

A CONFIDENTIAL REPORT PREPARED BY CM GROUP

JANUARY 2021





CONDITIONS OF USE

THIS REPORT HAS BEEN PREPARED BY THE CM GROUP.NET PTY LTD (ABN 69 089 166 512) (CM GROUP).

COPYRIGHT AND TRADE MARKS

CM GROUP IS THE OWNER OF THE COPYRIGHT AND ALL OTHER INTELLECTUAL PROPERTY RIGHTS IN THIS REPORT.

THE REPORT HAS BEEN PREPARED FOR THE CLIENT TO USE FOR ITS OWN INTERNAL PURPOSES. THE REPORT MUST NOT BE COPIED (EITHER IN WHOLE OR PART), DISTRIBUTED TO, USED OR RELIED ON BY ANY OTHER PERSON WITHOUT CM GROUP'S PRIOR WRITTEN CONSENT.

THE CM GROUP IS ALSO THE OWNER OF THE CM GROUP TRADE MARKS (WHETHER REGISTERED OR UNREGISTERED) AND EXPRESSLY PROHIBITS ANY USE OF THOSE TRADE MARKS FOR ANY PURPOSE UNLESS WITH THE CM GROUP'S PRIOR WRITTEN CONSENT OR AS OTHERWISE PERMITTED BY LAW.

DISCLAIMER

THIS REPORT HAS BEEN PREPARED ON THE BASIS OF ORIGINAL, INDEPENDENT RESEARCH BY THE CM GROUP. IT IS BASED ON INFORMATION AVAILABLE AT THE TIME THE REPORT WAS COMPILED, FROM SOURCES BELIEVED TO BE RELIABLE. WHILE THE CM GROUP HAS TAKEN CARE IN PREPARING THE REPORT, UNLESS SPECIFICALLY IMPLIED BY LAW, IT DOES NOT MAKE ANY REPRESENTATION OR WARRANTY THAT THE MATERIAL IN THE REPORT IS ACCURATE, COMPLETE OR UP TO DATE. THE CM GROUP IS UNDER NO OBLIGATION TO UPDATE THE MATERIAL IN THE REPORT IN FUTURE. THE CLIENT SHOULD MAKE ITS OWN ENQUIRIES TO SATISFY ITSELF AS TO THE CORRECTNESS AND CURRENCY OF THE MATERIAL PRESENTED.

SECURITIES AND OTHER PRODUCTS

THIS REPORT DOES NOT CONSTITUTE A RECOMMENDATION, INVITATION OR OFFER TO BUY OR SELL ANY SECURITY, STOCK, BUSINESS OR OTHER PRODUCT OR SERVICE IN ANY JURISDICTION, OR TO ENGAGE IN OR REFRAIN FROM ENGAGING IN ANY OTHER TRANSACTION.

COST AND MARKET ESTIMATES

THE CM GROUP ESTIMATES COSTS AND MARKET CHANGES BY EVALUATING INDUSTRY MARKET CONDITIONS AND GATHERING AVAILABLE INFORMATION AND DATA FROM THIRD PARTY SOURCES, AS OPERATING COMPANIES DO NOT GENERALLY DISCLOSE THEIR POSITIONS FOR INDIVIDUAL OPERATIONS.

AVAILABLE DATA VARIES GREATLY BETWEEN PROJECTS. IN PARTICULAR, FORECAST COSTS AND MARKET VOLUMES EMBODY A NUMBER OF SIGNIFICANT ASSUMPTIONS WITH RESPECT TO EXCHANGE RATES AND TECHNICAL VARIABLES. BECAUSE OF THESE FACTORS, DIRECT COMPARABILITY BETWEEN INDIVIDUAL FORECAST PROJECT COSTS AND MARKETS MAY BE LIMITED, AND SUCH COST AND MARKET ESTIMATES MUST BE TREATED WITH CAUTION.

FORWARD-LOOKING STATEMENTS

WITHOUT LIMITING THE FOREGOING, THIS REPORT CONTAINS FORWARD-LOOKING STATEMENTS WHICH ARE IDENTIFIED BY WORDS SUCH AS 'MAY', 'COULD', 'BELIEVES', 'ESTIMATES', 'TARGETS', 'EXPECTS', 'INTENDS' AND OTHER SIMILAR WORDS THAT INVOLVE RISKS AND UNCERTAINTIES.

