

MARKETS AND PROFITABILITY

Market Analytics: Polyester & Intermediates - 2018

December 2018



This Report was prepared by Nexant, Inc. ("Nexant"). Except where specifically stated otherwise in this Report, the information contained herein is prepared on the basis of information that is publicly available, and contains no confidential third party technical information to the best knowledge of Nexant. Aforesaid information has not been independently verified or otherwise examined to determine its accuracy, completeness or financial feasibility. Neither Nexant, Subscriber nor any person acting on behalf of either assumes any liabilities with respect to the use of or for damages resulting from the use of any information contained in this Report. Nexant does not represent or warrant that any assumed conditions will come to pass.

The Report is submitted on the understanding that the Subscriber will maintain the contents confidential except for the Subscriber's internal use. The Report should not be reproduced, distributed or used without first obtaining prior written consent by Nexant. Each Subscriber agrees to use reasonable effort to protect the confidential nature of the Report.

Copyright © by Nexant Inc. 2018. All rights reserved.



Contents

1	Executive Summary	1
1.1	Introduction.....	1
1.2	Polyester Industry.....	3
1.3	PET Melt Phase	5
1.4	PET Bottle Grade	7
1.5	Mono Ethylene Glycol	9
1.6	Ethylene Oxide	11
1.7	Purified Terephthalic Acid (PTA).....	12
2	The Polyester Industry.....	14
2.1	Introduction.....	14
2.2	Market Summary.....	15
2.2.1	Purified Terephthalic Acid (PTA).....	18
2.2.2	Dimethyl Terephthalate (DMT).....	19
2.2.3	Ethylene Oxide (EO)	19
2.2.4	Mono Ethylene Glycol (MEG).....	20
2.2.5	PET Melt Phase	20
2.2.6	PET Bottle Grade	21
2.3	Report Scope	23
3	Purified Terephthalic Acid (PTA)	24
3.1	Global	24
3.1.1	Key Developments	24
3.1.2	Consumption	24
3.1.3	Supply	27
3.1.4	Supply and Demand.....	30
3.2	North America	32
3.2.1	Key Developments	32
3.2.2	Consumption	32
3.2.3	Supply	34
3.2.4	Supply, Demand and Trade	37
3.3	South America	40
3.3.1	Key Developments	40
3.3.2	Consumption	40
3.3.3	Supply	41
3.3.4	Supply, Demand and Trade	42
3.4	Western Europe	43
3.4.1	Key Developments	43
3.4.2	Consumption	43
3.4.3	Supply	44
3.4.4	Supply, Demand and Trade	47
3.5	Central Europe	49
3.5.1	Key Developments	49



3.5.2	Consumption	49
3.5.3	Supply	49
3.5.4	Supply, Demand and Trade	50
3.6	Eastern Europe	52
3.6.1	Key Developments	52
3.6.2	Consumption	52
3.6.2.1	Russia	52
3.6.2.2	Other Eastern Europe	52
3.6.3	Supply	54
3.6.3.1	Russia	54
3.6.3.2	Other Eastern Europe	55
3.6.4	Supply, Demand and Trade	55
3.6.4.1	Russia	55
3.6.4.2	Other Eastern Europe	55
3.7	Middle East.....	59
3.7.1	Key Developments	59
3.7.2	Consumption	59
3.7.3	Supply	60
3.7.4	Supply, Demand and Trade	62
3.8	Africa	64
3.8.1	Key Developments	64
3.8.2	Consumption	64
3.8.3	Supply	64
3.8.4	Supply, Demand and Trade	65
3.9	Asia Pacific.....	66
3.9.1	Key Developments	66
3.9.2	Consumption	66
3.9.2.1	China	66
3.9.2.2	North-East Asia	67
3.9.2.3	South-East Asia	67
3.9.2.4	South Asia	68
3.9.2.5	Australasia	68
3.9.3	Supply	70
3.9.3.1	China	70
3.9.3.2	North-East Asia	72
3.9.3.3	South-East Asia	72
3.9.3.4	South Asia	72
3.9.4	Supply, Demand and Trade	79
3.9.4.1	China	80
4	Dimethyl Terephthalate (DMT)	83
4.1	Global	83
4.1.1	Key Developments	83
4.1.2	Consumption	83
4.1.3	Supply	85



4.1.4	Supply and Demand.....	88
5	Ethylene Oxide (EO).....	92
5.1	Global	92
5.1.1	Key Developments	92
5.1.2	Consumption	92
5.1.3	Supply	96
5.1.4	Supply and Demand.....	98
5.2	North America	100
5.2.1	Key Developments	100
5.2.2	Consumption	100
5.2.3	Supply	103
5.2.4	Supply, Demand and Trade	107
5.3	South America.....	109
5.3.1	Key Developments	109
5.3.2	Consumption	109
5.3.3	Supply	111
5.3.4	Supply, Demand and Trade	113
5.4	Western Europe	114
5.4.1	Key Developments	114
5.4.2	Consumption	114
5.4.3	Supply	117
5.4.4	Supply, Demand and Trade	120
5.5	Central Europe	122
5.5.1	Key Developments	122
5.5.2	Consumption	122
5.5.3	Supply	123
5.5.4	Supply, Demand and Trade	124
5.6	Eastern Europe	126
5.6.1	Key Developments	126
5.6.2	Consumption	126
5.6.2.1	Russia	126
5.6.2.2	Other Eastern Europe	127
5.6.3	Supply	128
5.6.3.1	Russia	128
5.6.3.2	Other Eastern Europe	129
5.6.4	Supply, Demand and Trade	129
5.6.4.1	Russia	129
5.7	Middle East.....	131
5.7.1	Key Developments	131
5.7.2	Consumption	131
5.7.3	Supply	134
5.7.4	Supply, Demand and Trade	137
5.8	Africa	138
5.8.1	Key Developments	138



