Sustainability in PGM Recycling: Hensel's Perspective and Outlook

Anna Marchisio, Business Development Manager

Environmental Relief through Recycling

Emissions produced by PGM recovery

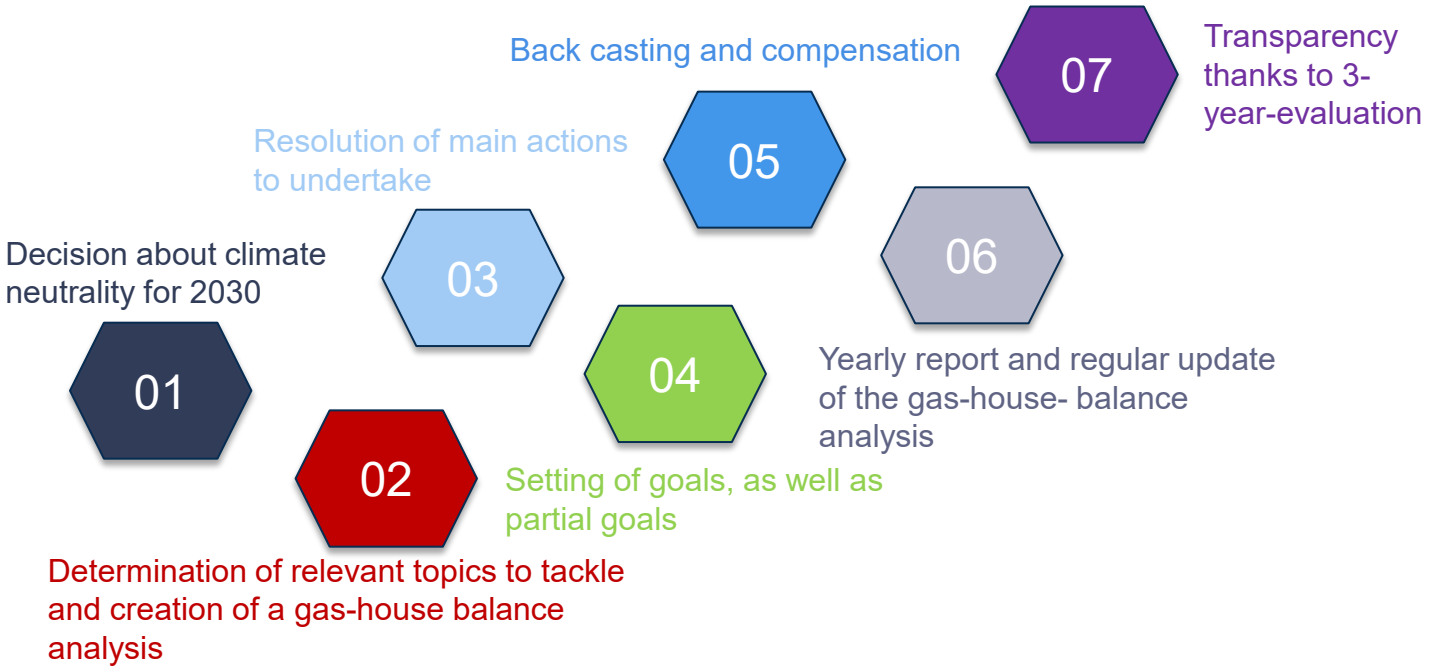
Primary / Mining	15.600 kg CO_2 pro kg
Secondary / Recycling	1.248 kg CO_2 pro kg

Recycling Quantity 11.000 kg/a

Primary	171.600 t/a CO_2
Hensel Recycling	13.728 t/a CO_2
Operational Emissions	300 t/a CO_2

