

## PCTI/20140827/CoB/Zimco/36

### PRESENTATION TO THE PORTFOLIO COMMITTEE ON TRADE AND INDUSTRY COLLOQUIUM ON BENEFICIATION

#### PRESENTED BY:

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CHAIRMAN - SEIFSA ECONOMIC COUNCIL

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#### INTRODUCTION – OVERVIEW OF ZIMCO DIVISIONS AND PRODUCTS

The Zimco Group (Pty) Ltd a R2 billion a year business, is South Africa's leading producer of Industrial and Base Minerals, a major producer and supplier of Lead, Zinc and Aluminium Metals, Alloys and related chemicals and engineering plastics. The majority of the metals and alloys are beneficiated from locally sourced Scrap Metal.

Zimco was purchased by Eco-Bat Technologies Limited in March 1999. Eco-Bat Technologies Limited is the parent company for a group of companies engaged in the Smelting, Manufacturing and Marketing of Lead and Lead products with operations in the UK, France, Germany, Italy, Austria and the USA. The group beneficiates up to 40% of the world's scrap Lead and is a leader in the field of scrap metal beneficiation.

The group manufactures and distributes a range of intermediate industrial products through its divisions as listed below:

#### ZIMCO DIVISIONS

Fry's Metals – Recycler of scrap lead and plastic battery cases, producing lead alloys and plastic polymer.

Castle Lead Works – Beneficiation of recycled Lead and Manufacturer of lead products

Associated Additives - Manufacturer and suppliers of speciality Lead chemicals and paint

Zinchem – Beneficiation of Zinc scrap and the Manufacturer of Zinc chemicals and alloys

Zimalco – Recycler and beneficiation of scrap Aluminium into Aluminium alloys, Aluminium powder, Aluminium deoxidants and Aluminium Master Alloys

Dutton Plastics – Manufacturer of plastic sanitary ware and plastic closures

Zimco is a wholly owned subsidiary of Eco-Bat Technologies Limited, a United Kingdom based company.

Zimco has two active wholly owned subsidiaries in the name of:

Sondor Industries (Pty) Ltd. – Manufacturer of Cross-linked foams, Bubble Wrap, Medical appliances and Military Weapon and Electronic packaging

G & W Base Minerals (Pty) Ltd. – Beneficiation of base minerals for the Agricultural, Automotive, Chemical, Construction, Food, Beverage and Ferrochrome industries

#### PRODUCTS BENEFICIATED FROM SCRAP METAL

The intermediate industrial products produced by the divisional companies can be seen in the attached web site pages and are supplied “up the value chain” in many cases to finished goods manufacturers as indicated below.

a) Lead:

A very environmentally sensitive metal Lead is extremely important for the production of Automotive Batteries, Anodes in the mining industry for the electro winning of ores (Copper, Manganese etc.), lead oxide paint, explosive fuses, and armaments, sinkers in both the hobby and industrial fishing industries, in hospitals and other industries for x-ray protection.

b) Zinc:

Since the closure of SA's only Primary Zinc producer the importance of Zinc scrap has increased significantly, it is used in the production of Fertilizers for farming, the production of Automotive Tyres, Galvanising protecting our roofs and other steelwork, door furniture, locks and paints.

c) Aluminium:

Foundry Alloys - producing automotive components, electrical reticulation furniture for overhead pylons, street lighting, armaments i.e. radio and night vision cases, computer components and cases, office and garden furniture, fire extinguishers. Deoxidant ingots and pellets without which steel making could not continue. Alloys for production of extrusions billet for door and window frames, tubes, automotive components and automotive alloy wheels. Aluminium Powders for production of explosives for underground rock breaking, production of potable water purification chemicals to ensure safe drinking water for South Africa. The exothermic reduction of ores, and waste metal oxides to metal thus saving high uses of electricity, this process is currently used in the exothermic production of Manganese, Vanadium, Tin and Chrome metals.

Further details on the Base Minerals and Metals, including Scrap Metals beneficiated by the group divisional companies can be obtained from the various company web sites.

#### MANUFACTURING STAGES

The basic stages in the manufacture of the metal products Lead, Zinc and Aluminium highlighted above comprises of:

1. Scrap metal collection and purchase
2. Manual and mechanical sorting of the scrap metal
3. Melting / Smelting and Alloying / Casting into Ingot, Sows or Pellets / Die Casting / Atomising / Milling / Rolling / Extruding
4. Fabricating and Assembly

5. Packing and stockholding

6. Distribution and sale.

Non-Metallic products i.e. Base Minerals, would undergo mining / sorting / blending and mixing and pelletizing. Plastic products would involve heating / extrusion / die casting / assembling / painting / final finishing processes and assembly.

Scrap Metal is a sometimes forgotten but extremely important and critical South African resource without which the South African economy could not function as indicated previously. The importance to the South African economy of other critical Scrap Metals not currently processed by our group but benefited by some of SA's leading industrial companies and members of SEIFSA are indicated below:

Copper Scrap:

Production of water reticulation tubing and fittings, medical gas tubing, refrigeration tubing, solar panels; electrical reticulation Bus Bar, cable lugs; rolled sheet, geyser bodies, robotic welding tips used in the automotive assembly lines.