5.8.2	Consumption	138
5.8.3	Supply	138
5.8.4	Supply, Demand and Trade	139
5.9	Asia Pacific.....	140
5.9.1	Key Developments	140
5.9.2	Consumption	140
5.9.2.1	China.....	140
5.9.2.2	North-East Asia.....	142
5.9.2.3	South-East Asia	142
5.9.2.4	South Asia.....	143
5.9.2.5	Australasia	143
5.9.3	Supply	145
5.9.3.1	China	145
5.9.3.2	North-East Asia.....	146
5.9.3.3	South-East Asia	146
5.9.3.4	South Asia.....	146
5.9.3.5	Australasia	146
5.9.4	Supply, Demand and Trade	152
6	Mono Ethylene Glycol (MEG)	155
6.1	Global	155
6.1.1	Key Developments	155
6.1.2	Consumption	155
6.1.3	Supply	157
6.1.4	Supply and Demand.....	161
6.2	North America	164
6.2.1	Key Developments	164
6.2.2	Consumption	164
6.2.3	Supply	166
6.2.4	Supply, Demand and Trade	169
6.3	South America.....	172
6.3.1	Key Developments	172
6.3.2	Consumption	172
6.3.3	Supply	174
6.3.4	Supply, Demand and Trade	176
6.4	Western Europe	177
6.4.1	Key Developments	177
6.4.2	Consumption	177
6.4.3	Supply	178
6.4.4	Supply, Demand and Trade	181
6.5	Central Europe	182
6.5.1	Key Developments	182
6.5.2	Consumption	182
6.5.3	Supply	183
6.5.4	Supply, Demand and Trade	184



6.6	Eastern Europe	185
6.6.1	Key Developments	185
6.6.2	Consumption	185
6.6.2.1	Russia	185
6.6.2.2	Other Eastern Europe	186
6.6.3	Supply	186
6.6.3.1	Russia	186
6.6.3.2	Other Eastern Europe	187
6.6.4	Supply, Demand and Trade	188
6.6.4.1	Russia	188
6.6.4.2	Other Eastern Europe	188
6.7	Middle East.....	192
6.7.1	Key Developments	192
6.7.2	Consumption	192
6.7.3	Supply	194
6.7.4	Supply, Demand and Trade	196
6.8	Africa	198
6.8.1	Key Developments	198
6.8.2	Consumption	198
6.8.3	Supply	199
6.8.4	Supply, Demand and Trade	200
6.9	Asia Pacific.....	201
6.9.1	Key Developments	201
6.9.2	Consumption	201
6.9.2.1	China	201
6.9.2.2	North-East Asia	202
6.9.2.3	South-East Asia	202
6.9.2.4	South Asia.....	202
6.9.2.5	Australasia	202
6.9.3	Supply	204
6.9.3.1	China.....	204
6.9.3.2	North-East Asia	206
6.9.3.3	South-East Asia	206
6.9.3.4	South Asia.....	207
6.9.3.5	Australasia	207
6.9.4	Supply, Demand and Trade	212
7	PET Melt Phase.....	217
7.1	Global	217
7.1.1	Key Developments	217
7.1.2	Consumption	217
7.1.3	Supply	221
7.1.4	Supply and Demand.....	224
7.2	North America	227
7.2.1	Key Developments	227



7.2.2	Consumption	227
7.2.3	Supply	231
7.2.4	Supply, Demand and Trade	234
7.3	South America	237
7.3.1	Key Developments	237
7.3.2	Consumption	237
7.3.3	Supply	238
7.3.4	Supply, Demand and Trade	242
7.4	Western Europe	243
7.4.1	Key Developments	243
7.4.2	Consumption	243
7.4.3	Supply	245
7.4.4	Supply, Demand and Trade	249
7.5	Central Europe	251
7.5.1	Key Developments	251
7.5.2	Consumption	251
7.5.3	Supply	252
7.5.4	Supply, Demand and Trade	253
7.6	Eastern Europe	254
7.6.1	Key Developments	254
7.6.2	Consumption	254
7.6.2.1	Russia	254
7.6.2.2	Other Eastern Europe	255
7.6.3	Supply	256
7.6.3.1	Russia	256
7.6.3.2	Other Eastern Europe	257
7.6.4	Supply, Demand and Trade	259
7.6.4.1	Russia	259
7.6.4.2	Other Eastern Europe	259
7.7	Middle East	262
7.7.1	Key Developments	262
7.7.2	Consumption	262
7.7.3	Supply	264
7.7.4	Supply, Demand and Trade	267
7.8	Africa	268
7.8.1	Key Developments	268
7.8.2	Consumption	268
7.8.3	Supply	270
7.8.4	Supply, Demand and Trade	272
7.9	Asia Pacific	273
7.9.1	Key Developments	273
7.9.2	Consumption	273
7.9.2.1	China	273
7.9.2.2	North-East Asia	275