THESE STATEMENTS ARE BASED ON AN ASSESSMENT OF PRESENT ECONOMIC AND OPERATING CONDITIONS, AND ON A NUMBER OF ASSUMPTIONS REGARDING FUTURE EVENTS AND ACTIONS THAT, AT THE DATE OF THIS REPORT, ARE EXPECTED TO TAKE PLACE.

SUCH FORWARD-LOOKING STATEMENTS ARE NOT GUARANTEES OF FUTURE PERFORMANCE AND INVOLVE KNOWN AND UNKNOWN RISKS, UNCERTAINTIES, ASSUMPTIONS AND OTHER IMPORTANT FACTORS, WHICH ARE BEYOND THE CONTROL OF THE CM GROUP AND WHICH COULD CAUSE THE ACTUAL OUTCOMES TO DIFFER MATERIALLY FROM THE OUTCOMES EXPRESSED OR ANTICIPATED IN THE FORWARD-LOOKING STATEMENTS.

THE CM GROUP CANNOT AND DOES NOT GIVE ANY ASSURANCE THAT THE RESULTS, PERFORMANCE OR ACHIEVEMENTS EXPRESSED OR IMPLIED BY THE FORWARD-LOOKING STATEMENTS CONTAINED IN THIS REPORT WILL ACTUALLY OCCUR AND THE CLIENT IS CAUTIONED NOT TO PLACE UNDUE RELIANCE ON THEM.

LIMITATION OF LIABILITY

TO THE EXTENT PERMITTED BY LAW, NONE OF THE CM GROUP OR ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, INFORMATION PROVIDERS, CONSULTANTS OR SUPPLIERS ACCEPTS ANY LIABILITY (IN NEGLIGENCE OR OTHERWISE) FOR ANY LOSS OR DAMAGE, WHETHER DIRECT OR INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE, SUSTAINED OR INCURRED BY THE CLIENT OR ANY OTHER PERSON AS A RESULT OF RELIANCE ON ALL OR ANY PART OF THIS REPORT.



GUINEA'S BOOMING **BAUXITE**EXPORT INDUSTRY; TOO MUCH TOO SOON?

JANUARY 2021

PREPARED BY CM GROUP





Executive	e Summary	1
1	Introduction	14
1.1	Data Source	14
1.2	History of Guinea's Bauxite Industry	14
1.3	Field Studies	15
2	Reserves, Resources and Grade	17
2.1	Resources & Reserves	20
2.2	Grades	21
3	Guinean Bauxite Supply	24
3.1	Overview	24
3.2	Major Operators	27
3.2.1	CBG	27
	Ownership	27
	Resource and Reserve	27
	Product Grades	28
	Production	28
	Expansion	29
	Infrastructure	30
	Customers	30
	Cost Review	31
3.2.2	SMB-WAP	32
	Ownership	33
	Resource and Reserve	33
	Product Grade	35
	Production	36
	Expansion (Santou II - Houda)	37
	Infrastructure	37
	Associated Mines and Supply	39
	Customers	39
	Cost Review	39



3.2.3	СВК	40
	Ownership	40
	Resource and Reserve	40
	Product Grades	41
	Production	41
	Infrastructure	42
	Customers	43
	Cost Review	43
3.2.4	ACG Friguia	43
	Ownership	43
	Resource and Reserve	44
	Product Grades	45
	Production	45
	Infrastructure	45
	Cost Review	46
3.2.5	Dian Dian or COBAD (UC Rusal)	46
	Ownership	46
	Resource and Reserve	46
	Product Grades	47
	Production	48
	Infrastructure	48
	Customers	49
	Cost Review	49
3.2.6	Alufer Bel Air	49
	Ownership	50
	Resource and Reserve	50
	Product Grades	51
	Production	52
	Infrastructure	53
	Expansion	55
	Customers	55
	Cost Review	55



