



ZincOx Resources plc

EAFD Recycling- A New Source of Pig Iron

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International Pig Iron Association



ZincOx – Corporate Status

Quote:	AiM market
Market cap:	£200 million
Shareholders:	Management Institutional >50% Teck Cominco, 11.5% (warrants → 15%)
Cash:	\$37 million (Warrant → + US\$15 million)
Debt:	None
Staff:	67
Location:	UK, Belgium, USA (Yemen, Turkey, Thailand)
Specialisation:	Zinc recovery from unconventional material: <ol style="list-style-type: none">1. Non-sulphide ore2. Waste, e.g. EAFD



Recycling - Steel Waste

33% of steel produced by remelting scrap in Electric Arc Furnaces

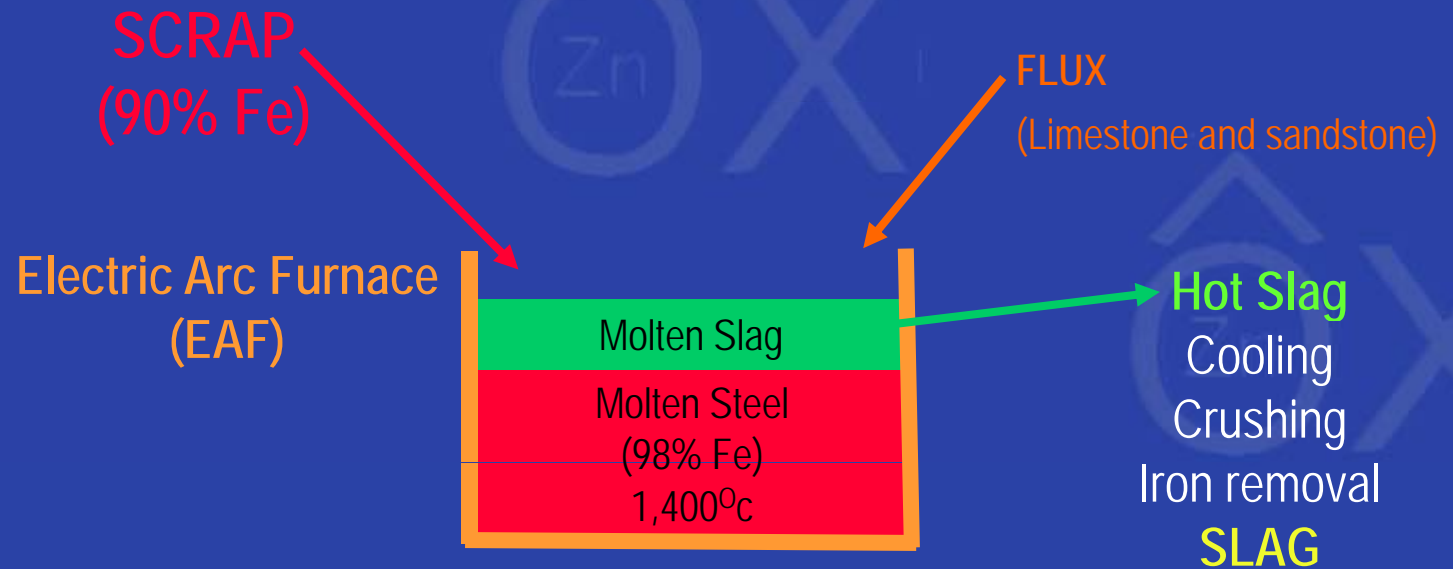
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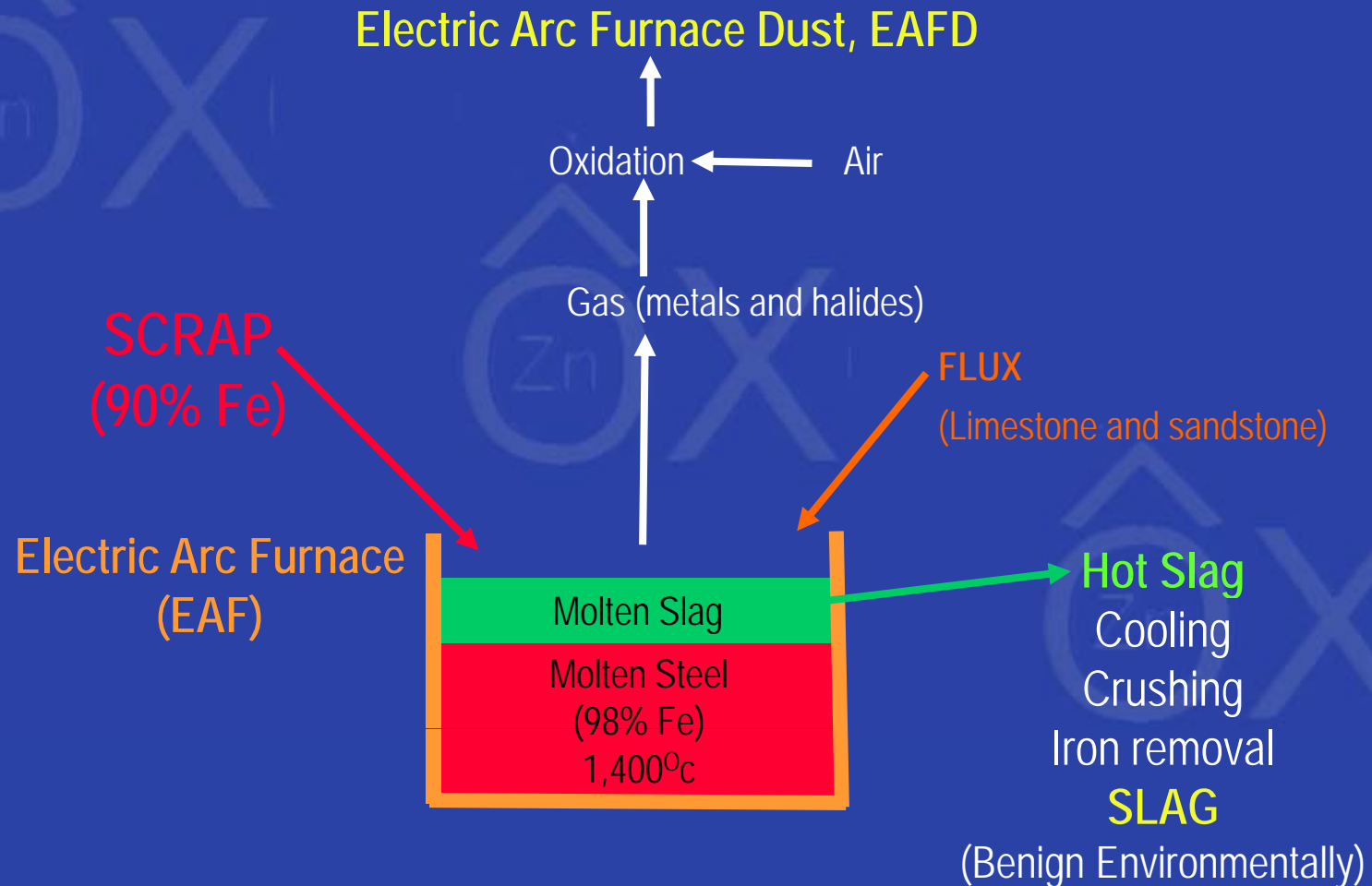


(Benign Environmentally)



Steel Waste (EAFD)