7.9.2.3	South-East Asia	275
7.9.2.4	South Asia.....	276
7.9.2.5	Australasia	277
7.9.3	Supply	279
7.9.3.1	China	279
7.9.3.2	North-East Asia.....	281
7.9.3.3	South-East Asia	281
7.9.3.4	South Asia.....	282
7.9.3.5	Australasia	282
7.9.4	Supply, Demand and Trade	293
8	PET Bottle Grade.....	297
8.1	Global	297
8.1.1	Key Developments	297
8.1.2	Consumption	297
8.1.3	Supply	300
8.1.4	Supply and Demand.....	304
8.2	North America	308
8.2.1	Key Developments	308
8.2.2	Consumption	308
8.2.3	Supply	309
8.2.4	Supply, Demand and Trade	313
8.3	South America.....	316
8.3.1	Key Developments	316
8.3.2	Consumption	316
8.3.3	Supply	317
8.3.4	Supply, Demand and Trade	319
8.4	Western Europe	321
8.4.1	Key Developments	321
8.4.2	Consumption	321
8.4.3	Supply	322
8.4.4	Supply, Demand and Trade	325
8.5	Central Europe	327
8.5.1	Key Developments	327
8.5.2	Consumption	327
8.5.3	Supply	328
8.5.4	Supply, Demand and Trade	329
8.6	Eastern Europe	330
8.6.1	Key Developments	330
8.6.2	Consumption	330
8.6.2.1	Russia	330
8.6.2.2	Other Eastern Europe	331
8.6.3	Supply	331
8.6.3.1	Russia	331
8.6.3.2	Other Eastern Europe	333



8.6.4	Supply, Demand and Trade	334
8.6.4.1	Russia	334
8.6.4.2	Other Eastern Europe	334
8.7	Middle East.....	338
8.7.1	Key Developments	338
8.7.2	Consumption	338
8.7.3	Supply	339
8.7.4	Supply, Demand and Trade	341
8.8	Africa	343
8.8.1	Key Developments	343
8.8.2	Consumption	343
8.8.3	Supply	344
8.8.4	Supply, Demand and Trade	346
8.9	Asia Pacific.....	348
8.9.1	Key Developments	348
8.9.2	Consumption	348
8.9.2.1	China	348
8.9.2.2	North-East Asia.....	349
8.9.2.3	South-East Asia	350
8.9.2.4	South Asia.....	350
8.9.2.5	Australasia	351
8.9.3	Supply	352
8.9.3.1	China.....	352
8.9.3.2	North-East Asia.....	353
8.9.3.3	South-East Asia	353
8.9.3.4	South Asia.....	354
8.9.3.5	Australasia	354
8.9.4	Supply, Demand and Trade	359
8.9.4.1	China	360

Appendices

A	Methodology	365
A.1	Market Dynamics Forecasting Methodology	365
A.1.1	Capacity Availability and Forecasting	365
A.1.1.1	End-Use Consumption Forecasting	365
A.1.1.1.1	End-Use Sector Growth	366
A.1.1.1.2	Penetration (New Application Growth)	366
A.1.1.1.3	Short-term Influences	367
A.1.2	Monomer Consumption Forecasting	367
A.1.3	Production and Trade Forecasting	368
B	Technology	369
B.1	Purified Terephthalic Acid (PTA).....	369
B.2	Dimethyl Terephthalate (DMT).....	370
B.3	Ethylene Oxide (EO)Mono Ethylene Oxide (MEG)	371