3.2.7	GAC	56
	Ownership	56
	Resource and Reserve	56
	Production Grades	57
	Production	57
	Infrastructure	58
	Customers	59
	Cost Review	59
3.2.8	Chalco Boffa	60
	Ownership	60
	Resource and Reserve	60
	Production Grades	61
	Production	61
	Customers	62
	Infrastructure	62
	Expansion	64
	Cost Review	64
3.2.9	AGB2A (Alliance Guinean Bauxite, Alumina and Aluminum)	65
	Ownership	65
	Resource and Reserve	65
	Product Grades	66
	Production	67
	Expansion	68
	Infrastructure	68
	Customers	68
	Cost Review	69
3.2.10	Others	69
3.2.10.1	Henan Chine	69
3.2.10.2	GDM	70
3.2.10.3	AMR	71



3.3	Committed and Potential New Projects	72
3.3.1	SPIC	73
3.3.2	Kimbo (Rundi)	73
3.3.3	AMC	74
3.3.4	Dynamic	75
3.3.5	Ashapura	76
3.3.6	Summary of Other Projects Reported to Date	77
3.3.6.1	TBEA	79
3.3.6.2	Eurasian (Eloft) Telimele	79
3.3.6.3	SBG (Garafiri)	80
3.3.6.4	FAR Dubreka/Kindia - TerraCom	82
3.3.6.5	Samalou-Mamo - TerraCom (Anglo-African Minerals PLC Projects)	83
3.3.6.6	Toubal - Tougue - TerraCom (Anglo-African Minerals PLC Projects)	83
3.3.6.7	Tougue - SBDT	83
3.3.6.8	Elite Mining	84
3.3.6.9	AIS / Jinjiang	84
3.3.6.10	Kebo Energy	85
3.3.6.11	Lindian Resources	86
3.3.6.12	Qixing	88
4	Guinean Bauxite Demand	89
4.1	China	89
4.1.1	Weiqiao	90
4.1.2	Chalco	91
4.1.3	Xinfa	94
4.1.4	SPIC	95
4.1.5	Nanshan	97
4.1.6	Jinjiang Group	97
4.1.7	Others	98
4.2	ROW Consumers	103
4.2.1	Aughinish, UC Rusal - Ireland	103
4.2.2	Nikolaev, UC Rusal - Ukraine	104



4.2.3	Lanjigarh, Vedanta - India	105
4.2.4	San Ciprian, Alcoa - Spain	106
4.2.5	Al Taweelah, EGA - UAE	106
4.2.6	Stadé, Dadco - Germany	107
4.3	Domestic Consumption within Guinea	108
5	Infrastructure	109
5.1	Background	109
5.2	Boké Corridor	111
5.2.1	Existing and Committed Infrastructure	112
5.2.2	Proposed New Infrastructure	118
5.3	Cape Verga Corridor	119
5.3.1	Existing and Committed Infrastructure	119
5.3.2	Proposed New Infrastructure	120
5.4	Boffa Corridor	120
5.4.1	Existing and Committed Infrastructure	121
5.4.2	Proposed New Infrastructure	122
5.5	Central/Southern Corridor	122
5.5.1	Existing and Committed Infrastructure	122
5.5.2	Proposed New Infrastructure	124
5.5.3	Potential Impact of Simandou Infrastructure Development	124
5.6	Possible New Northern Corridor	125
6	Government Policy	127
6.1	Mining Code 2011	127
6.2	Taxes and Royalties	128
6.3	Current Bauxite Mining Concessions	130
7	Impact of The Global Freight Market on Costs of Guinean Bauxite	133
7.1	Importance of Freight on Delivered Costs & Competitiveness	133
7.2	Overview of Shipping Freight Market Drivers	133



7.3	Historical and Forecast Fuel Prices	135
7.4	Historical and Forecast Time Charter Rates	137
7.5	Forecast Freight Rates	138
8	Impact of the Global Freight Market on Bauxite Prices	140
8.1	Costs by Producer 2020	141
8.2	Forecast Costs by Producer 2025	144
9	Current and Future Production Costs	147
9.1	Future Demand	147
9.2	Enablers and Constraints in Guinea	148
9.2.1	Enablers	148
9.2.2	Constraints	149
9.3	Global Competition	152



