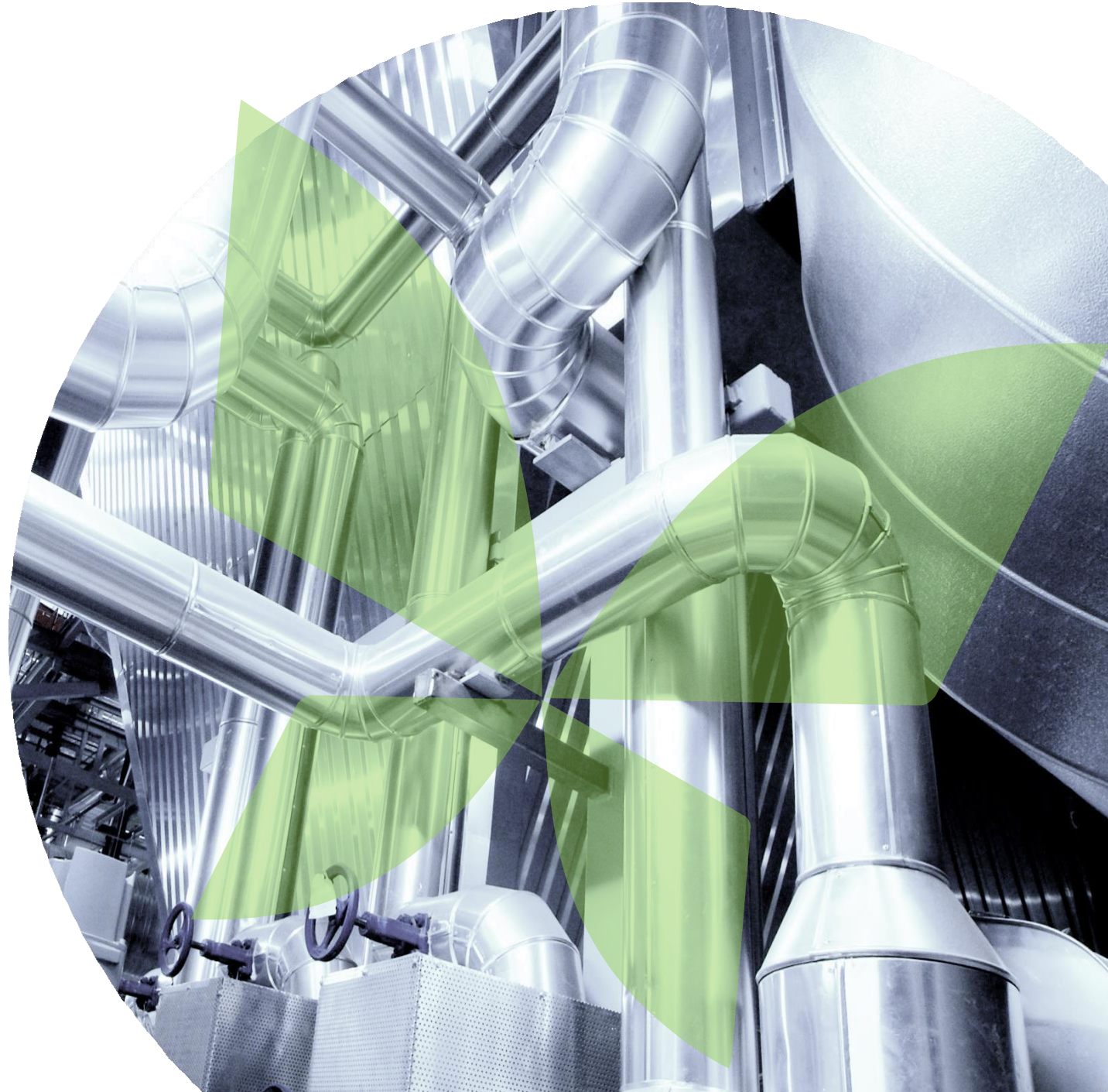




A GREEN SUSTAINABLE WASTE  
COMPANY

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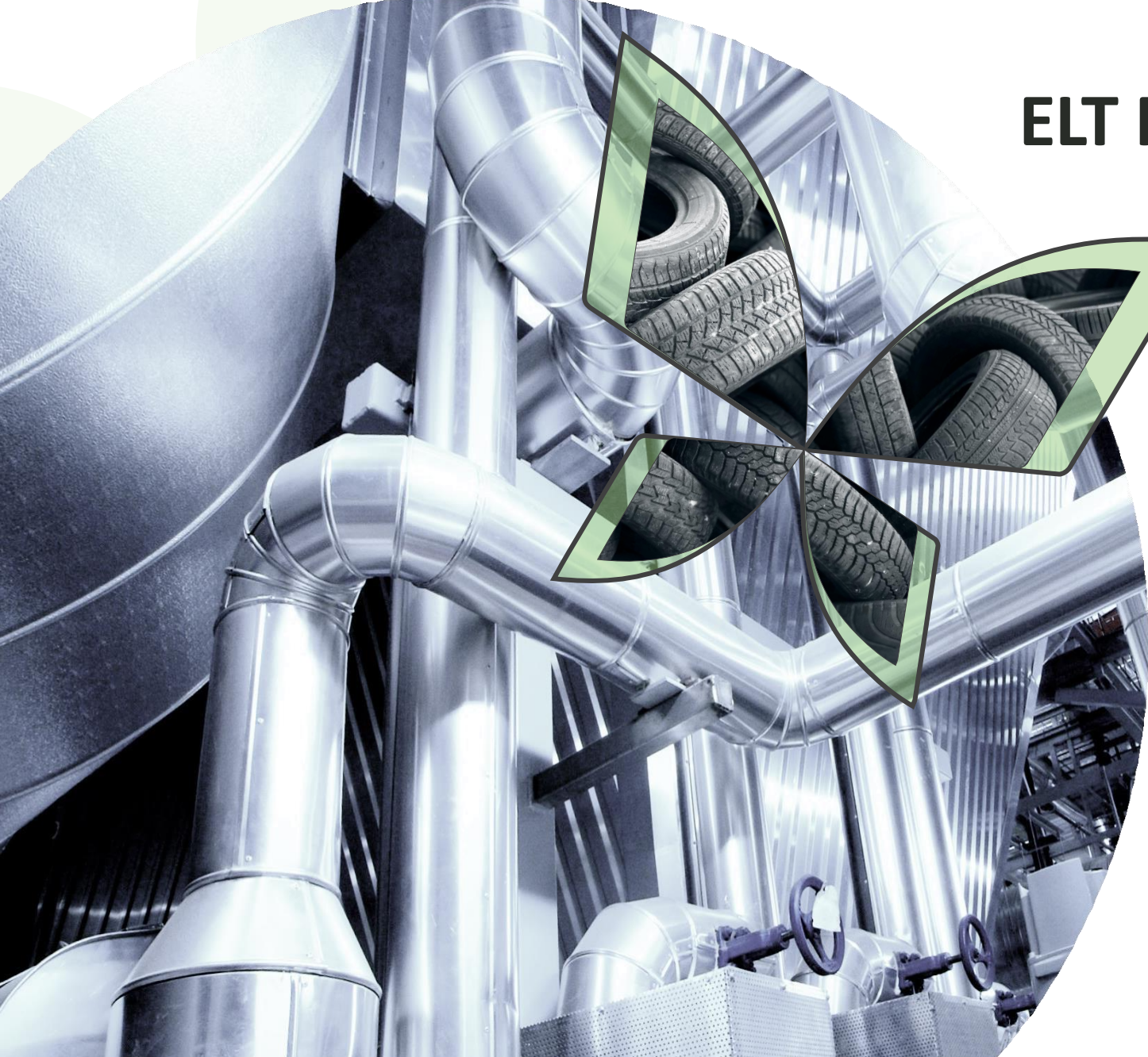
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# ELT Recovery Ltd



eltr is a company that recovers materials from **End-of-Life Tyres**, applying a continuous thermal technological process to **turn 99.5% of the waste tyre into sustainable products.**

eltr produces these valuable green products: **Recovered Carbon (rCB), Steel and Tyre Pyrolysis Oil (TPO)** from waste tyres.