B.4 PET Bottle Grade/PET Melt Phase	372
---	-----

Figures

Figure 1 Polyester Chain Molecules	22
Figure 2 The Polyester Chain	22
Figure 3 Global PTA Demand, 2018-e	25
Figure 4 Global GDP Growth vs. PTA Consumption Growth	26
Figure 5 Global PTA Consumption by Region.....	26
Figure 6 Global PTA Capacity Share by Marketer in 2018-e	28
Figure 7 Global PTA Capacity Additions/(Closures).....	28
Figure 8 Global PTA Capacity	29
Figure 9 Global PTA Supply and Demand	30
Figure 10 Global PTA Net Exports(Imports).....	31
Figure 11 North America PTA Consumption, 2018-e	33
Figure 12 Location of PTA Plants in North America	36
Figure 13 North America PTA Supply, Demand and Trade	38
Figure 14 United States PTA Supply, Demand and Trade	39
Figure 15 Location of PTA Plants in South America	41
Figure 16 South America PTA Supply, Demand and Trade	42
Figure 17 Western Europe PTA Consumption, 2018-e	44
Figure 18 Location of PTA Plants in Western Europe	46
Figure 19 Western Europe PTA Supply, Demand and Trade	48
Figure 20 Location of PTA Plants in Central Europe	50
Figure 21 Central Europe PTA Supply, Demand and Trade	51
Figure 22 Location of PTA Plants in Russia	55
Figure 23 Russia PTA Supply, Demand and Trade	56
Figure 24 Other Eastern Europe PTA Supply, Demand and Trade	57
Figure 25 Total Eastern Europe PTA Supply, Demand and Trade	58
Figure 26 Location of PTA Plants in Middle East	61
Figure 27 Middle East PTA Supply, Demand and Trade.....	63
Figure 28 Africa PTA Supply, Demand and Trade	65
Figure 29 Asia Pacific PTA Consumption, 2018-e	69
Figure 30 Location of PTA Plants in China.....	77
Figure 31 Location of PTA Plants in Japan and South Korea	78
Figure 32 Location of PTA Plants in South-East Asia and Australia	78
Figure 33 Location of PTA Plants in India and Pakistan	79
Figure 34 Asia Pacific PTA Supply, Demand and Trade.....	81
Figure 35 China PTA Supply, Demand and Trade	82
Figure 36 China PTA Supply, Demand and Trade	82
Figure 37 Global DMT Demand, 2018-e.....	84
Figure 38 Global GDP Growth vs. DMT Consumption Growth	84
Figure 39 Global DMT Consumption by Region.....	85
Figure 40 Global DMT Capacity Share by Marketer in 2018-e	86
Figure 41 Global DMT Capacity Additions/(Closures)	87



Figure 42	Global DMT Capacity	87
Figure 43	Location of DMT Plants	88
Figure 44	Global DMT Supply and Demand.....	90
Figure 45	Global DMT Net Exports(Imports)	91
Figure 46	Global Ethylene Oxide Demand, 2018-e.....	93
Figure 47	Global GDP Growth vs. Ethylene Oxide Consumption Growth.....	94
Figure 48	Global Ethylene Oxide Consumption by Region	94
Figure 49	Global Ethylene Oxide Capacity Share by Marketer in 2018-e.....	96
Figure 50	Global Ethylene Oxide Capacity Additions/(Closures)	97
Figure 51	Global Ethylene Oxide Capacity.....	97
Figure 52	Global Ethylene Oxide Supply and Demand	98
Figure 53	Global Ethylene Oxide Net Exports(Imports)	99
Figure 54	North America Ethylene Oxide Consumption, 2018-e	102
Figure 55	Location of Ethylene Oxide Plants in North America	106
Figure 56	Location of Ethylene Oxide Plants in the USGC	106
Figure 57	North America Ethylene Oxide Supply, Demand and Trade	107
Figure 58	United States Ethylene Oxide Supply, Demand and Trade	108
Figure 59	South America Ethylene Oxide Consumption, 2018-e.....	110
Figure 60	Location of Ethylene Oxide Plants in South America.....	112
Figure 61	South America Ethylene Oxide Supply, Demand and Trade	113
Figure 62	Western Europe Ethylene Oxide Consumption, 2018-e	115
Figure 63	Location of Ethylene Oxide Plants in Western Europe	119
Figure 64	Western Europe Ethylene Oxide Supply, Demand and Trade.....	121
Figure 65	Central Europe Ethylene Oxide Consumption, 2018-e	122
Figure 66	Location of Ethylene Oxide Plants in Central Europe	124
Figure 67	Central Europe Ethylene Oxide Supply, Demand and Trade.....	125
Figure 68	Russia Ethylene Oxide Consumption, 2018-e.....	127
Figure 69	Location of Ethylene Oxide Plants in Russian.....	128
Figure 70	Russia Ethylene Oxide Supply, Demand and Trade	129
Figure 71	Total Eastern Europe Ethylene Oxide Supply, Demand and Trade	130
Figure 72	Middle East Ethylene Oxide Consumption, 2018-e.....	133
Figure 73	Location of Ethylene Oxide Plants in Middle East.....	136
Figure 74	Middle East Ethylene Oxide Supply, Demand and Trade	137
Figure 75	Africa Ethylene Oxide Supply, Demand and Trade	139
Figure 76	Asia Pacific Ethylene Oxide Consumption, 2018-e	144
Figure 77	Location of Ethylene Oxide Plants in China	150
Figure 78	Location of Ethylene Oxide Plants in Japan and South Korea.....	151
Figure 79	Location of Ethylene Oxide Plants in South-East Asia and Australia	151
Figure 80	Location of Ethylene Oxide Plants in India and Pakistan.....	152
Figure 81	Asia Pacific Ethylene Oxide Supply, Demand and Trade	153
Figure 82	China Ethylene Oxide Supply, Demand and Trade	154
Figure 83	China Ethylene Oxide Supply, Demand and Trade	154
Figure 84	Global MEG Demand, 2018-e	156
Figure 85	Global GDP Growth vs. MEG Consumption Growth	156



