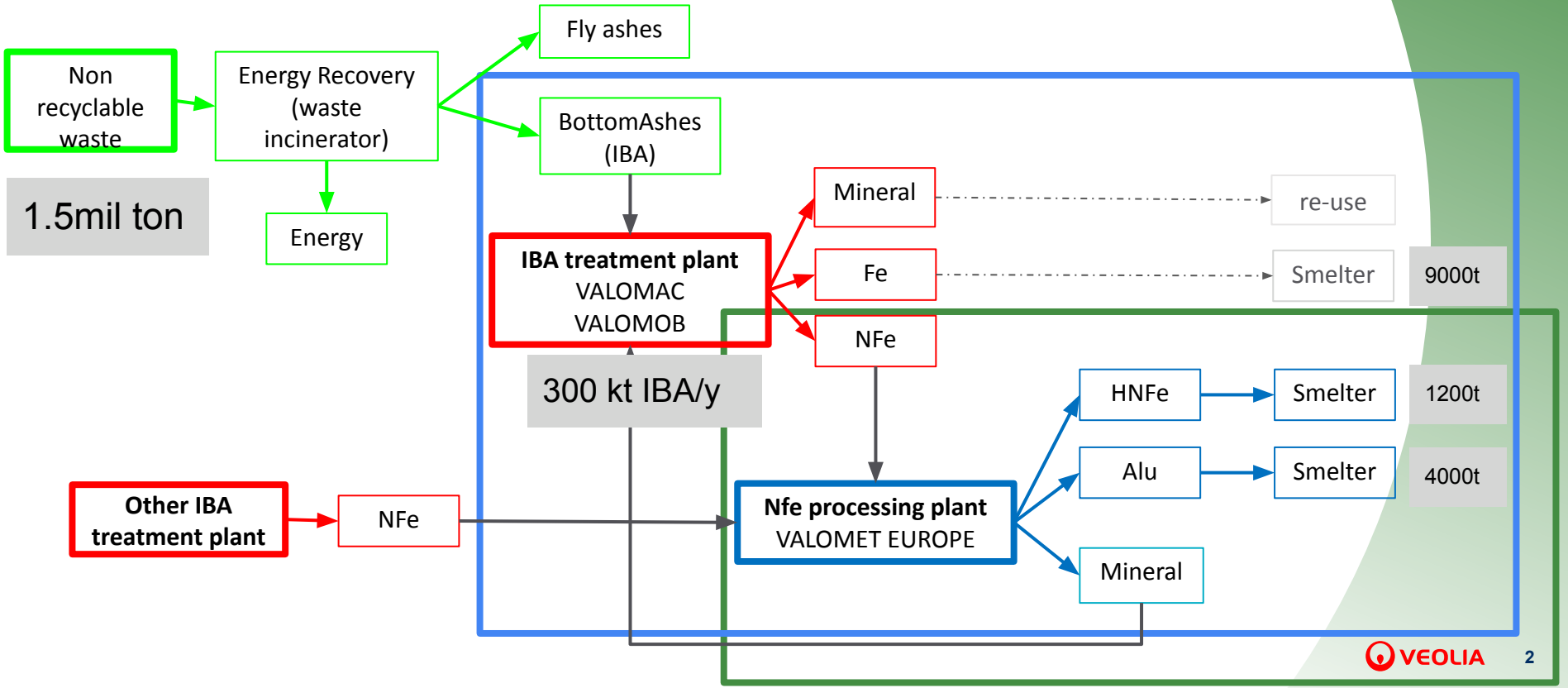
Life Cycle Assessment

@ Veolia Treatment & Recycling

A user experience

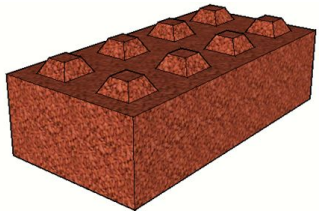
VEOLIA

Recover & Re-introduce

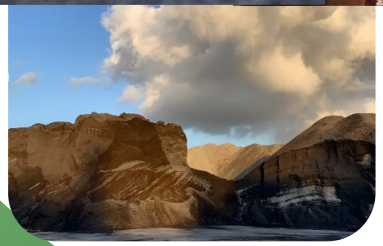


Recover the unrecoverable?