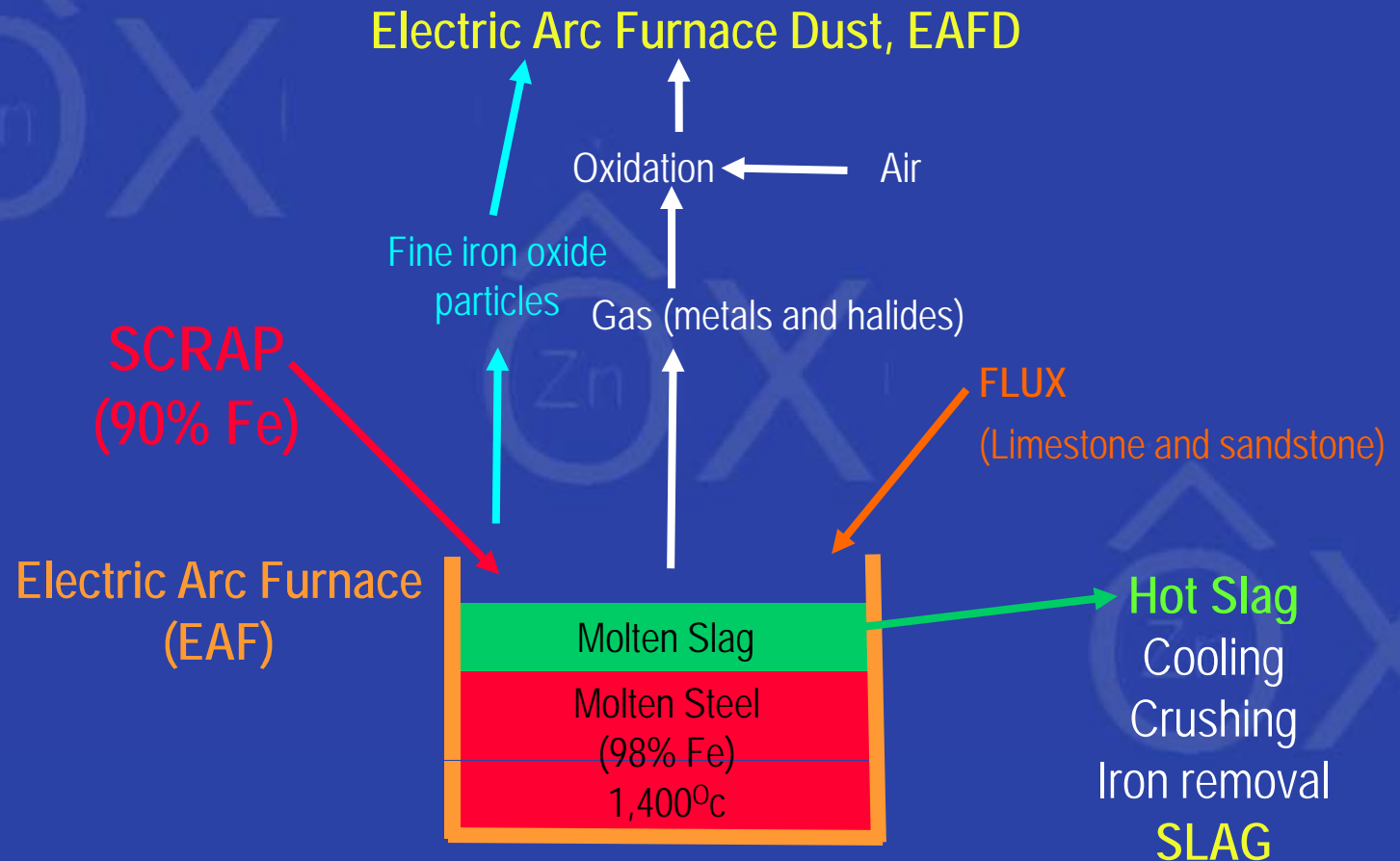
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