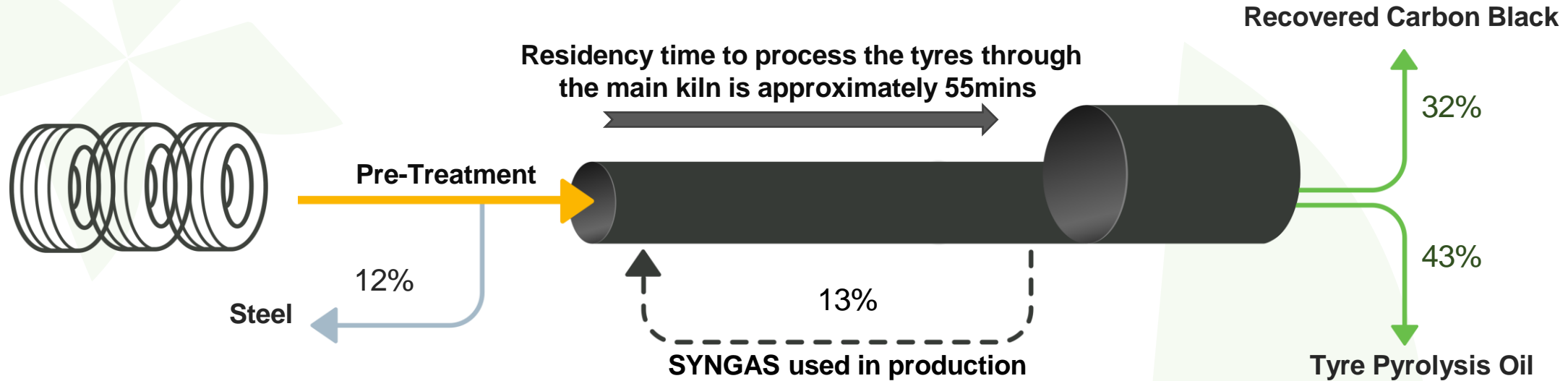
The operating plant produces **renewables products that are high in demand** and incorporate into a circular economy.

**7 AFFORDABLE AND CLEAN ENERGY**

**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**

**UN Sustainable Development Goals**  
Contribute to UN SDG 7 and 12  
- Clean Energy and Responsible Consumption

# Pyrolysis Process Diagram



INPUT END-OF-LIFE TYRES

APPLY TECHNOLOGY

PRODUCE COMMODITIES

SELL TO INDUSTRY

Gross Annual Throughput	Metric Tonnes
End-of-life Tyres (ELTs)	26,192
Net Annual Throughput	Metric Tonnes
End-of-life Tyres (ELTs) <i>[After steel removal]</i>	21,762

Commodities	Metric Tonnes per Annum
Tyre Pyrolysis Oil (TPO)	9,262
Recovered Carbon Black (rCB)	7,006
Steel	2,529
Syngas (recovered gas)	2,829
Textiles & Aggregates	109

Energy savings	kWh (Thermal)
Syngas	2,610
Annual GHG savings	Metric Tonnes
TPO, rCB, Steel	57,133

# The products produced by ELTR are in high demand

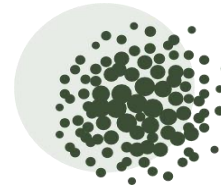


There is an increasing demand for renewably certified products that can feed into a Circular Economy