- Certified **Aggregates**
- Recovered **Ferrous**
- Recovered **Non-ferrous**



But does it make sense?



Life Cycle Assessment

Why?

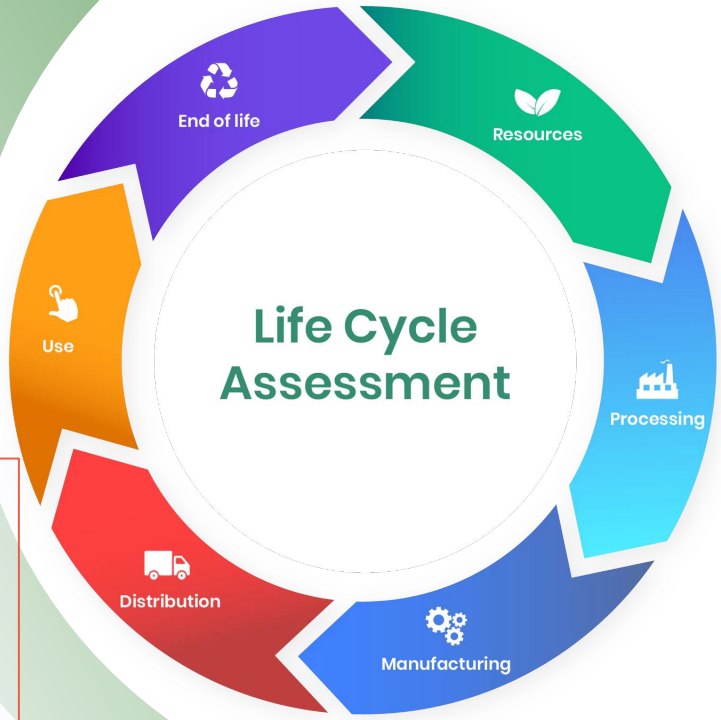
- Identify **own emissions**
- Recovery impact: **avoided emissions**
- **Living Tool** to communicate to client and customer specific
- **Verifiable** and **auditable**

Challenges?

- Traceability
- Data & inventory management
- Variation management

  between process steps
  sector/activity transcending
  interlinked up/downstream

Overcome the data gap!



Our approach

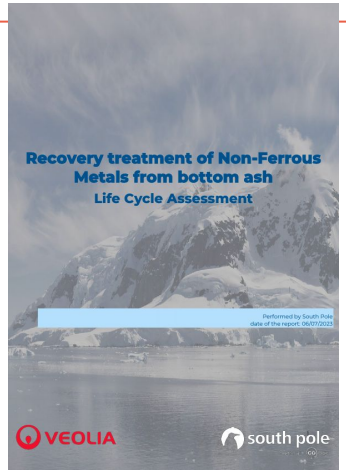
Evaluation of the **environmental impact** of the recovery and recycling of Non-ferrous metals coming from incinerated bottom ashes by **life cycle assessment** realized by the expert company **“CO2 logic - South Pole group”** using **ISO 14040** and **ISO 14044** standards.

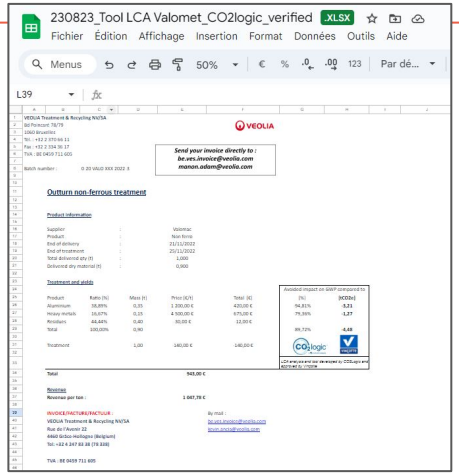
2 deliverables

1. A report of the LCA
2. A tool to calculate the environmental impact of each non-ferrous metal batch processed at Veolia Valomet