Figure 86	Global MEG Consumption by Region	157
Figure 87	Global MEG Capacity Share by Marketer in 2018-e	159
Figure 88	Global MEG Capacity Additions/(Closures)	159
Figure 89	Global MEG Capacity	160
Figure 90	Global MEG Supply and Demand	162
Figure 91	Global MEG Net Exports(Imports)	163
Figure 92	North America MEG Consumption, 2018-e	165
Figure 93	Location of MEG Plants in North America	168
Figure 94	Location of MEG Plants in the USGC	168
Figure 95	North America MEG Supply, Demand and Trade	170
Figure 96	United States MEG Supply, Demand and Trade	171
Figure 97	South America MEG Consumption, 2018-e	173
Figure 98	Location of MEG Plants in South America	175
Figure 99	South America MEG Supply, Demand and Trade	176
Figure 100	Western Europe MEG Consumption, 2018-e	178
Figure 101	Location of MEG Plants in Western Europe	180
Figure 102	Western Europe MEG Supply, Demand and Trade	181
Figure 103	Central Europe MEG Consumption, 2018-e	182
Figure 104	Location of MEG Plants in Central Europe	183
Figure 105	Central Europe MEG Supply, Demand and Trade	184
Figure 106	Russia MEG Consumption, 2018-e	185
Figure 107	Location of MEG Plants in Russia	187
Figure 108	Russia MEG Supply, Demand and Trade	189
Figure 109	Other Eastern Europe MEG Supply, Demand and Trade	190
Figure 110	Total Eastern Europe MEG Supply, Demand and Trade	191
Figure 111	Middle East MEG Consumption, 2018-e	193
Figure 112	Location of MEG Plants in Middle East	196
Figure 113	Middle East MEG Supply, Demand and Trade	197
Figure 114	Africa MEG Consumption, 2018-e	198
Figure 115	Africa MEG Supply, Demand and Trade	200
Figure 116	Asia Pacific MEG Consumption, 2018-e	203
Figure 117	Location of MEG Plants in China	210
Figure 118	Location of MEG Plants in Japan and South Korea	211
Figure 119	Location of MEG Plants in South-East Asia and Australia	211
Figure 120	Location of MEG Plants in India and Pakistan	212
Figure 121	Asia Pacific MEG Supply, Demand and Trade	215
Figure 122	China MEG Supply, Demand and Trade	216
Figure 123	China MEG Supply, Demand and Trade	216
Figure 124	Global PET Melt Phase Demand, 2018-e	219
Figure 125	Global GDP Growth vs. PET Melt Phase Consumption Growth	220
Figure 126	Global PET Melt Phase Consumption by Region	221
Figure 127	Global PET Melt Phase Capacity Share by Marketer in 2018-e	222
Figure 128	Global PET Melt Phase Capacity Additions/(Closures)	223
Figure 129	Global PET Melt Phase Capacity	223



Figure 130 Global PET Melt Phase Supply and Demand	225
Figure 131 Global PET Melt Phase Net Exports(Imports).....	226
Figure 132 North America PET Melt Phase Consumption, 2018-e.....	230
Figure 133 Location of PET Melt Phase Plants in North America	233
Figure 134 North America PET Melt Phase Supply, Demand and Trade	235
Figure 135 United States PET Melt Phase Supply, Demand and Trade.....	236
Figure 136 South America PET Melt Phase Consumption, 2018-e	238
Figure 137 Location of PET Melt Phase Plants in South America	241
Figure 138 South America PET Melt Phase Supply, Demand and Trade.....	242
Figure 139 Western Europe PET Melt Phase Consumption, 2018-e.....	244
Figure 140 Location of PET Melt Phase Plants in Western Europe.....	248
Figure 141 Western Europe PET Melt Phase Supply, Demand and Trade	250
Figure 142 Central Europe PET Melt Phase Consumption, 2018-e.....	251
Figure 143 Location of PET Melt Phase Plants in Central Europe.....	252
Figure 144 Central Europe PET Melt Phase Supply, Demand and Trade	253
Figure 145 Russia PET Melt Phase Consumption, 2018-e	255
Figure 146 Other Eastern Europe PET Melt Phase Consumption, 2018-e	256
Figure 147 Location of PET Melt Phase Plants in Russia	257
Figure 148 Location of PET Melt Phase Plants in Other Eastern Europe.....	258
Figure 149 Russia PET Melt Phase Supply, Demand and Trade	259
Figure 150 Other Eastern Europe PET Melt Phase Supply, Demand and Trade	260
Figure 151 Total Eastern Europe PET Melt Phase Supply, Demand and Trade	261
Figure 152 Middle East PET Melt Phase Consumption, 2018-e	263
Figure 153 Location of PET Melt Phase Plants in Middle East	266
Figure 154 Middle East PET Melt Phase Supply, Demand and Trade	267
Figure 155 Africa PET Melt Phase Consumption, 2018-e	269
Figure 156 Location of PET Melt Phase Plants in Africa.....	271
Figure 157 Africa PET Melt Phase Supply, Demand and Trade	272
Figure 158 Asia Pacific PET Melt Phase Consumption, 2018-e	278
Figure 159 Location of PET Melt Phase Plants in China.....	291
Figure 160 Location of PET Melt Phase Plants in Japan and South Korea.....	291
Figure 161 Location of PET Melt Phase Plants in South-East Asia and Australia.....	292
Figure 162 Location of PET Melt Phase Plants in India and Pakistan	292
Figure 163 Location of PET Melt Plants in India and Pakistan	293
Figure 164 Asia Pacific PET Melt Phase Supply, Demand and Trade.....	295
Figure 165 China PET Melt Phase Supply, Demand and Trade	296
Figure 166 China PET Melt Phase Supply, Demand and Trade	296
Figure 167 Global GDP Growth vs. PET Bottle Grade Consumption Growth.....	299
Figure 168 Global PET Bottle Grade Consumption by Region	300
Figure 169 Global PET Bottle Grade Capacity Share by Marketer in 2018-e	302
Figure 170 Global PET Bottle Grade Capacity Additions/(Closures)	303
Figure 171 Global PET Bottle Grade Capacity	303
Figure 172 Global PET Bottle Grade Supply and Demand	305
Figure 173 Global PET Bottle Grade Net Exports(Imports)	306