LIST OF FIGURES

rigure i	Committed &Probable, Speculative Bauxite Export Projects (MTPY)	3
Figure 2	Guinea's Major Bauxite Projects - Current, Committed and Potential N Facilities by Operation (MTPY)	lew 4
Figure 3	Guinea Bauxite Mining Cost Curve 2020 (US\$/ dmt FOB)	5
Figure 4	Forecast Bauxite Export Volumes by Project 2020 - 2025 (MTPY)	7
Figure 5	Haulage Distances (km) and Transport Modes for Current, Committed Potential New Bauxite Export Projects	and 10
Figure 6	Forecast Progress of Current Committed and Probable Projects	10
Figure 1.1	CM Field Study Activity 2016 and 2018	15
Figure 1.2	CM Field Study Activity Since March 2018	16
Figure 2.1	Guinea Geomorphology	17
Figure 2.2	Schematic diagram showing the geomorphology of the bauxites across the Fouta Djalon and its surroundings*	ss 18
Figure 2.3	Typical Bauxite Soil Profile, Guinea	18
Figure 2.4	Bauxite Distribution around the Fouta-Djalon	19
Figure 3.1	Historical Bauxite Production in Guinea 2008 to 2020(Mt)	25
Figure 3.2	Historical Bauxite Exports from Guinea 2008 to 2020 (Mt)	25
Figure 3.3	Annual Capacity of Operating Bauxite Producers in Guinea - end 2020 (MTPY)	26
Figure 3.4	2020 Bauxite Production by Producer	26
Figure 3.5	Location of CBG	27
Figure 3.6	CBG's Bauxite Resource as a Proportion to Guinea's Total Resources	28
Figure 3.7	CBG Production 2008 -2020 - Unit: Mt	29
Figure 3.8	CBG Kamsar Operations	30
Figure 3.9	Breakdown of estimated 2020 exports from CBG	31
Figure 3.10	CBG's position in Guinea's 2020 Cash FOB Cost Curve	32
Figure 3.11	Location of SMB-WAP Tenements	34
Figure 3.12	SMB's Resources as a Proportion of Guinea's Total	35
Figure 3.13	SMB-WAP Historical Production from Its Own Mines	36
Figure 3.14	SMB-WAP and Associated Mines	37
Figure 3.15	2019 SMB-WAP Production By Customer	39
Figure 3.16	SMB's Mines and Associated Mines On Guinea's 2020 Cash FOB Cost Curve	40
Figure 3.17	Location of CBK Tenements	41
Figure 3.18	CBK's Resources as a Proportion of Guinea's Total	41



Figure 3.19	Historic Production of CBK	42
Figure 3.20	Rusal Ship Loading, Conakry	42
Figure 3.21	CBK's Position On Guinea's 2020 Cash FOB Cost Curve	43
Figure 3.22	Location of ACG Tenements	44
Figure 3.23	ACG Friguia's Resources as a Proportion of Guinea's Total	44
Figure 3.24	ACG Friguia's Alumina Load Out Terminal, Conakry	45
Figure 3.25	Friguia's Estimated Position On Guinea's 2020 Cash FOB Cost Curve (bauxite were exported)	if 46
Figure 3.26	Location of Dian Dian	47
Figure 3.27	Dian Dian's Resources as a Proportion of Guinea's Total	47
Figure 3.28	Historical Production from Dian Dian	48
Figure 3.29	Dian Dian's Estimated Position On Guinea's 2020 Cash FOB Cost Curv	e 49
Figure 3.30	Alufer's Corporate Structure	50
Figure 3.31	Alufer Bauxite Tenements in Guinea	50
Figure 3.32	Alufer Bel Air's Resources as a Proportion of Guinea's Total	51
Figure 3.33	Alufer storage and port facilities at Cape Verga	51
Figure 3.34	Historical Production from Alufer Bel Air	53
Figure 3.35	Alufer Transport Distance to Ocean Going Vessels	53
Figure 3.36	Alufer Bel Air Bauxite Reserve and Tenement Layout	54
Figure 3.37	Alufer Cape Verga Barge Loading	55
Figure 3.38	Alufer Bel Air Position On Guinea's 2020 Cash FOB Cost Curve	56
Figure 3.39	GAC's Bauxite Tenements in Guinea	56
Figure 3.40	GAC's Resources as a Proportion of Guinea's Total	57
Figure 3.41	Estimated Historical Production from GAC	57
Figure 3.42	GAC Rail Car Loading	58
Figure 3.43	GAC Stacker Reclaimer	59
Figure 3.44	GAC Wharf Barge/Shuttle Loader	59
Figure 3.45	GAC Position On Guinea's 2020 Cash FOB Cost Curve	60
Figure 3.46	Chalco's Bauxite Tenements in Guinea	61
Figure 3.47	Chalco's Resources as a Proportion of Guinea's Total	61
Figure 3.48	Chalco Boffa Historical Production	62
Figure 3.49	Early Works on Chalco Conveyor Supports	63
Figure 3.50	Early Works on Chalco Bridge Over Fatala River	63
Figure 3.51	Early Works on One of Two of Chalco's Barge Loading Jetties	63
Figure 3.52	Chalco Barge Loaders Under Construction	64
Figure 3.53	Chalco Boffa's Position on Guinea's 2020 Cash FOB Cost Curve	64



