

## **Table of Contents**

1.	Ir	ntroduction	1
	1.1	Opportunities for international manufacturers	1
	1.2	Objectives and structure of this report	2
2.	R	egional Analysis	4
	2.1	Description of the region	4
		2.1.1 Consumption	5
		2.1.2 Legal and regulatory framework	6
		2.1.3 Barriers to economic development in sub-Saharan Africa	9
	2.2	Upstream activities	11
		2.2.1 Overview	11
		2.2.2 Proven reserves and production	14
		2.2.3 Exploration activities	22
		2.2.4 Recent discoveries of oil and gas	25
	2.3	Mid- and downstream activity	27
		2.3.1 Refineries	27
		2.3.2 Future oil refineries in sub-Saharan Africa	31
		2.3.3 LNG plants and terminals	33
		2.3.4 Chemical plants and other major gas users	36
		2.3.5 Oil and gas pipelines	40
	2.4	Oil and gas exports	45
		2.4.1 Oil exports	45
		2.4.2 Gas exports	48
	2.5	Oil companies	49
		2.5.1 African Petroleum Producers Association (APPA), and national oil companies (NOCs)	49
		2.5.2 International oil companies (IOCs)	51

2.6 International suppliers operating in sub-Saharan Africa	54
2.6.1 Major international suppliers	55
2.6.2 Strategies and practices	60
3. Nigeria	61
3.1 Business environment	
3.1.1 Political stability and security	
3.1.2 Economy	
3.1.3 Infrastructure	
3.1.4 Operating in Nigeria	69
3.2 Resources and infrastructure	
3.2.1 Oil	70
3.2.2 Gas	74
3.2.3 Oil and gas infrastructure	77
3.2.4 Planned oil and gas projects	82
3.3 Laws and regulations	86
3.3.1 Petroleum Industry Bill	88
3.3.2 Local content law	89
3.4 Operators and concessionaires	90
3.4.1 International oil companies (IOCs)	90
3.4.2 Domestic companies	97
3.4.3 National oil companies	98
3.5 International and domestic suppliers	100
3.5.1 Overview	100
3.5.2 Upstream	101
3.5.3 Midstream	106
3.5.4 Downstream	107
3.6 Future opportunities for international suppliers	109



4	. A	ngola	112
	4.1	Business environment	112
		4.1.1 Political stability and security	114
		4.1.2 Economy	115
		4.1.3 Infrastructure	115
		4.1.4 Operating in Angola	116
	4.2	Resources and infrastructure	118
		4.2.1 Oil	118
		4.2.2 Gas	122
		4.2.3 Oil and gas infrastructure	124
		4.2.4 Planned oil and gas projects	126
	4.3	Laws and regulations	128
		4.3.1 Policies and governance of oil and gas in Angola	128
		4.3.2 Local content law	130
	4.4	Operators and concessionaires	131
		4.4.1 International oil companies (IOCs)	131
		4.4.2 National oil companies	134
	4.5	International suppliers	135
		4.5.1 Upstream	135
		4.5.2 Midstream	139
		4.5.3 Downstream	141
	4.6	Future opportunities for international suppliers	141
5		quatorial Guinea	
	5.1	Business environment	
		5.1.1 Political stability and security	
		5.1.2 Economy	
		5.1.3 Infrastructure	146

	5.1.4 Operating in Equatorial Guinea	147
5.2	2 Resources and infrastructure	148
	5.2.1 Oil	148
	5.2.2 Gas	151
	5.2.3 Oil and gas infrastructure	154
	5.2.4 Planned oil and gas projects	155
5.3	3 Laws and regulations	157
	5.3.1 The Hydrocarbons Law 2006	157
	5.3.2 Local content law	158
5.4	4 Operators and concessionaires	158
	5.4.1 International oil companies (IOCs)	158
	5.4.2 National oil companies	161
5.5	5 International suppliers	162
	5.5.1 Upstream	162
	5.5.2 Midstream	163
	5.5.3 Downstream	164
5.6	5 Future opportunities for international suppliers	165
	21	4.00
	Ghana	
6.1	1 Business environment	
	6.1.1 Political stability and security	
	6.1.2 Economy	168
	6.1.3 Infrastructure	169
	6.1.4 Operating in Ghana	170
6.2	2 Resources and infrastructure	171
	6.2.1 Oil	171
	6.2.2 Gas	173
	6.2.3 Oil and gas infrastructure	173