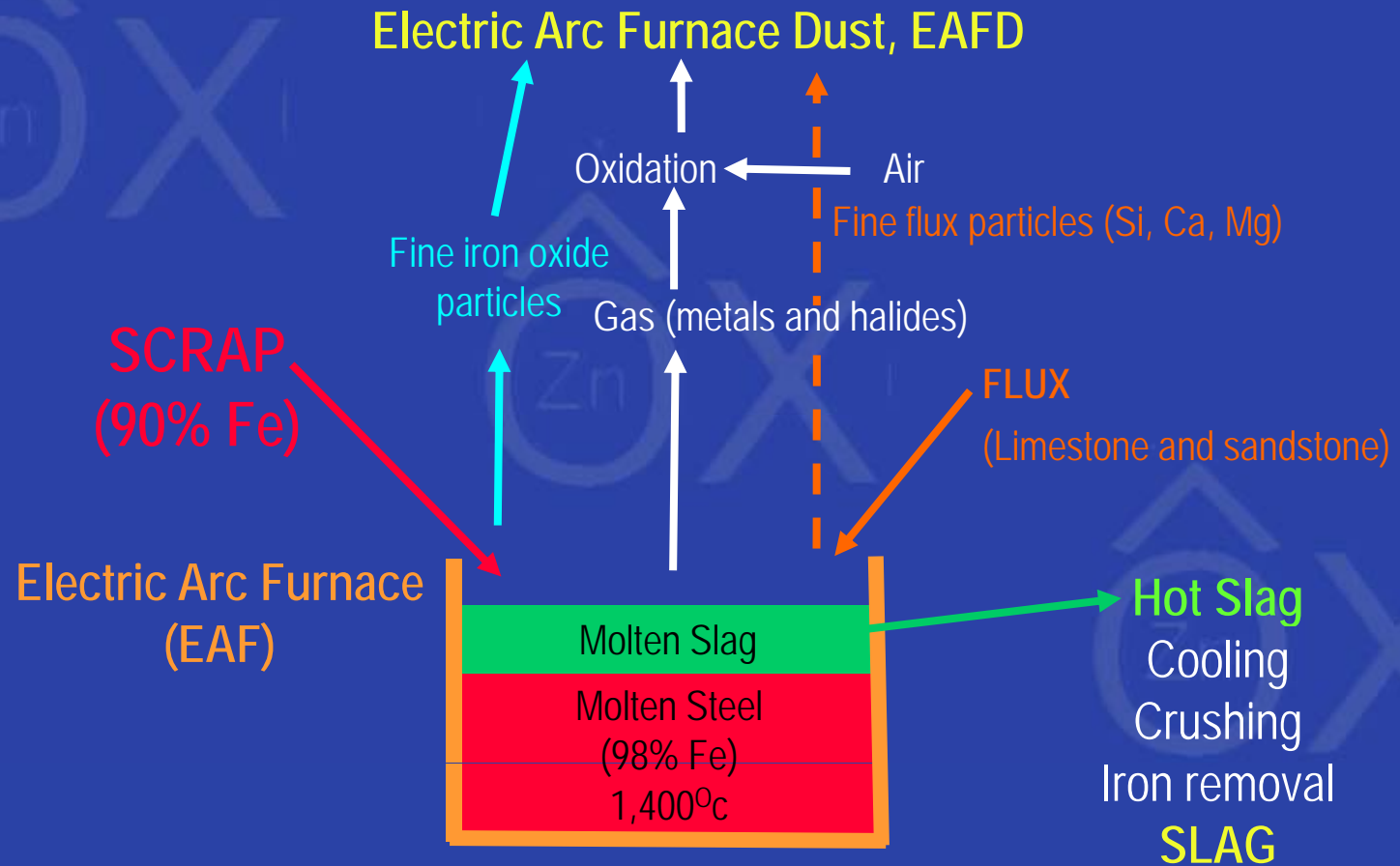