## OIL

- ✦ The TPO product can also be turned into a petrochemical precursor (known as **Naphtha**) and turned into **rubbers** via polymerisation.
- ✦ Renewable oil can be a substitute in chemical processes to replace virgin oils such as diesel and petrol and contribute to the **UK's Drop-in Fuel Obligation (RTFO)**.
- ✦ Demand for TPO fuel strong due to the RTFO requirements for renewable fuels which legislate an increase to **14.6% of UK total consumption by 2032**. Once supply increases, the government is committed to increasing the RTFO requirement.
- ✦ In 2022 transport consumption in the UK, required **7.3m MT pa to be renewable fuel**. **This demand was not met, requiring refineries to pay £1.60 per litre for the shortfall.**



## CARBON BLACK

- ✦ Carbon Black is a **component in tyre production**, where renewable Carbon Black (rCB) is a direct equivalent.
- ✦ With Extended Producer Responsibility (EPR) implemented by governments, the renewable price for rCB will be more valuable than the virgin price.
- ✦ The Emissions Trading System (ETS) will also require more companies to source sustainable products.
- ✦ Carbon black market growth at > 3% pa.
- ✦ rCB market demand is increasing



## STEEL

- ✦ Steel production requires a high level of energy. ✦ eltr extracts the steel directly from the tyres to create renewable steel.
- ✦ Steel is the most recycled metal in the world, with global market demand of **1,840.2m MT** pa and growing.
- ✦ The UK exports approximately 8.7m MT and uses around 2.6m MT of scrap, against an annual demand of 10.5m MT. Exporting such a higher percentage may be restricted with policy in the near future. The EU will restrict scrap steel exports to non-OECD countries from 2027.
- ✦ Scrap steel prices have risen over the past two years, with prices currently at £130 – 310 per MT.



# The Calorific Value in ELTs

Below is an assessment of the calorific value of ELTs

## Passenger Car <sup>3</sup>



**30.2 MJ/kg**

## Truck <sup>3</sup>



**26.4 MJ/kg**

## TPO\*\*<sup>4</sup>



**43.5 MJ/kg of TPO**  
**19.56 MJ/kg of ELTs**

***If UK's ELT arisings were solely combusted for energy recovery***

$$600,000 \times 10^3 \times 0.65 \times 30.2 = 373.48 \text{ MW}$$
$$600,000 \times 10^3 \times 0.35 \times 26.4 = 175.79 \text{ MW}$$

≈ 200 x



An average onshore wind turbine in the EU has a capacity of 2.5–3 MW <sup>5</sup>.

TPO\*\* : Tyre Pyrolysis Oil

<sup>3</sup> Saiz Rodríguez, L., Bermejo Muñoz, J. M., Zambon, A. & Faure, J. P. (2017) Determination of the Biomass Content of End-of-Life Tyres. 1-10.


<sup>4</sup> Surovka, D., Pertile, E., Lorenz, T., Fečko, P. & Guziurek, M. (2012) Potential energy recovery from waste pyrolytic treatment products. 13, 43-48.













<sup>5</sup> *Wind energy frequently asked questions (FAQ): EWEA* (n.d.) EWEA RSS.

# ESG Credentials



## A circular economy solution providing economic revitalisation

 **eltr**'s proprietary process takes waste inputs (ELTs) and produces valuable commodities (steel, rCB and TPO) for use in tyre and rubber manufacturing, as well as in a range of other industries, offering a circular economy solution to help customers achieve their sustainability targets.

