

## BUDGET

### 1. Rotary Furnace

SN	ITEMS	PROCEDURE	FUNCTION	QTY	COST (NAIRA)
1	Electric gear motor (5 hp)	Purchasing	Prime mover	1	400,000.00
2	Shaft (hardened steel)	Fabrication	Power transmission	2	540,000.00
3	Coupling	Purchasing	Connection	1	180,000.00
4	Grooved pulley	Fabrication	Power transmission	4	380,000.00
5	Furnace frame	Purchasing	Support	4	300,000.00
6	Base frame (I-Beam steel)	Purchasing	Support	4	390,000.00
7	Riding ring steel	Purchasing	Transmission	2	600,000.00
8	Refractory lining materials	Construction	Heat resistance	1	440,000.00
9	Gas firing system	Purchasing	Firing furnace	1	390,000.00
10	Furnace shell (Steel)	Fabrication	Heating chamber	1	380,000.00
11	Industrial fan blower	Purchasing	Air blower	1	235,000.00
12	Plummer block	Purchasing	Shaft support	4	440,000.00
13	Furnace foundation (Concrete)	Construction	Furnace support	1	540,000.00
14	Liquified Natural Gas (LNG) cylinder	Purchasing	Gas storage	1	350,000.00
15	Electric heater	Purchasing	Firing furnace	5	500,000.00
16	Packets of welding electrodes	Purchasing	Welding	5	75,000.00
17	Cutting and grinding disc	Purchasing	Finishing	6	42,000.00
18	Furnace oil tank	Purchasing	Oil storage	1	380,000.00
19	Furnace opening mechanism	Fabrication	Opening furnace		180,000.00
20	Temperature measuring system	Purchasing	Temperature detector	2	340,000.00
21	Mould	Construction	Ingot casting	10	580,000.00
	Subtotal				7,662,000.00

## 2. Aluminium Scrap Shredding Machine

S/N	ITEMS	PROCEDURE	FUNCTIONS	QTY	COST (NAIRA)
1	Shaft (Hexagonal cross-section)	Fabrication	Cutter rotation	2	480,000.00
2	Electric gear motor (3 hp)	Purchasing	Prime mover	1	380,000.00
3	3-Teeth blade cutter	Fabrication	Scrap cutter	24	580,000.00
4	Steel ring	Fabrication	Cutter guide	26	420,000.00
5	Hopper	Fabrication	Scrap receiver	1	80,000.00
6	Duct passage and tray	Fabrication	Scrap passage	1	85,000.00
7	Machine frame	Fabrication	Sheet support	1	380,000.00
8	Spur gear (hardened steel)	Fabrication	Power Transmission	2	380,000.00
9	Guiding plates	Fabrication	Guide plates	26	464,000.00
10	Shredding casing	Fabrication	Houses cutters	1	150,000.00
11	Set of bearing	Purchasing	Support shaft	4	200,000.00
12	Set of long-threaded fastners	Purchasing	Cutter support	24	96,000.00
13	Set of nuts	Purchasing	Cutter support	24	24,000.00
14	Frame guide	Fabrication	Case guide	4	96,000.00
15	Packet of welding electrodes	Purchasing	Welding	1	15,000.00
16	Cutting and grinding disc	Purchasing	Finishing	4	28,000.00
	Subtotal				3,858,000.00

### 3. Aluminium Scrap Briquetting Machine

S/N	ITEMS	PROCEDURE	FUNCTION	QTY	COST (NAIRA)
1	Hydraulic boom (20 tons)	Purchasing	Compress scrap	1	420,000.00
2	Hydraulic control unit	Purchasing	Control system	1	250,000.00
3	Hydraulic electric motor	Purchasing	Pump fluid	1	380,000.00
4	Machine frame	Fabrication	Machine support	1	380,000.00
5	Hopper and machine plate	Fabrication	Machine body	1	280,000.00
6	Scrap delivery platform	Fabrication	Scrap receiver	1	40,000.00
7	Packet of welding electrodes	Purchasing	Welding	1	15,000.00
8	Fluid power hose	Purchasing	Fluid transmission	4	300,000.00
9	Hydraulic fluid tank	Purchasing	Fluid storage	1	340,000.00
10	Cutting and grinding disc	Purchasing	Finishing	4	28,000.00
	Subtotal				2,433,000.00

