

Contents

	Page
Executive Summary	1
1 Project Background	4
1.1 Introduction	4
1.2 Project Rationale	5
1.2.1 Centralisation of Sugar Industry – Development of the sugar cane cluster at La Baraque	6
1.2.2 MAAS Strategic Environmental Assessment	7
1.3 Legal and Institutional Framework	9
1.3.1 Environmental Protection Act of 2008	9
1.3.2 Ministry of Agriculture	10
1.3.3 Ministry of Housing & Lands	10
1.3.4 Ministry of Labour, Industrial Relations and Employment	11
1.3.5 Maurice Ile Durable Project (MID)	11
1.3.6 Central Electricity Act 1939	11
2 Project Promoters & Organisation	12
2.1 Project Justification	12
2.2 Justification for the production of additional steam and electricity for the Sugar Cluster	12
2.3 Promoters	13
2.3.1 Shareholding	14
2.4 The Project Team	14
2.4.1 Project Manager	14
2.4.2 CBO Specialist	14
2.4.3 Engineering Services	14
2.4.4 Environmental Engineers	14
2.5 Installation of the CBO Facility	15
2.6 Staffing of the CBO Facility at Operational Stage	15
2.7 Sources of Coal Ashes	15
2.8 Treated Coal Ashes	15
2.9 Sources of Biomass	16
2.10 CBO Facility Operation Date	16
2.11 Capital Investments	16
3 Project Description and Location	17
3.1 Project Location and Zoning	17
3.2 The Site	17
3.2.1 Ownership	17

3.2.2	Site Topography	17
3.3	Site Occupancy	17
3.4	Alternatives to Site	17
3.5	Carbon Burnout (CBO) Facility Description and Components	18
3.6	Sources of Coal Ashes	18
3.7	Quality Requirement for Coal Ashes	18
3.8	Description of the Carbon Burnout (CBO) Facility	18
3.8.1	The Carbon Burnout (CBO) Unit	19
3.8.2	Description of Energy Co-generation Unit	22
3.9	Water Requirements for the CBO Facility	26
3.10	Electrical Requirements	26
3.10.1	Source of Electrical Power	27
3.11	Process Control and Monitoring System	27
3.12	Chemical Usage	27
3.13	Process Effluents	27
3.13.1	Sources and Flows	27
3.13.2	Characteristics of the Process Effluents	27
3.14	Domestic Wastewater	28
3.14.1	Quality and Rate of Production	28
3.14.2	Treatment and Disposal	28
3.15	Used Lube Oil Collection and Disposal	28
3.16	Summary of footprints for the CBO Facility	28
3.17	Potable Water Requirements	29
3.18	Telecommunications	30
3.19	Access Road and Parking Facilities	30
3.19.1	Access to Site	30
3.19.2	<i>On-Site</i> Parking Facilities	30
3.20	Fire and Safety Systems	30
3.21	Site Security	30
3.22	Storm Water Drains	30
3.23	Transport and Logistics Support for Coal Ashes	30
3.24	Leachability Tests	31
3.25	CBO Facility Schedule of Operation	31
4	Built Environment of the Project	32
4.1	Demography	32
4.1.1	General	32
4.1.2	Regional Settlement & Population	32
4.1.3	Limits of Settlement Boundaries as per Outline Scheme	33
4.2	Tourism & para-touristic activities	33
4.3	Regional Public Beaches and Recreational Sites	33
4.3.1	Public Beaches	33
4.3.2	Recreational Sites	34

4.4	Regional Industrial Activity	34
4.4.1	The Sugar Industry	34
4.4.2	Power Generation at OTEOLB (formerly CTSAV)	34
4.4.3	Ethanol Distillery complex	35
4.4.4	Power Generation at OMNICANE Thermal Energy Operations (St Aubin) Ltd (ex Compagnie Thermique du Sud)	35
4.4.5	Poultry Farming	35
4.4.6	Monkey Breeding	35
4.5	Historical Sites	36
4.6	Public Utilities	36
4.6.1	Domestic Water supply	36
4.6.2	Electricity Supply	36
4.6.3	Telecommunications	37
4.6.4	Wastewater Treatment and Disposal	37
4.6.5	Road Infrastructure	37
4.7	Industrial Water	37
4.7.1	Origin of Industrial Water	37
4.7.2	Water Resources	38
4.7.3	Water Requirements from Sugar Manufacturing & Other Associated Activities and Irrigation of Sugar Cane Fields	38
4.7.4	Retained Strategies	39
4.7.5	Industrial Water Network	39
4.7.6	Water Quality	40
5	Natural Environment	41
5.1	Introduction	41
5.2	Climate	41
5.2.1	Rainfall	41
5.2.2	Temperature	42
5.2.3	Wind data	42
5.3	Geology	44
5.4	Pedology	44
5.5	Surface Hydrology and Hydro-geology	44
5.5.1	Regional Surface Hydrology	44
5.5.2	Site Hydrology	44
5.5.3	Hydro-geology	45
5.6	Air Quality	45
5.6.1	Gaseous Pollutants Emissions	45
5.6.2	Baseline Data	45
5.6.3	Dust Emissions	45
5.6.4	Ambient Air Quality	46
5.7	Noise	48
5.8	Wastewater Quality from the OTEOLB Power Station	49