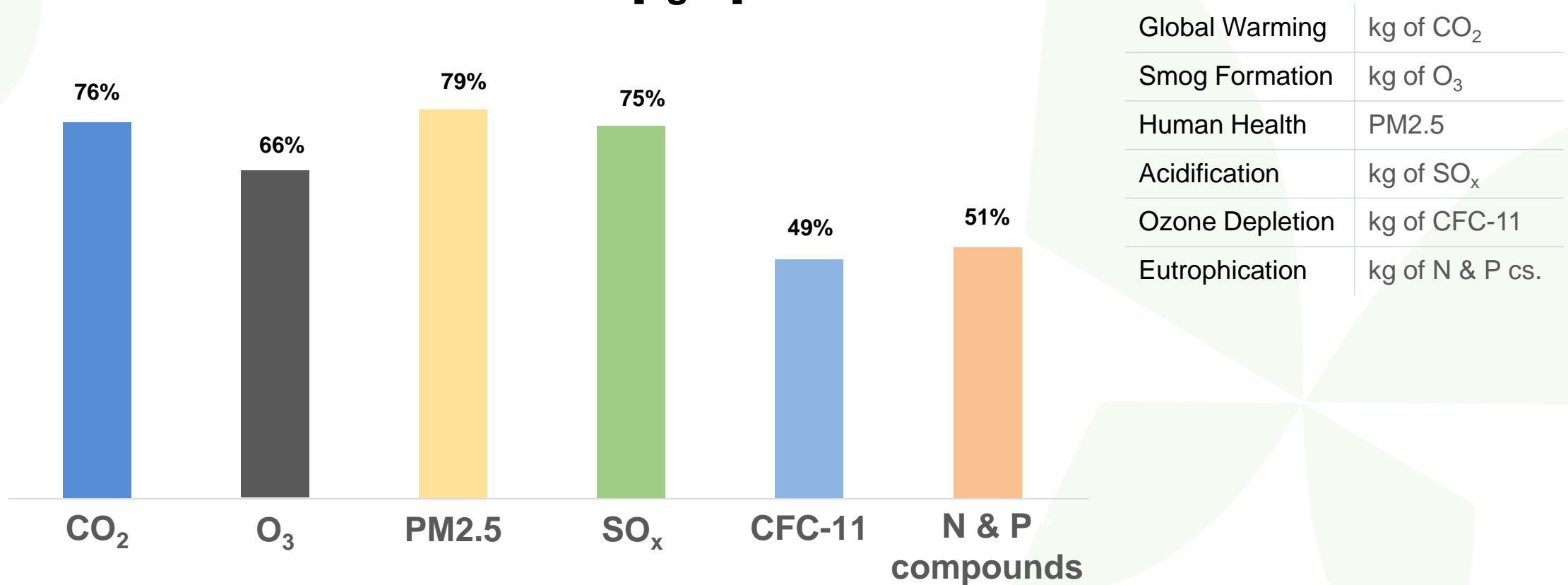
-  TPO is a renewable drop-in product, with 90% lower emissions than fossil fuels
-  rCB has an estimated 83% lower emissions profile than traditional production methods
-  Steel recycling processes reduce carbon emissions by over 80% by delivering recovered scrap steel to the market
-   **eltr** will deliver 60,000 MT of GHG savings once commissioned (ISCC plus audit)
-   **eltr** will contribute to UN Sustainable Development Goals 7 and 12 (clean energy and responsible consumption).
-  The partner plant is certified under ISCC Plus, ISCC EU, ISO 14001 and ISO 9001.
-   **eltr** has been approved and certified by Ecovadis via the premium scorecard and rating for Environmental, Social and Governance for 2022. The scorecard covers four sustainability themes (Environment, Labour & Human Rights, Ethics and Sustainable Procurement) and there is a dedicated scorecard on Carbon output.
-   **eltr** aims to provide economic revitalisation and new job creation to the local economy and communities in which it operates.

# Environmental benefits from the recovery of ELTs



Tyre recycling reduces harmful emissions when compared to the impacts of using new materials to create the same products.

Emissions reductions [kg %]



<sup>8</sup> E Tracks\_TM. (2022) Tire Recycling Reduces Harmful Emissions. All values are in kg





A GREEN SUSTAINABLE WASTE COMPANY

**THANK YOU**

**CONTACT DETAILS:**

Mary Sweere  
Founder & CEO  
msweere@fluidice.co.uk  
+ 44 (0)7798 653718  
020 7874 1593