Saving / year **~ 150.000 t/a CO_2**

Our Roadmap to Climate Neutrality



1 & 2: Climate Neutrality and Determination about Scope of Consideration

Decision about achieving Climate Neutrality in 2030

Scope 1 Direct Emissions

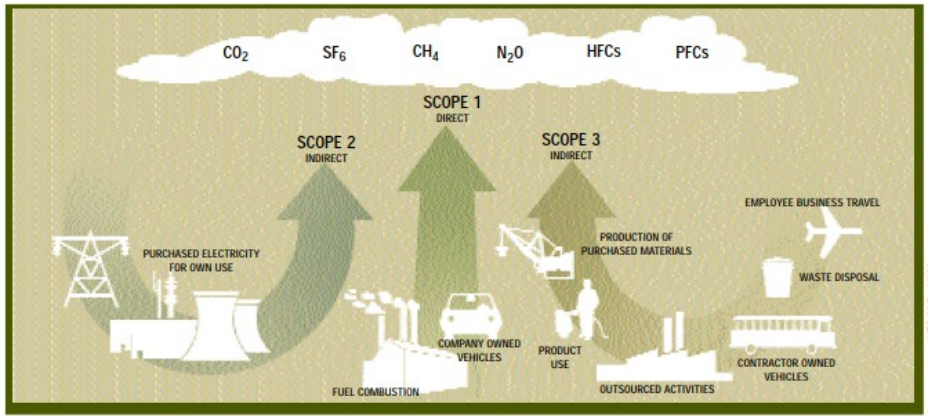
- Business travels with company owned passenger vehicles
- Transport with company owned commercial vehicles
- Energy use for internal scope (gas to heat up offices and production & warehouse buildings)
- Industrial or technical gases (fork-lifts etc.)

Scope 2 Indirect Emissions: Energy

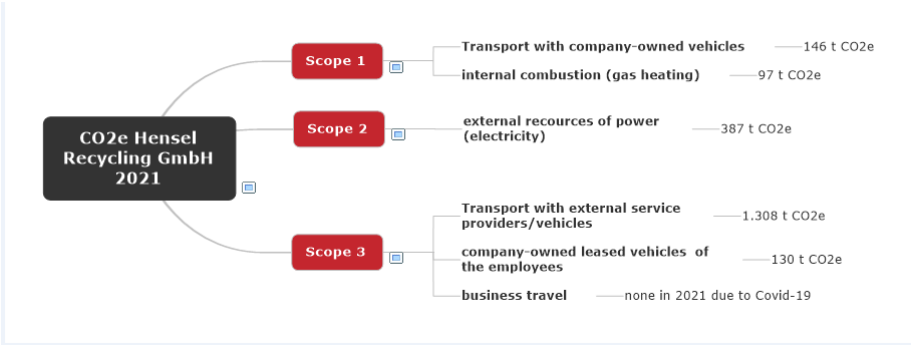
- Energy from external sources (electricity)

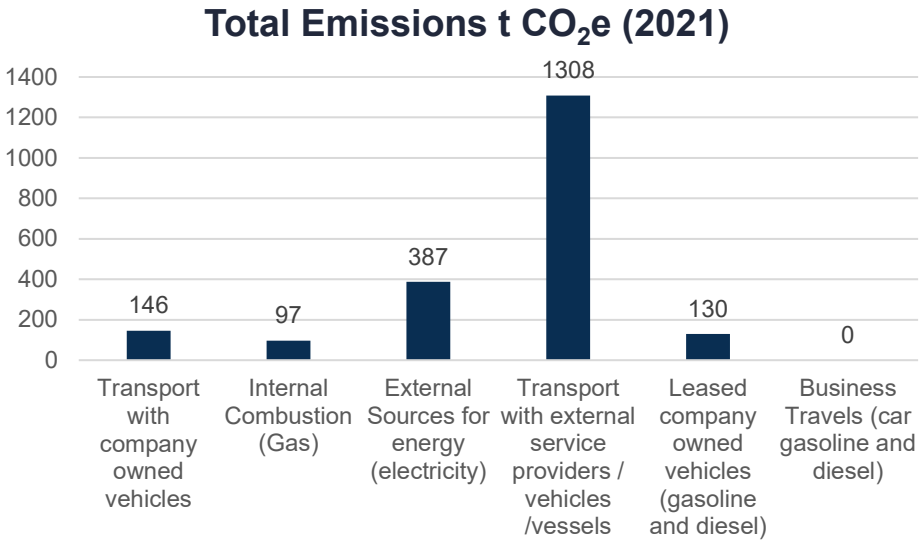
Scope 3 Indirect Emissions: Other

- Business travels with other means of transport
- Transport with external service providers / external means of transport
- Water
- Employees commuting