Brass Scrap:

Brass an alloy of Zinc and Copper, used in the production of military bullet and shell cases, detonator cases, door and window furniture, fire retardation equipment, Sprinkler heads, extinguisher heads, locks, water reticulation taps and shower heads, and a multitude of various valves.

Tungsten:

The production of drill bits and drill heads for underground mining, tooling plugs and dies in the tube drawing and extrusion industries, engineering cutting tools for CNC machines, lathes, milling machines etc.

#### **KEY MANUFACTURING INPUT COSTS FOR ZIMALCO - SECONDARY ALUMINIUM SMELTER**

	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Total
	R	R	R	R	R	R	R
<b>Metal cost</b>	<b>3 451 786</b>	<b>8 217 132</b>	<b>9 153 567</b>	<b>9 250 186</b>	<b>9 219 695</b>	<b>8 710 849</b>	<b>48 003 214</b>
<b>Conversion cost</b>	<b>3 300 874</b>	<b>4 480 884</b>	<b>5 150 019</b>	<b>5 491 392</b>	<b>5 646 337</b>	<b>5 320 690</b>	<b>29 390 196</b>
- Electricity	296 476	379 583	440 161	412 275	554 086	547 755	2 630 336
- Gas	455 622	623 434	776 754	890 225	833 730	672 465	4 252 230
- Manpower	658 465	896 751	970 578	1 073 398	1 067 091	1 032 813	5 699 096
- Other	1 890 311	2 581 116	2 962 526	3 115 494	3 191 430	3 067 657	16 808 534
<b>Total cost</b>	<b>6 752 660</b>	<b>12 698 016</b>	<b>14 303 586</b>	<b>14 741 578</b>	<b>14 866 032</b>	<b>14 031 539</b>	<b>77 393 410</b>

From the attached it can be seen that the breakdown of key input costs are:

- Raw Material - Scrap Aluminium 62.0%
  - Electricity 3.4%
  - SASOL Gas (main melting medium) 5.5%
  - Repairs & Maint, PPE, Packing, Water, Transport 21.7%
- Internal transport, fork trucks & health & safety

The cost of external transport can be separated out at 3.2%

It is clear from above that the major cost of production is the unrealistic cost of Scrap Metal.

#### FACTORS CRITICAL TO ENSURE LOCAL BENEFICIATION

1. Availability of quality and affordable quantities of Scrap Metal. The Export of South African scrap metal has increased significantly during the current decade. This has become very evident as shown in the SA Stat's partly due to the significant increase of international traders who continue to rape the country of this most valuable asset.
  - Industry first approached Government in 1999 due to decreasing international competitiveness in the beneficiation of non-ferrous scrap metals with a request for an EXPORT DUTY on scrap metal.
  - During the last 15 YEARS we have seen many changes in the NON-FERROUS METALS industry sector with many company and job losses as it became cheaper to import components rather than manufacture locally. (Aluminium sector 40%+ losses)
  - After many years and several reports funded by INDUSTRY, GOVERNMENT and NGO's we have the current PRICE PREFERENCE POLICY which was gazetted in September 2013.
  - To date no company within the Non-Ferrous Metal sector has been able to report having purchased scrap metal at any price approaching the issued Preferential Price.
  - On the contrary prices of the most popular grades of scrap have in many cases increased in price, in the case of Aluminium the most critically required grades have increased between 15 to 32% in recent years measured against the LME.
  - The Non-Ferrous scrap beneficiating Industry continues to contract as the cost of manufacture increases causing it to become less competitive. There are several cost factors energy, wages, transport etc. as indicated above but when the cost of scrap infeed is as much as 62%+ of the cost of manufacture it is by far the major cost driver.
  - The effective regulation, stabilisation and control of the local pricing, "currently export parity" and the restriction of the export of scrap metal are the major critical factors to job creation, sustainable economic growth and in addressing poverty and current inequality.
  - The beneficiation of scrap metal has many advantages when compared to Base minerals these include: little to zero environmental impact and cost of energy which can be as little as 5% of the cost of processing from primary minerals or metals.

#### ADDITIONAL CRITICAL FACTORS TO ENSURE GLOBAL COMPETITIVENESS

- i. As indicated above the cost of energy when beneficiating scrap metal for Aluminium specifically amounts to +/-9% of production costs, although this is a small number compared to other costs the ever increasing tariffs have had a major effect on international competitiveness. Linked to power outage that have de-stabilized industrial production which have also lead to increased costs especially for those companies dealing with molten metal who have had to install other means of energy to prevent massive damage to furnaces.
- ii. The cost of inland transport and port handling costs are excessive when compared to many of South Africa's trading partners, investigated by the DTI a few years back costs from Gauteng to FOB Durban still remain substantially high at +/-75% of CIF delivery costs.
- iii. Labour stability. We cannot continue with the current situation of extended work stoppages laced with violence to property and injury and death to workers unions must be controlled.

- iv. Without all of the above we will see a continuation of the current de-industrialisation of the non-ferrous metal and foundry sector which has seen a decline of over 40% in this decade.

R. J Stone – 21 August 2014