5.9	Floral Environment	50
5.9.1	Nature Reserves	50
5.9.2	Endangered Species	51
5.10	Faunal Environment	52
5.10.1	Endemic Wildlife	52
5.10.2	Exotic Species	52
5.11	Environmentally Sensitive Areas (ESA)	52
5.11.1	Boreholes 379 and 753	52
6	Environmental Management Plan	53
6.1	General	53
6.2	Objectives of the Environmental Management Plan	53
6.3	Sources of Impacts	54
6.4	Impacts at Project Conceptual Stage	54
6.4.1	Site Selection, Land Use, History and Present Status	54
6.4.2	Aesthetics and Visual Impacts	55
6.5	Impacts at Construction Phase	55
6.5.1	Noise Generation	56
6.5.2	Dust Generation	57
6.5.3	Water Pollution from Equipment and Site Staff	58
6.5.4	Solid Wastes and Excavated Spoils	59
6.6	Impacts during Operation Phase	60
6.6.1	Air Quality	60
6.6.2	Noise	70
6.6.3	Reuse of Coal Treated Ashes	73
6.6.4	Impacts of Process Effluents	83
6.6.5	Biological Pollution of Surface and Underground Water	84
6.6.6	Impacts of loaded Storm Runoff	84
6.6.7	Impact on Public Road Infrastructure	85
6.6.8	Greenhouse gas Emissions	87
6.6.9	Demand on Public Utilities and Infrastructure	90
6.7	Cumulative Impacts	91
6.8	Consultation Framework with the Local Community	91
6.9	Decommissioning of the CBO Facility at the end of Project Cycle	92
6.10	Positive Economic Impacts at Operational Phase	92
6.10.1	National Economy	92
6.10.2	Impact on Employment	93
6.10.3	Reuse of Treated Coal Ash as additive to Cement	93
6.10.4	Private Sector Investment	94
7	Environmental Management Plan	95
7.1	Introduction	95

7.2	Objectives of the EMP	95
7.3	Scope of the Environmental Monitoring Programme	95
7.4	Control and Mitigation Measures	96
7.5	Environmental Reporting	96
7.6	Environmental Action Plan	97
7.7	EMP at Construction Phase	97
7.8	EMP at Operation Phase	97
7.9	Development of Contingency Plans	97
8	Conclusions	105

Appendices

Appendix A

Land Conversion Permit & Certificate of Incorporation

Appendix B

Letters of Intent

Appendix C

Notary's Certificate & Land Surveyor's Report

Appendix D

Typical Details of the Bag Filters for Fly Ash Storage Silos

Appendix E

Wood Chip Unit

Appendix F

PRESLIA Mineral Lube Oil

Appendix G

Electrostatic Precipitator (ESP) for Energy Cogeneration Unit

Appendix H

List of Equipment and Installed Power for the CBO Facility

Appendix I

Leaching Tests from Laboratory SOCOR (France)

Appendix J

Wind Roses at Plaisance

Appendix K

Monitoring Reports of Ambient Air Quality

Appendix L

Noise Survey Report for November 2012

Appendix M

Letter from OMNICANE Ltd on Borehole 379

Appendix N

Air Emission Model: US EPA ISCT3

Appendix O

Results of Air Emission Simulations

Appendix P

ASTM - The Standards, Specifications and Guidelines for Coal Fly Ash and Bottom Ash

Appendix Q

French Regulation for acceptance Criteria for Inert Waste for Storage

Appendix R

Notes of Meeting with Local Community