Deliverables **audited and verified** by the independent party **“Vinçotte”**:

- Voluntary initiative
- Living tool: yearly update and verification





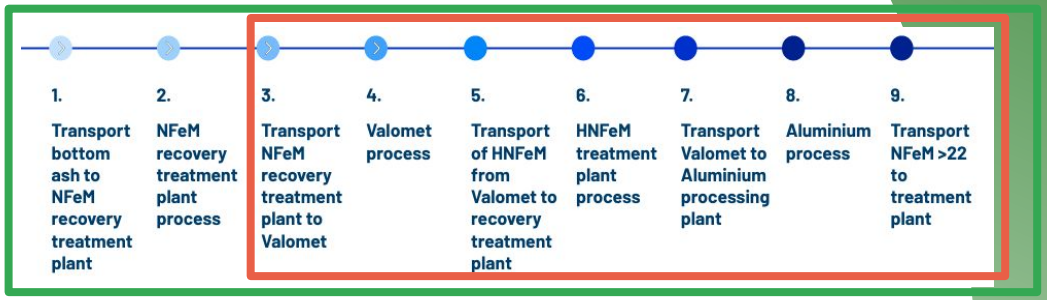
Veolia IBA value chain & scope?

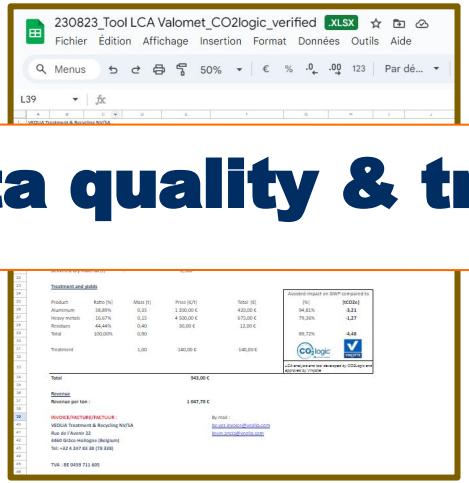
LCA scope **including IBA processing** : **communication with Valomac's clients** (IBA producers)

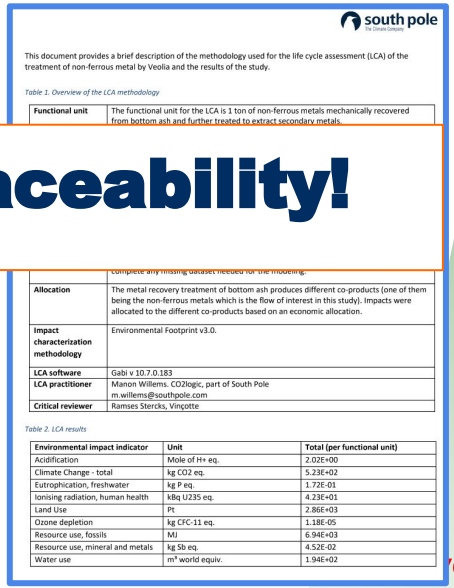
LCA scope **excluding IBA processing**: **communication with Valomet's clients** (NFe producers)

LCA certificate **based on process data**: **communication to Valomet's customers** (purchase & reuse)

Quick use Tool, verified and audited: impact **quantifiable per client, per batch**.