Figure 3.54	AGB2A's Bauxite Tenements in Guinea	65
Figure 3.55	AGB2A's Resources as a Proportion of Guinea's Total	65
Figure 3.56	AGB2A Screened Product	66
Figure 3.57	AGB2A Historical Production	67
Figure 3.58	AGB2A's Mine	67
Figure 3.59	AGB2A's Crushing Arrangement	67
Figure 3.60	AGB2A's Wharf*	68
Figure 3.61	AGB2A's Position On Guinea's 2020 Cash FOB Cost Curve	69
Figure 3.62	Henan-Chine's Bauxite Tenement in Guinea	70
Figure 3.63	GDM's Bauxite Tenement in Guinea	71
Figure 3.64	AMR's Bauxite Tenement in Guinea	72
Figure 3.65	SPIC's Bauxite Tenements in Guinea	73
Figure 3.66	Kimbo Rundi's Bauxite Tenements in Guinea	74
Figure 3.67	AMC's Bauxite Tenement in Guinea	75
Figure 3.68	Dynamic Mining's Bauxite Tenement in Guinea	76
Figure 3.69	Ashapura's Bauxite Tenements in Guinea	77
Figure 3.70	TBEA's Bauxite Tenements in Guinea	79
Figure 3.71	Eurasian's Bauxite Tenement in Guinea	80
Figure 3.72	SBG's Bauxite Tenements in Guinea	81
Figure 3.73	Tenements of FAR	82
Figure 3.74	Anglo African / TerraCom's Bauxite Tenements in Guinea	83
Figure 3.75	Elite Mining's Bauxite Tenements in Guinea	84
Figure 3.76	AIS / Jinjiang's Bauxite Tenement in Guinea	85
Figure 3.77	Kebo Energy's Bauxite Tenement in Guinea	85
Figure 3.78	Lindian Resources' Bauxite Tenements in Guinea	87
Figure 3.79	Qixing's Bauxite Tenements in Guinea	88
Figure 4.1	Guinean Bauxite Imports by Chinese Refineries 2013-2020	89
Figure 4.2	Weiqiao's imported Bauxite Sources, from 2015 to 2020	90
Figure 4.3	Imported Guinean Bauxite Flow for Weigiao	91
Figure 4.4	Chalco's Imported Bauxite Sources in 2019	92
Figure 4.5	Imported Guinean Bauxite Flow for Chalco Through Fangcheng Port	93
Figure 4.6	Imported Guinean Bauxite Flow for Chalco Through Northern Ports	93
Figure 4.7	Historical Bauxite Imports -Volumes and Sources	94
Figure 4.8	Imported Guinean Bauxite Flow for Xinfa	95
Figure 4.9	Imported Guinean Bauxite Flow for SPIC	96