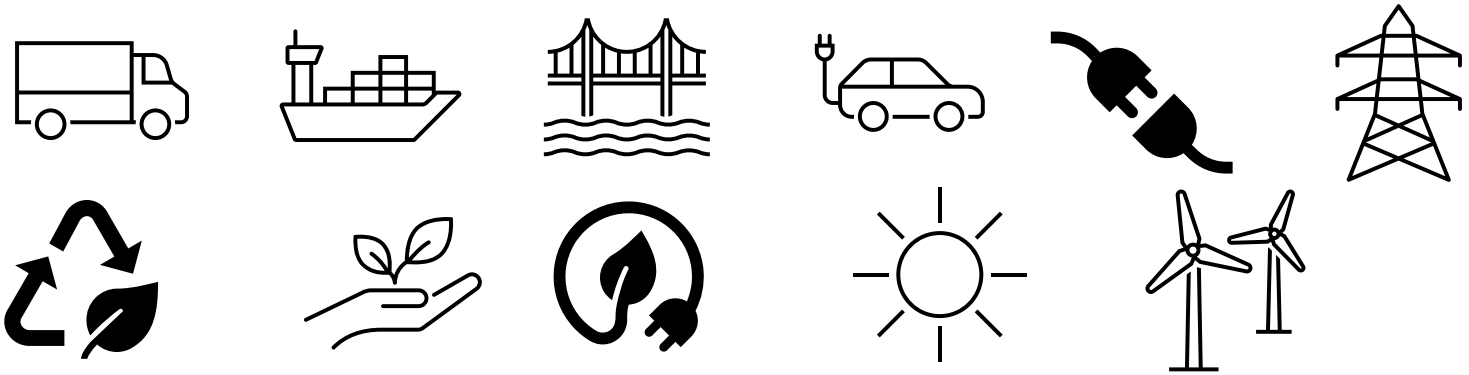
3. Predefinition of Areas of Activity



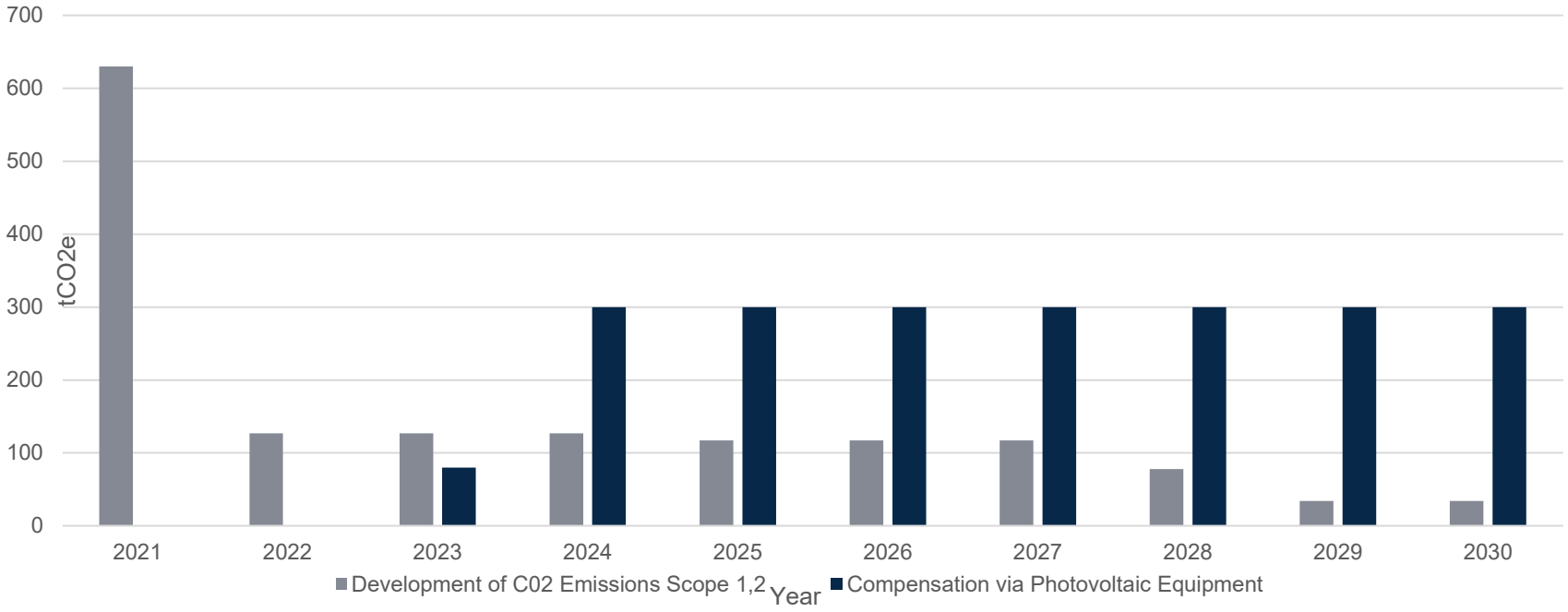


4. Determination of goals and middle terms goals

- 20 different middle terms goals until 2030
- Electricity from renewable sources, photovoltaics, building renovation and warmth pumps instead of gas to heat up company buildings
- Focus on Scope 3: reduction of all greenhouse gases
- Further measures

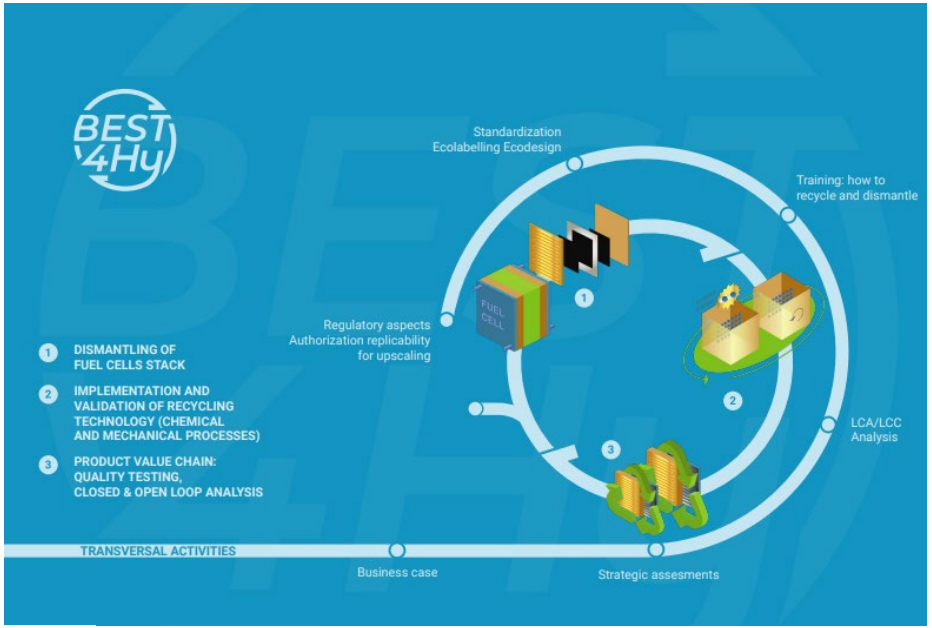


6. Back Casting and Compensation



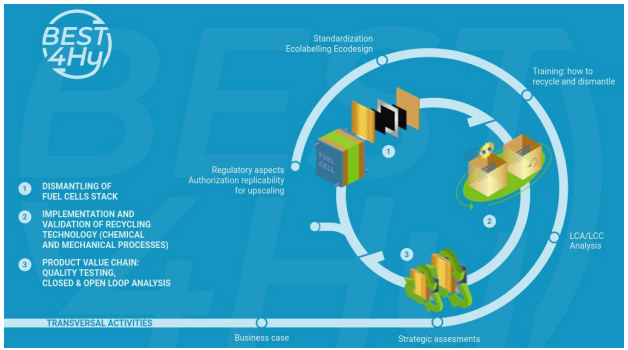
BEST4Hy at a Glance

- Horizon 2020
- Duration: 36 months (December 2023)
- Project Start: December 2020
- Development of Technologies for the Recovery of Critical raw materials from Hydrogen Technologies
- PEMs and SOFCs
- TRL3 to TRL5



HRD Contribution: Main Goals of the Project

- Recovery of the ionomer from EoL PEM
- Recovery of Pt from EoL PEM
- Close-loop Recycling: Re-use of recovered Pt in new PEM



Thank you for your attention!