Figure 174	Location of PET Bottle Grade Plants in North America.....	312
Figure 175	North America PET Bottle Grade Supply, Demand and Trade	314
Figure 176	United States PET Bottle Grade Supply, Demand and Trade	315
Figure 177	Location of PET Bottle Grade Plants in South America	318
Figure 178	South America PET Bottle Grade Supply, Demand and Trade	320
Figure 179	Location of PET Bottle Grade Plants in Western Europe.....	324
Figure 180	Western Europe PET Bottle Grade Supply, Demand and Trade	326
Figure 181	Location of PET Bottle Grade Plants in Central Europe	328
Figure 182	Central Europe PET Bottle Grade Supply, Demand and Trade.....	329
Figure 183	Location of PET Bottle Grade Plants in Russia.....	332
Figure 184	Location of PET Bottle Grade Plants in Other Eastern Europe.....	334
Figure 185	Russia PET Bottle Grade Supply, Demand and Trade	335
Figure 186	Other Eastern Europe PET Bottle Grade Supply, Demand and Trade	336
Figure 187	Total Eastern Europe PET Bottle Grade Supply, Demand and Trade	337
Figure 188	Location of PET Bottle Grade Plants in Middle East.....	341
Figure 189	Middle East PET Bottle Grade Supply, Demand and Trade	342
Figure 190	Location of PET Bottle Grade Plants in Africa.....	346
Figure 191	Africa PET Bottle Grade Supply, Demand and Trade	347
Figure 192	Location of PET Bottle Grade Plants in China	357
Figure 193	Location of PET Bottle Grade Plants in Japan and South Korea.....	358
Figure 194	Location of PET Bottle Grade Plants in South-East Asia and Australia.....	358
Figure 195	Location of PET Bottle Grade Plants in India and Pakistan	359
Figure 196	Asia Pacific PET Bottle Grade Supply, Demand and Trade	362
Figure 197	China PET Bottle Grade Supply, Demand and Trade.....	363
Figure 198	China PET Bottle Grade Supply, Demand and Trade.....	363
Figure 199	End-Use Consumption Drivers	366
Figure 200	Monomer Consumption Drivers	367
Figure 201	Trade Considerations	368
Figure 202	PTA Flow Diagram	369
Figure 203	DMT Flow Diagram.....	370
Figure 204	<Insert figure caption here>.....	370
Figure 205	EO/MEG Flow Diagram	371
Figure 206	Polyester Melt Phase (PMP) Flow Diagram	373
Figure 207	Polyester Melt Phase (PMP) Flow Diagram	374
Figure 208	Polyester Bottle Grade (PBG) Flow Diagram	375

Tables

Table 1	Global PTA Consumption by Derivative	26
Table 2	Global PTA Consumption by Region.....	27
Table 3	Global PTA Supply and Demand	30
Table 4	North America PTA Consumption by Derivative	33
Table 5	North America PTA Consumption by Country.....	33
Table 6	PTA Capacity in North America.....	35
Table 7	North America PTA Supply, Demand and Trade	38



Table 8	United States PTA Supply, Demand and Trade	39
Table 9	South America PTA Consumption by Derivative	40
Table 10	South America PTA Consumption by Country	40
Table 11	PTA Capacity in South America	41
Table 12	South America PTA Supply, Demand and Trade	42
Table 13	Western Europe PTA Consumption by Derivative	44
Table 14	PTA Capacity in Western Europe.....	45
Table 15	Western Europe PTA Supply, Demand and Trade	48
Table 16	Central Europe PTA Consumption by Derivative	49
Table 17	PTA Capacity in Central Europe	49
Table 18	Central Europe PTA Supply, Demand and Trade	51
Table 19	Russian PTA Consumption	52
Table 20	Other Eastern Europe PTA Consumption	52
Table 21	PTA Capacity in Russia.....	54
Table 22	Russia PTA Supply, Demand and Trade	56
Table 23	Other Eastern Europe PTA Supply, Demand and Trade	57
Table 24	Total Eastern Europe PTA Supply, Demand and Trade	58
Table 25	Middle East PTA Consumption by Derivative.....	60
Table 26	Middle East PTA Consumption by Country	60
Table 27	PTA Capacity in the Middle East	61
Table 28	Middle East PTA Supply, Demand and Trade.....	63
Table 29	African PTA Consumption by Derivative	64
Table 30	African PTA Consumption by Country.....	64
Table 31	Africa PTA Supply, Demand and Trade	65
Table 32	Asia Pacific PTA Consumption by Derivative	69
Table 33	Asia Pacific PTA Consumption by Country	70
Table 34	PTA Capacity in Asia Pacific	74
Table 35	Asia Pacific PTA Supply, Demand and Trade.....	81
Table 36	Global DMT Consumption by Derivative	84
Table 37	Global DMT Consumption by Region.....	85
Table 38	Global DMT Capacity	88
Table 39	Global DMT Supply and Demand.....	90
Table 40	Global Ethylene Oxide Consumption by Derivative	93
Table 41	Global Ethylene Oxide Consumption by Region	95
Table 42	Global Ethylene Oxide Production by Process.....	98
Table 43	Global Ethylene Oxide Supply and Demand	99
Table 44	North America Ethylene Oxide Consumption by Derivative	102
Table 45	North America Ethylene Oxide Consumption by Country	102
Table 46	Ethylene Oxide Capacity in North America	105
Table 47	North America Ethylene Oxide Supply, Demand and Trade	107
Table 48	United States Ethylene Oxide Supply, Demand and Trade	108
Table 49	South America Ethylene Oxide Consumption by Derivative	110
Table 50	South America Ethylene Oxide Consumption by Country	110
Table 51	Ethylene Oxide Capacity in South America.....	111