Figure 4.10	Imported Guinean Bauxite Flow for Nanshan	97
Figure 4.11	Imported Guinean Bauxite Flow for Jinjiang	98
Figure 4.12	Guinean Bauxite Import Flow for Wanji	99
Figure 4.13	Guinean Bauxite Import Flow for East Hope Lingshi	100
Figure 4.14	Guinean Bauxite Import Flow for Bosai	101
Figure 4.15	Guinean Bauxite Import Flow for Tiangui	101
Figure 4.16	Guinean Bauxite Import Flow for Xinwang	102
Figure 4.17	Guinean bauxite exports to ROW 2008-2020 (Mt)	103
Figure 4.18	Satellite Image of Aughnish Refinery (December 2020)	104
Figure 4.19	Satellite Image of Nikolaev Refinery (December 2020)	104
Figure 4.20	Satellite Image of Lanjigarh Refinery (December 2020)	105
Figure 4.21	Satellite Image of San Ciprian Refinery (December 2020)	106
Figure 4.22	Satellite Image of Al Taweelah Refinery (December 2020)	107
Figure 4.23	Stadé Refinery, Daldco (December 2020)	107
Figure 4.24	Friguia Alumina Refinery (December 2020)	108
Figure 5.1	Location of High-Grade Bauxite Plateaux in Guinea's North	110
Figure 5.2	Existing and Proposed Export Corridors	111
Figure 5.3	Boké Corridor	111
Figure 5.4	CBG (Top) and GAC (Bottom) Port Facilities at Kamsar	113
Figure 5.5	Rusal Taressa Port	114
Figure 5.6	SMB-WAP Katougouma Port	116
Figure 5.7	SMB-WAP's Dapilon Port Complex, including the New Santou-Houda R Terminus and Turning Arc Under Construction	Rail 117
Figure 5.8	GDM Rudimentary Barge Loading Port (December 2020)	118
Figure 5.9	Ashupura's Port Under Construction (December 2020)	119
Figure 5.10	Cape Verga Corridor	119
Figure 5.11	Boffa Corridor	120
Figure 5.12	Satellite Image with Project Port Areas	121
Figure 5.13	Konta Port	123
Figure 5.14	Proposed Simandou Iron Ore Rail Corridor and Export Port	125
Figure 5.15	Proposed Direct Loading Port Dobali	126
Figure 5.16	Schematic Showing Haulage Distances (km) and Transport Modes for Current, Committed and Potential New Bauxite Export Projects	126
Figure 6.1	Flow Chart of Project Progression to Mining	130
Figure 6.2	Bauxite Permits in Guinea (End 2020)	131
Figure 7.1	Estimated Proportions of Freight Costs and FOB Costs of Typical	



	Suppliers to China, 2020	133
Figure 7.2	Calculated Shipping Costs For 2020	134
Figure 7.3	Breakdown of 2020 Estimated Shipping Costs by Major Cost Driver (
		135
Figure 7.4	Actual and Forecast Crude Oil and Main Engine Ship Fuel Prices	135
Figure 7.5	IMO MARPOL Annex VI Sulphur Limits	136
Figure 7.6	Global Maritime Fuel Use (Million Barrels per Day)	137
Figure 7.7	Historical (Spot) and Forecast Ship Time Charter Rates by Vessel Cla	ss137
Figure 7.8	Historical (Spot) and Forecast Freight Rates by Vessel Class (US\$/wn	nt) 139
Figure 8.1	2020 FOB Cash Costs (All on a Crushed Basis), by Export Capacity	141
Figure 8.2	2020 Cash Costs CIF China, by Export Capacity	142
Figure 8.3	2020 Full Costs CIF China, by Export Capacity	143
Figure 8.4	2020 Cash Costs Value-in- Use, CIF China, by Export Capacity	143
Figure 8.5	2020 Full Costs Value-in- Use, CIF China, by Export Capacity	144
Figure 8.6	2025 FOB Cash Costs (All on a Crushed Basis), by Export Capacity	144
Figure 8.7	2025 Cash Costs CIF China, by Export Capacity	145
Figure 8.8	2025 Full Costs CIF China, by Export Capacity	145
Figure 8.9	2025 Cash Costs Value-in- Use, CIF China, by Export Capacity	146
Figure 8.10	2025 Full Costs Value-in- Use, CIF China, by Export Capacity	146
Figure 9.1	China's Forecast Demand for Imported Bauxite	147
Figure 9.2	2020 World Capacity Available to Service the Chinese Market - Cash	FOB 153
Figure 9.3	2020 World Capacity Available to Service the Chinese Market - Full C FOB	Cost 153
Figure 9.4	2020 World Capacity Available to Service the Chinese Market - ViU Adjusted Cash Cost CIF	154
Figure 9.5	2020 World Capacity Available to Service the Chinese Market - ViU Adjusted Full Cost CIF	154
Figure 9.6	2025 World Capacity Available to Service the Chinese Market - Cash FOB	Cost 155
Figure 9.7	2025 World Capacity Available to Service the Chinese Market - Full C FOB	Cost 155
Figure 9.8	2025 World Capacity Available to Service the Chinese Market - ViU Adjusted Cash Cost CIF	156
Figure 9.9	2025 World Capacity Available to Service the Chinese Market - ViU Adjusted Full Cost CIF	156
Figure 9.10	Forecast Bauxite Exports by Project, 2020 to 2025 (MTPY)	157