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Hot Slag
Cooling
Crushing
Iron removal
SLAG

(Benign Environmentally)



Typical EAFD Composition

By weight %

Benign Elements

Oxygen	30.8
Iron	25.0
Zinc	22.0
Calcium	7.0
Chlorine	3.0
Magnesium	2.0
Manganese	3.0
Sodium	1.0
Silicon	1.5
Potassium	0.5
Aluminium	0.6
Copper	0.25
Nickel	0.03
Chromium	0.12
Fluorine	0.08

Hazardous Elements

Lead	3.0
Cadmium	0.08
Arsenic	0.004
Mercury	0.0002



EAFD General

Galvanised nature of scrap provides zinc that ends up in EAFD

EAFD contains 15%-25% zinc (3-5 times richer than average zinc mine)
plus lead and iron (Si, Ca, Mg, Cl, F and Oxygen)

Worldwide production >5.000,000 tpa EAFD (1.000,000tpa zinc)

Simple chemistry allows the lead and cadmium content to be dissolved in rainwater so EAFD classified as a hazardous waste

EAF operators generally pay "Tipping Fee" to dispose of dust

In general, it is currently being:

- Landfilled (60%), no revenue, or
- Reduced with coke in Waelz kilns to produce impure zinc concentrate
 - Energy intensive
 - No iron recovery
 - Poor quality concentrate, requires further beneficiation



EAFD Treatment General

Pyrometallurgy

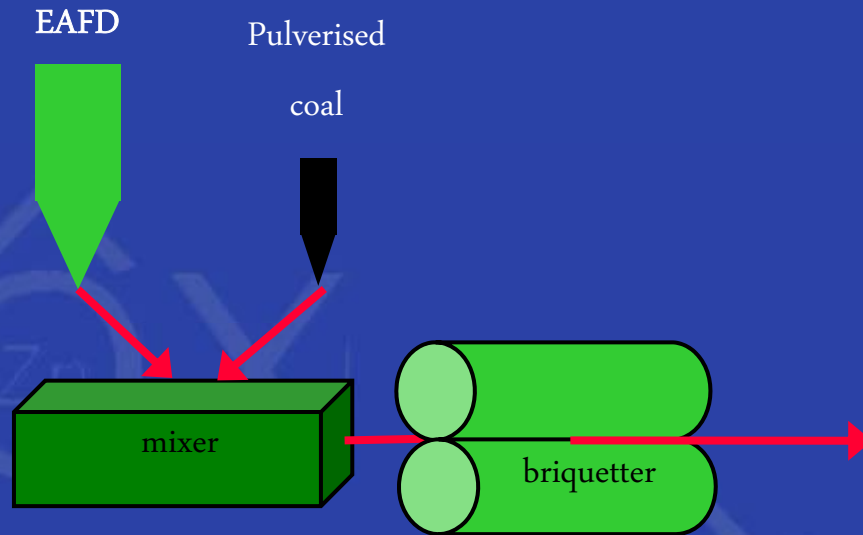
Traditionally: Waelz kilns
No iron
Energy intensive

The "Holy Grail":

- high recovery of zinc, iron, lead
- no residue
- low tipping fee

Rotary Hearth Furnace (RHF) and Melter (M), RHF&M
zinc intermediate product
SX-EW (Skorpion)