Table 52	South America Ethylene Oxide Supply, Demand and Trade	113
Table 53	Western Europe Ethylene Oxide Consumption by Derivative.....	116
Table 54	Ethylene Oxide Capacity in Western Europe	118
Table 55	Western Europe Ethylene Oxide Supply, Demand and Trade.....	121
Table 56	Central Europe Ethylene Oxide Consumption by Derivative.....	122
Table 57	Ethylene Oxide Capacity in Central Europe	123
Table 58	Central Europe Ethylene Oxide Supply, Demand and Trade.....	125
Table 59	Russian Ethylene Oxide Consumption.....	127
Table 60	Ethylene Oxide Capacity in Russia	128
Table 61	Russia Ethylene Oxide Supply, Demand and Trade	129
Table 62	Total Eastern Europe Ethylene Oxide Supply, Demand and Trade.....	130
Table 63	Middle East Ethylene Oxide Consumption by Derivative	133
Table 64	Middle East Ethylene Oxide Consumption by Country	133
Table 65	Ethylene Oxide Capacity in the Middle East	135
Table 66	Middle East Ethylene Oxide Supply, Demand and Trade	137
Table 67	African Ethylene Oxide Consumption by Derivative	138
Table 68	Africa Ethylene Oxide Supply, Demand and Trade.....	139
Table 69	Asia Pacific Ethylene Oxide Consumption by Derivative	144
Table 70	Asia Pacific Ethylene Oxide Consumption by Country.....	144
Table 71	Ethylene Oxide Capacity in Asia Pacific.....	147
Table 72	Asia Pacific Ethylene Oxide Supply, Demand and Trade	153
Table 73	Global MEG Consumption by Derivative.....	156
Table 74	Global MEG Consumption by Region	157
Table 75	Global MEG Production by Process	160
Table 76	Global MEG Supply and Demand	162
Table 77	North America MEG Consumption by Derivative	165
Table 78	North America MEG Consumption by Country.....	165
Table 79	MEG Capacity in North America	167
Table 80	North America MEG Supply, Demand and Trade	170
Table 81	United States MEG Supply, Demand and Trade.....	171
Table 82	South America MEG Consumption by Derivative	173
Table 83	South America MEG Consumption by Country.....	173
Table 84	MEG Capacity in South America	174
Table 85	South America MEG Supply, Demand and Trade	176
Table 86	Western Europe MEG Consumption by Derivative	178
Table 87	MEG Capacity in Western Europe	179
Table 88	Western Europe MEG Supply, Demand and Trade	181
Table 89	Central Europe MEG Consumption by Derivative	182
Table 90	MEG Capacity in Central Europe	183
Table 91	Central Europe MEG Supply, Demand and Trade	184
Table 92	Russian MEG Consumption	186
Table 93	Other Eastern Europe MEG Consumption	186
Table 94	MEG Capacity in Russia.....	187
Table 95	Russia MEG Supply, Demand and Trade	189