LIST OF TABLES

Table 1	Guinea's Major Bauxite Projects - Current, Committed, Probable and Speculative New Facilities by Operation (MTPY) 2020	2
Table 2	Guinea Bauxite Export Capacity* by Project, 2020 to 2025 (MTPY)	8
Table 3	Guinea Bauxite Export Volumes by Project, 2020 to 2025 (MTPY)	9
Table 2.1	Guinea Bauxite Resource & Reserve by Prefecture	20
Table 2.2	Resources and Reserves Reported by Projects	20
Table 2.3	Average Bauxite Grades By Prefecture in Guinea	22
Table 3.1	Typical Grades for CBG Bauxite	28
Table 3.2	Responsibilities of Each Member Company in the SMB-WAP Alliance	33
Table 3.3	SMB's Tenements in Guinea	34
Table 3.4	Product grades from SMB-WAP tenements	35
Table 3.5	Typical Product Grades for CBK Bauxite	41
Table 3.6	Bauxite Resources of ACG Friguia	44
Table 3.7	Typical Production Grades for ACG Friguia	45
Table 3.8	Bauxite Resources of Dian Dian	47
Table 3.9	Typical Production Grades for Dian Dian	48
Table 3.10	Typical product specification of Bel Air mine	52
Table 3.11	Typical Product Specification for GAC Mine	57
Table 3.12	Typical product specification for Chalco Boffa mine	61
Table 3.13	Typical Beneficiated Product Specification for AGB2A Mine	66
Table 3.14	Typical Product Specification for Henan-Chine Mine	70
Table 3.15	Summary of Committed and Probable Projects	72
Table 3.16	Summary of Speculative Projects in Guinea	77
Table 3.17	Reported grades and Resources for Lindian's Gaoual Project	86
Table 3.18	Reported grades and Resources for Lindian's Woula Project	87
Table 3.19	Reported grades and Resources for Lindian's Lelouma Project	87
Table 4.1	Chinese alumina refineries using Guinea bauxite 2013-2020 (Unit: Mt)	90
Table 4.2	Weiqiao bauxite imports in 2019 and 2020 (Unit: Mt)	91
Table 4.3	Chalco bauxite imports in 2019 and 2020 (Unit: Mt)	92
Table 4.4	Xinfa bauxite imports in 2019 and 2020 (Unit: Mt)	95
Table 4.5	SPIC bauxite imports in 2019 and 2020 (Unit: Mt)	96
Table 4.6	Summary of Other Imported Bauxite Users 2020 (MTPY)	99



Table 4.7	Bosai's Bauxite Imports by Source (Unit: Mt)	100
Table 6.1	Exploitation and Export Tax Rates*	129
Table 6.2	Key Elements of the Mining Code	129
Table 6.3	Alumina Projects the GoG Has Listed	132
Table 7.1	Time Charter Rate Inputs (US\$/day) Used In Freight Rate Forecasts	138
Table 7.2	Fuel Cost Inputs Used In Freight Rate Forecasts	138
Table 7.3	Forecast Freight Rates by Vessel Class (US\$/wmt)	139
Table 9.1	Guinea Bauxite Export Capacity* by Project, 2020 to 2025 (MTPY)	157
Tahla 9 2	Guinea Bauvite Eynort Volumes by Project 2020 to 2025 (MTPV)	150