		6.2.4 Planned oil and gas projects	174
6	5.3	Laws and regulations	176
		6.3.1 Policies and governance of oil and gas in Ghana	176
		6.3.2 Local content law	178
6	5.4	Operators and concessionaires	179
		6.4.1 International oil companies (IOCs)	179
		6.4.2 National oil companies	182
6	5.5	International suppliers	183
		6.5.1 Upstream	183
		6.5.2 Midstream	184
		6.5.3 Downstream	184
6	5.6	Future opportunities for international suppliers 1	185
		ozambique18	
7	7.1	Business environment	187
		7.1.1 Political stability and security	189
		7.1.2 Economy	190
		7.1.3 Infrastructure	190
		7.1.4 Operating in Mozambique	191
7	7.2	Resources and Infrastructure	192
		7.2.1 Oil	192
		7.2.2 Gas	193
		7.2.3 Oil and gas infrastructure	199
		7.2.4 Planned oil and gas projects	199
7	7.3	Laws and regulations	203
		7.3.1 The Petroleum Law	203
		7.3.2 The "Mega-Projects" Law	204
		7.3.3 Local content law	204

7.4	Operators and concessionaires	206
	7.4.1 International oil companies (IOCs)	206
	7.4.2 National oil companies	207
7.5	International suppliers	209
	7.5.1 Upstream	209
	7.5.2 Midstream	210
	7.5.3 Downstream	210
7.6	Future opportunities for international suppliers	211
8. T	anzania, United Republic of	213
	Business environment	
	8.1.1 Political stability and security	215
	8.1.2 Economy	215
	8.1.3 Infrastructure	216
	8.1.4 Operating in Tanzania	217
8.2	Resources and infrastructure	218
	8.2.1 Oil	218
	8.2.2 Gas	219
	8.2.3 Oil and gas infrastructure	222
	8.2.4 Planned oil and gas projects	222
8.3	Laws and regulations	225
	8.3.1 Petroleum (Exploration and Production) Act (1980)	225
	8.3.2 National natural gas policy	226
	8.3.3 New Model Production Sharing Agreement (2013)	228
	8.3.4 Local content law	229
8.4	Operators and concessionaires	230
	8.4.1 International oil companies (IOCs)	230
	8.4.2 National oil companies	232



8.5	International suppliers	234
	8.5.1 Upstream	234
	8.5.2 Midstream	235
	8.5.3 Downstream	235
8.6	Future opportunities for international suppliers	236
9. (	Conclusion and country comparisons	238
9.1	International oil companies	238
9.2	2 International suppliers	240
	Appendices	
10	.1 Appendix I - Chinese oil companies	243
	10.1.1 Investment activity	243
	10.1.2 Sinopec and China Sonangol	246
	10.1.3 China National Petroleum Corporation (CNPC)	247
	10.1.4 China National Oil and Gas Exploration and Development Corporation (CNODC) petrochemical trading company	249
	10.1.5 China National Offshore Oil Company (CNOOC)	249
10	.2 Appendix II – Featured interviews	249
	10.2.1 Interview with a Management Consultant with experience in the Angolan oil and gas industry	249
	10.2.2 Interview with an engineering sub-contractor working in Equatorial Guinea	253
	10.2.3 Interviews with other oil and gas company employees and contractors working in sub-Saharan Africa	254
10	.3 Appendix III – Conclusion matrix methodology	254