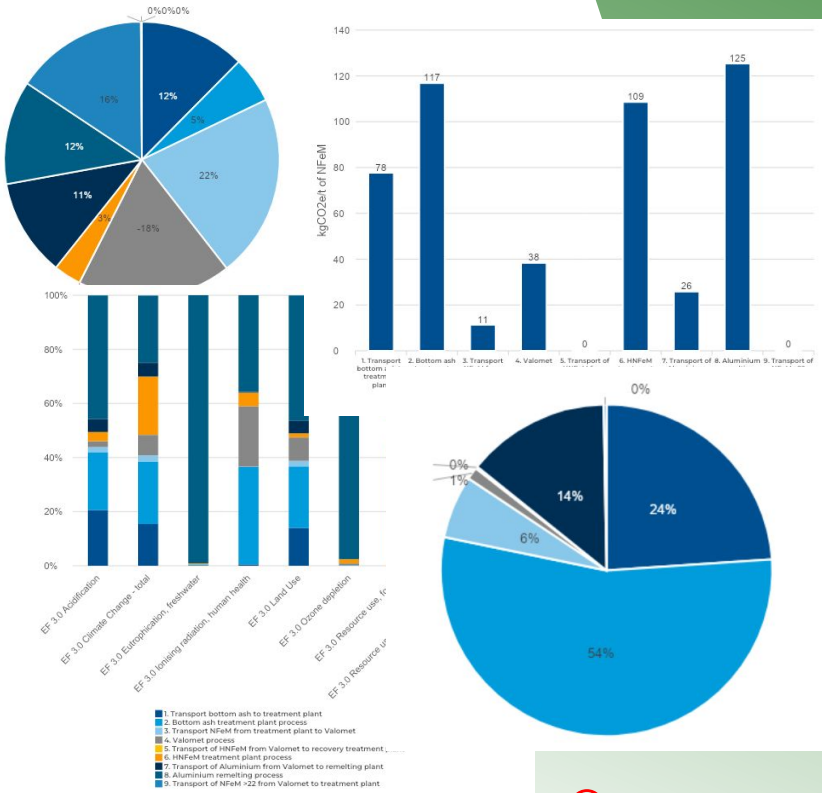




Data quality & traceability!

Avoided Co2?
Or is there more to it?

- LCA makes **all environmental contributions** apparent and transparent
- Allows to **identify** high impact actions and improvements!
- Set **clear targets**: examples
  Decrease own emissions?
  e.g Transport
  Environmental impact?
  e.g Water
  Increase impact avoided emissions?
  e.g recovery rate < 125µm
- **Traceability** throughout the value chain
- **Annual Update**: impact -8% decreased emissions



LCA + Tool: Veolia business case example

VEOLIA Treatment & Recycling NV/SA
Boulevard Poincaré 78-79
1060 Saint - Gilles
Tel. : +32 2 370 66 11
Fax : +32 2 334 36 17
TVA : BE 0459 711 605

VEOLIA

Batch number : [redacted]

Send your invoice directly to :
be.ves.invoice@veolia.com
kevin.ancia@veolia.com

Outturn non-ferrous treatment

Product information

Supplier	:	[redacted]
Product	:	Non Ferro
End of delivery	:	6/5/2024
End of treatment	:	6/10/2024
Total delivered qty (t)	:	107,340
Delivered dry material (t)	:	100,107

Treatment and yields

Product	Ratio [%]	Mass [t]	Price [€/t]	Total [€]
Aluminium	30,45%	30,49	874,00 €	26.645,59 €
Heavy metals	10,31%	10,32	7.233,25 €	74.673,56 €
Residues	59,23%	59,30	-30,00 €	-1.778,90 €
Total	100,00%	100,11		
Treatment		107,34	-140,00 €	-15.027,60 €
Total			**84.512,64 €**	

Avoided impact on GWP compared to primary production of metals*		Emissions due to the process within the scope
[%]	[tCO2e]	[tCO2e]
-93,68%	**-276,61**	16,10
-76,12%	**-93,84**	17,36
		0,25
-88,27%	**-369,46**	33,72

*LCA analysis and tool developed by CO2Logic and approved by Vingotte. *Avoided impact comparison including IBA processing step.*

Revenue
Revenue per ton : 844,22 €

- Between **2,5t - 4,5 tCO2e emission avoided for 1t NFe processed on Valomet** due to less energy-consuming processes on recycled materials compare to processes on raw materials
- Corresponding to **0,15 - 0,27 tCO2e emission avoided for 1t IBA processed on Valomac**.

THANK YOU

Simon Waroquier

Project Manager

Simon.waroquier@veolia.com

Karen De Boeck

Non Ferro & Efw Supply Manager

karen.de-boeck@veolia.com