Table 96	Other Eastern Europe MEG Supply, Demand and Trade	190
Table 97	Total Eastern Europe MEG Supply, Demand and Trade	191
Table 98	Middle East MEG Consumption by Derivative	193
Table 99	Middle East MEG Consumption by Country	193
Table 100	MEG Capacity in the Middle East.....	195
Table 101	Middle East MEG Supply, Demand and Trade	197
Table 102	African MEG Consumption by Derivative	198
Table 103	African MEG Consumption by Country	199
Table 104	Africa MEG Supply, Demand and Trade	200
Table 105	Asia Pacific MEG Consumption by Derivative.....	203
Table 106	Asia Pacific MEG Consumption by Country	203
Table 107	MEG Capacity in Asia Pacific.....	208
Table 108	Asia Pacific MEG Supply, Demand and Trade.....	215
Table 109	Global PET Melt Phase Consumption by Derivative	219
Table 110	Global PET Melt Phase Consumption by Region	221
Table 111	Global PET Production by Process	223
Table 112	Global PET Melt Phase Supply and Demand	225
Table 113	North America PET Melt Phase Consumption by Derivative	230
Table 114	North America PET Melt Phase Consumption by Country.....	230
Table 115	PET Melt Phase Capacity in North America.....	232
Table 116	North America PET Melt Phase Supply, Demand and Trade	235
Table 117	United States PET Melt Phase Supply, Demand and Trade.....	236
Table 118	South America PET Melt Phase Consumption by Derivative.....	238
Table 119	South America PET Melt Phase Consumption by Country	238
Table 120	PET Melt Phase Capacity in South America	240
Table 121	South America PET Melt Phase Supply, Demand and Trade.....	242
Table 122	Western Europe PET Melt Phase Consumption by Derivative	244
Table 123	PET Melt Phase Capacity in Western Europe.....	246
Table 124	Western Europe PET Melt Phase Supply, Demand and Trade	250
Table 125	Central Europe PET Melt Phase Consumption by Derivative	251
Table 126	PET Melt Phase Capacity in Central Europe	252
Table 127	Central Europe PET Melt Phase Supply, Demand and Trade	253
Table 128	Russian PET Melt Phase Consumption	255
Table 129	Other Eastern Europe PET Melt Phase Consumption	256
Table 130	PET Melt Phase Capacity in Russia.....	257
Table 131	PET Melt Phase Capacity in Other Eastern Europe	258
Table 132	Russia PET Melt Phase Supply, Demand and Trade	259
Table 133	Other Eastern Europe PET Melt Phase Supply, Demand and Trade	260
Table 134	Total Eastern Europe PET Melt Phase Supply, Demand and Trade	261
Table 135	Middle East PET Melt Phase Consumption by Derivative	263
Table 136	Middle East PET Melt Phase Consumption by Country	263
Table 137	PET Melt Phase Capacity in the Middle East.....	265
Table 138	Middle East PET Melt Phase Supply, Demand and Trade	267
Table 139	African PET Melt Phase Consumption by Derivative	269



Table 140	African PET Melt Phase Consumption by Country	269
Table 141	PET Melt Phase Capacity in Africa	270
Table 142	Africa PET Melt Phase Supply, Demand and Trade	272
Table 143	Asia Pacific PET Melt Phase Consumption by Derivative.....	278
Table 144	Asia Pacific PET Melt Phase Consumption by Country	278
Table 145	PET Melt Phase Capacity in Asia Pacific	284
Table 146	Asia Pacific PET Melt Phase Supply, Demand and Trade.....	295
Table 147	Global PET Bottle Grade Consumption by Derivative.....	298
Table 148	Global PET Bottle Grade Consumption by Region	300
Table 149	Global PET Bottle Grade Supply and Demand	305
Table 150	North America PET Bottle Grade Consumption by Derivative	309
Table 151	North America PET Bottle Grade Consumption by Country	309
Table 152	PET Bottle Grade Capacity in North America	311
Table 153	North America PET Bottle Grade Supply, Demand and Trade	314
Table 154	United States PET Bottle Grade Supply, Demand and Trade	315
Table 155	South America PET Bottle Grade Consumption by Derivative	316
Table 156	South America PET Bottle Grade Consumption by Country	317
Table 157	PET Bottle Grade Capacity in South America.....	317
Table 158	South America PET Bottle Grade Supply, Demand and Trade	320
Table 159	Western Europe PET Bottle Grade Consumption by Derivative	322
Table 160	PET Bottle Grade Capacity in Western Europe	323
Table 161	Western Europe PET Bottle Grade Supply, Demand and Trade	326
Table 162	Central Europe PET Bottle Grade Consumption by Derivative	327
Table 163	PET Bottle Grade Capacity in Central Europe	328
Table 164	Central Europe PET Bottle Grade Supply, Demand and Trade.....	329
Table 165	Russian PET Bottle Grade Consumption	331
Table 166	Other Eastern Europe PET Bottle Grade Consumption.....	331
Table 167	PET Bottle Grade Capacity in Russia	332
Table 168	PET Bottle Grade Capacity in Other Eastern Europe	333
Table 169	Russia PET Bottle Grade Supply, Demand and Trade	335
Table 170	Other Eastern Europe PET Bottle Grade Supply, Demand and Trade	336
Table 171	Total Eastern Europe PET Bottle Grade Supply, Demand and Trade	337
Table 172	Middle East PET Bottle Grade Consumption by Derivative	339
Table 173	Middle East PET Bottle Grade Consumption by Country.....	339
Table 174	PET Bottle Grade Capacity in the Middle East	340
Table 175	Middle East PET Bottle Grade Supply, Demand and Trade	342
Table 176	African PET Bottle Grade Consumption by Derivative	343
Table 177	African PET Bottle Grade Consumption by Country	344
Table 178	PET Bottle Grade Capacity in Africa	345
Table 179	Africa PET Bottle Grade Supply, Demand and Trade	347
Table 180	Asia Pacific PET Bottle Grade Consumption by Derivative	351
Table 181	Asia Pacific PET Bottle Grade Consumption by Country	352
Table 182	PET Bottle Grade Capacity in Asia Pacific.....	355
Table 183	Asia Pacific PET Bottle Grade Supply, Demand and Trade	362