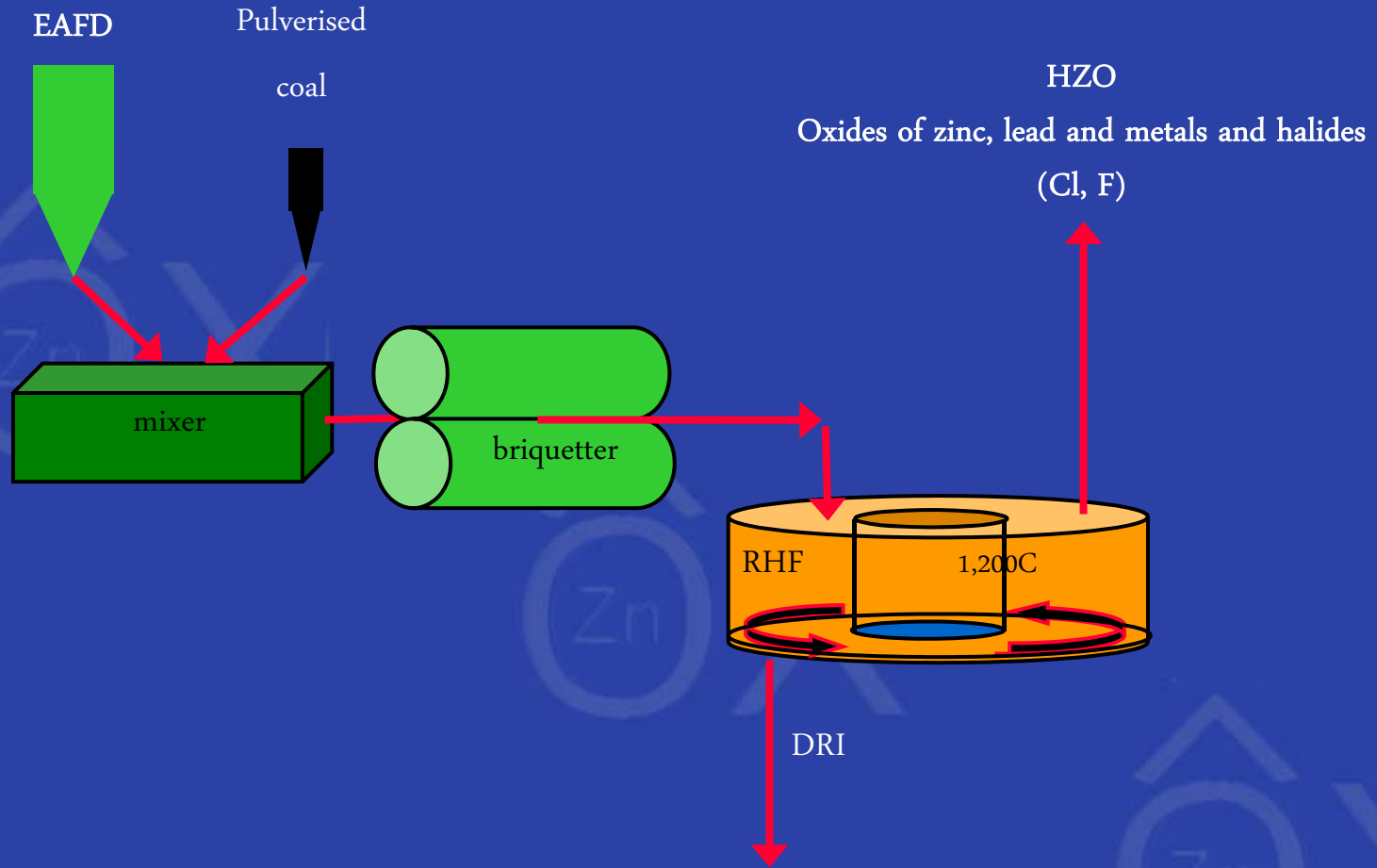
RHF&M Flowsheet



Raw EAFD mixed with
coal



RHF&M Flowsheet

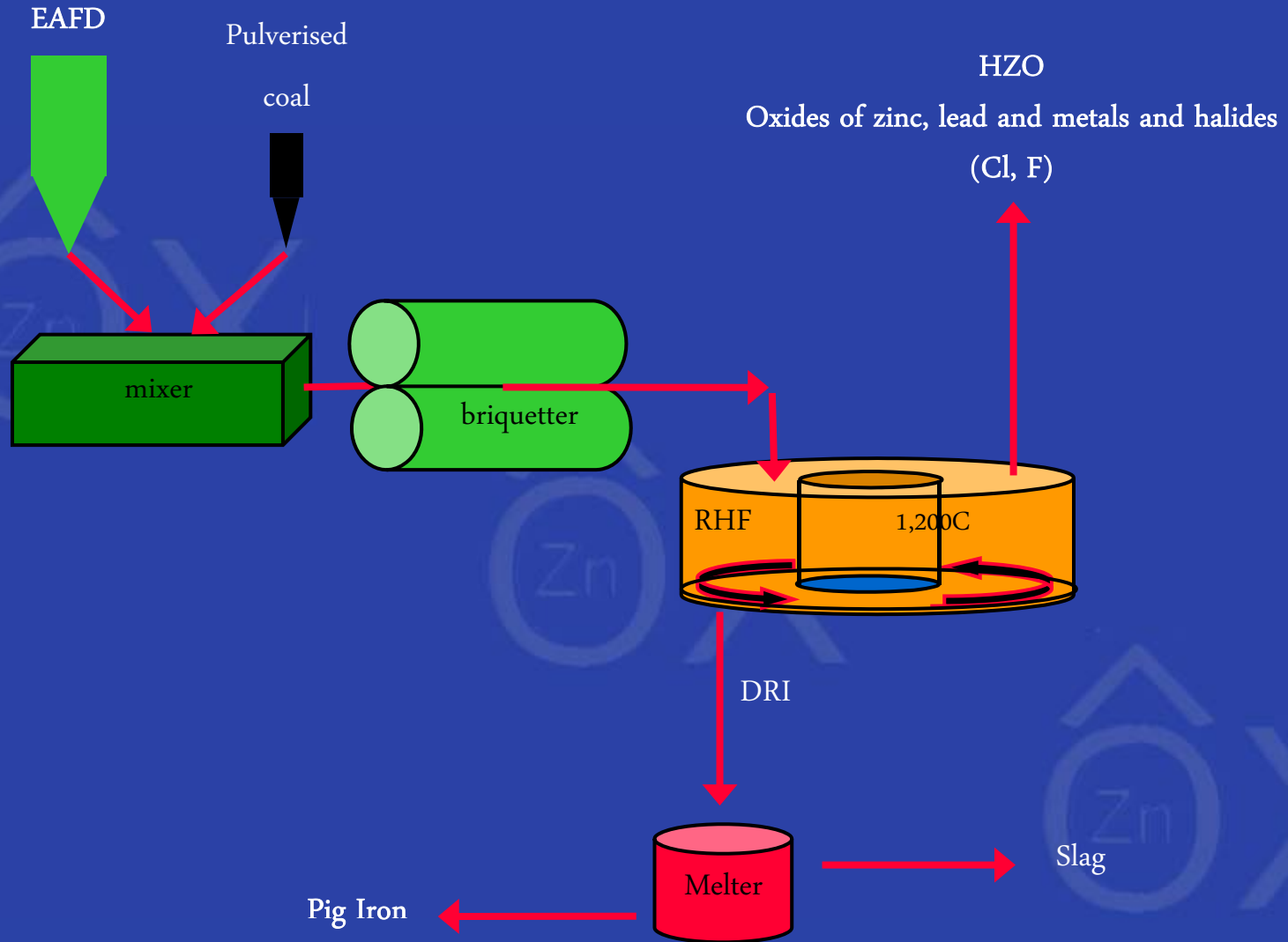




DRI Discharge In Furnace



RHF&M Flowsheet



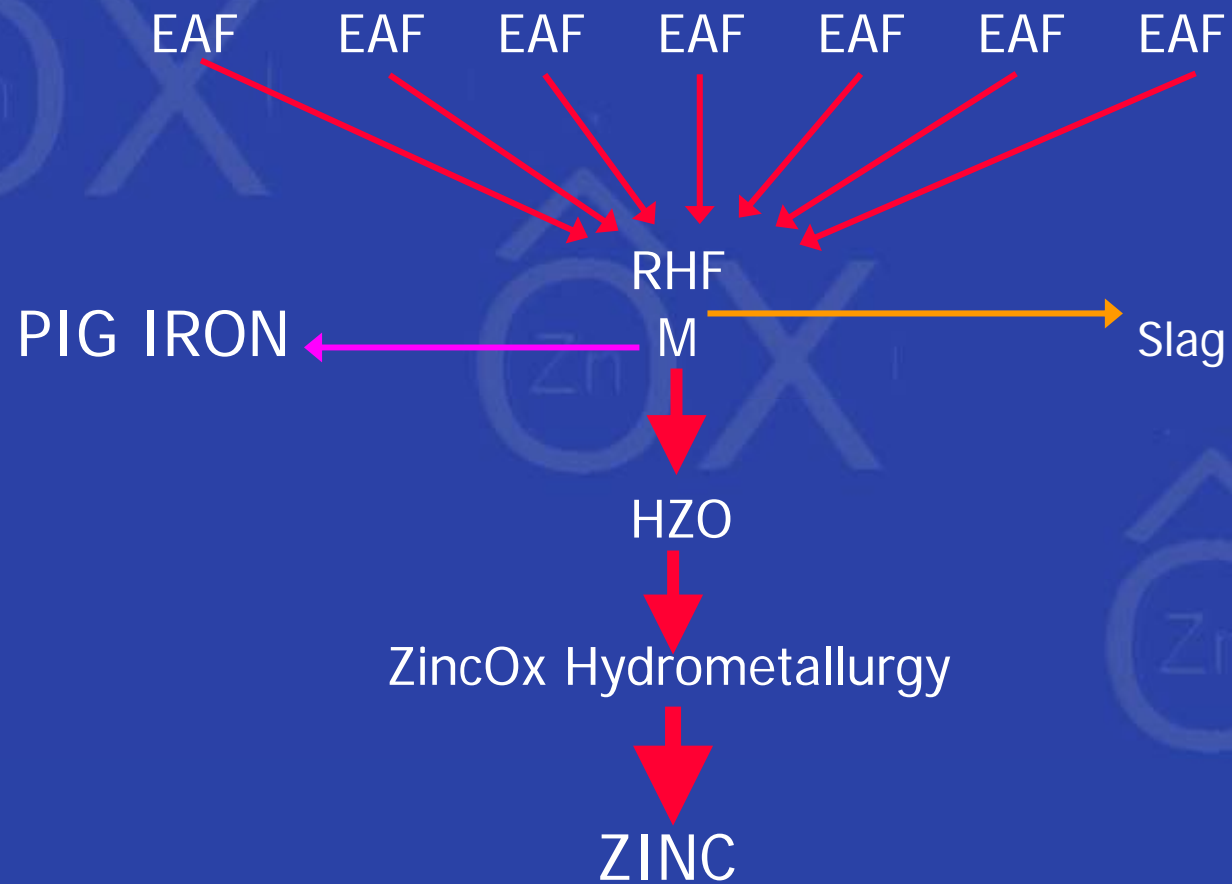


Commercial Plant





ZincOx Strategy





Initial Plants

Ohio Recycling Project, USA

200,000 t EAFD pa

48,000 t pig iron pa

Aliaga Recycling Project, Turkey

200,000 t EAFD pa

45,000 t pig iron pa



Expected Pig Iron Compositions

	OHIO 100% EAFD (%)	ALIAGA 100% EAFD (%)	OHIO 50% EAFD + 50% MILL SCALE (%)	ALIAGA 50% EAFD + 50% MILL SCALE (%)
Metallic Fe	90.60	91.10	92.40	92.70
C	3.50	3.50	3.50	3.50
Si	0.80	0.80	0.80	0.80
Cu	0.50	0.80	0.40	0.60
Mn	3.90	3.00	2.30	1.80
P	0.07	0.12	0.08	0.11
S	0.05	0.06	0.05	0.05



Pig Iron Marketing

Maximise value

1. EAF operators

Only issue copper

OK for long products

Sales commitments

Various benefits

2. Specialist Foundries

3. Broker Sales