JENBACHER	392
MAN B&W DIESEL AG	392
ROLLS-ROYCE PLC.....	393
TESSARI M.D.	393
WARTSILA CORPORATION	394
WESTPORT INNOVATIONS.....	394
SMALL GAS TURBINE MANUFACTURERS	395
PRATT & WHITNEY	395
ROLLS ROYCE	396
SCHELDE HERON.....	396
SOLAR TURBINES	397
TURBOMACH SA.....	397
VERICOR POWER SYSTEMS	398