#### 4. Flue Gas Treatment Plant

S/N	ITEMS	PROCEDURE	FUNCTION	QTY	COST (NAIRA)
1	Industrial extractor fan	Purchasing	Heat extracting	2	460,000.00
2	Flue gas duct	Fabrication	Gas passage	1	380,000.00
3	Chimney duct	Fabrication	Gas exit	1	240,000.00
4	Metal sealants and adhesives	Purchasing	Sealing openings	1	100,000.00
5	Packets of Aluminium fasteners	Purchasing	Sheet fastening	4	60,000.00
6	Chimney concrete base	Construction	Chimney support	1	200,000.00
7	Baghouse filters	Purchasing	Reduce particulate emission	3	270,000.00
8	Cutting and grinding disc	Purchasing	Finishing	2	14,000.00
9	Hand riveting machine	Purchasing	Fastening sheet	1	65,000.00
10	Dross handling	Sales/disposed	Prevent pollution	-	250,000.00
	Subtotal				2,039,000.00

### 5. Magnetic Separator

S/N	ITEMS	PROCEDURE	FUNCTION	QTY	COST (NAIRA)
1	Magnetic separator	Purchasing	Separate Iron from Aluminium	1	3,860,000.00
2	Receiving container	Fabrication	Materials receptor	2	340,000.00
3	Tools and accessories	Purchasing	Maintenance	1	220,000.00
	Subtotal				4,420,000.00

### 6. Other Items and Transportation

S/N	ITEMS	PROCEDURE	FUNCTION	QTY	COST (NAIRA)
1	Land	Acquired from institution	Site for centre	1	Not applicable
2	Building	Construction	Houses centre	1	15,200,000.00
3	Sand bucket (Metal)	Purchasing	Extinguish fire	4	60,000.00
4	Fire extinguisher	Purchasing	Extinguish fire	6	540,000.00
5	Testing and quality control	Purchasing	Product integrity	10	680,000.00
6	Pre-treatment of scrap	Purchasing	Preparation of scrap	5	360,000.00
7	Logistics and packaging	Operation	Packaging of ingots	-	100,000.00
8	Licensing and permits	Seek approval	Operations	1	350,000.00
9	Maintenance	Operation	Equipment maintenance	-	440,000.00
10	Transportation	-	Transportation	-	980,000.00

11	Report documentation	-	Documentation	3	300,000.00
	Subtotal				19,010,000.00

## 7. Consumables

S/N	ITEMS	PROCEDURE	FUNCTION	QTY	COST (NAIRA)
1	Liquefied Natural Gas (LNG)	Purchasing	Firing furnace	50 kg	100,000.00
2	Aluminium scrap	Purchasing	Raw material	100 kg	100,000.00
3	Fluxes	Purchasing	Impurity removal	75 kg	280,000.00
4	Utilities	Purchasing	Operations	-	375,000.00
	Subtotal				855,000.00

## 8. Research Personnel

S/N	NAME	DESIGNATION/ QUALIFICATION	ROLE IN RESEARCH	AFFILIATION	HONORARIUM (NAIRA)
1	Joseph O.O.	Senior Lecturer, HND, PGD, M Eng., PhD (Mech.), MNSE, COREN	Principal Investigator	The Federal Polytechnic, Ilaro, Ogun State	500,000.00
2	Joseph, O. O.	Associate Professor, B. Eng., M. Eng., (Met. and Mat.), PhD (Mech.) MNSE, MNMS, COREN	Co- Investigator	Covenant University, Ota, Ogun State	450,000.00
3	Akintade J.O.	Chief Lecturer, B Eng., M Eng. (Mech) MNSE, COREN	Co- Investigator	The Federal Polytechnic, Ilaro, Ogun State	450,000.00
		Sub-total			1,400,000.00

## 9. Labour

S/N	STATUS	NUMBER	QUALIFICATIONS	ROLE IN CENTRE	WAGES (NAIRA)
1	Procurement Officer	1	ND (Purchasing and Supply Technology)	Scrap procurement	100,000.00
2	Furnace Operator	2	ND (Metallurgical Engineering)	Smelting Operation	400,000.00
3	Utility Officer/Supervisor	2	ND (Mechanical Engineering)	Utility procurement	220,000.00
4	Sorting Officer	2	ND (Metallurgical Engineering)	Scrap sorting and preparation	200,000.00
5	Cleaner	1	SSCE	Centre cleaning	40,000.00
	Subtotal				960,000.00



## 10. Budget Summary

S/N	ITEMS/DESCRIPTION	TOTAL COST (NAIRA)
1	Rotary Furnace	7,162,000.00
2	Aluminium Scrap Shredding Machine	3,858,000.00
3	Aluminium Scrap Briquetting Machine	2,433,000.00
4	Flue Gas Treatment Plant	1,789,000.00
5	Magnetic Separator	4,420,000.00
6	Other Items and Transportation	20,410,000.00
7	Consumables	855,000.00
8	Research Personnel	1,400,000.00
9	Labour	960,000.00
	Grand Total	43,287,000.00