

# GHG Protocol

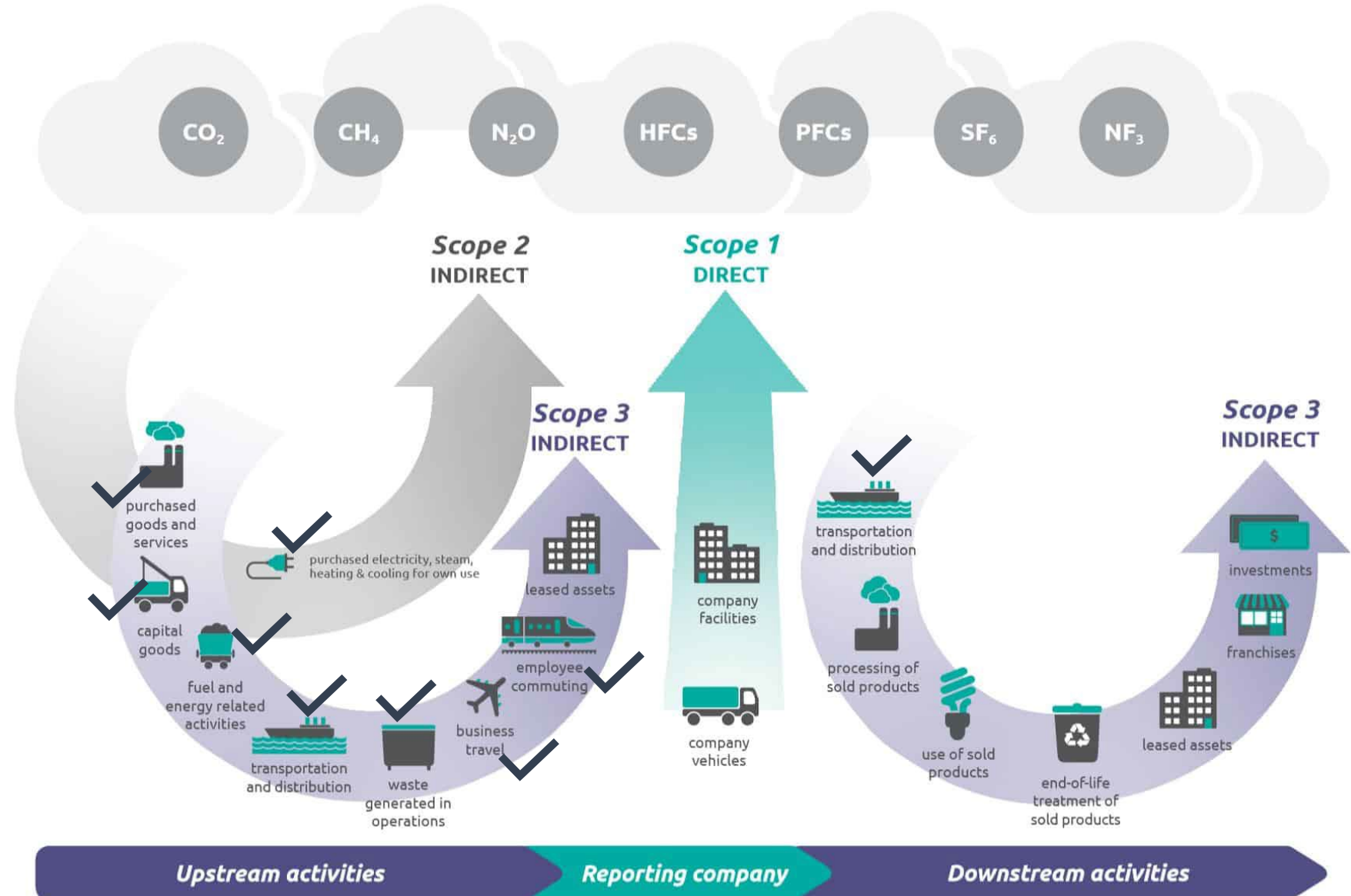
GHG Protocol provides accounting and reporting standards, sector guidance, calculation tools, and training for businesses and government. It establishes a comprehensive, global, standardized framework for measuring and managing emissions.

## Categories of Emissions:

**Scope 1:** Direct emissions of greenhouse gases from the company by for instance burning of oil or gas in own boilers or vehicles.

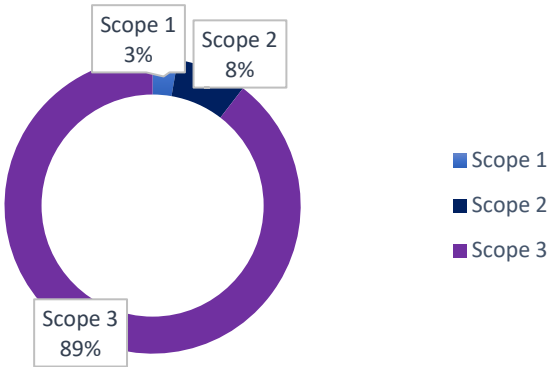
**Scope 2:** Indirect emissions of greenhouse gases from production of purchased energy such as electricity and district heating.

**Scope 3:** Other indirect emissions of greenhouse gases from for instance production of raw material, purchased transportation services, and the employee's commuting to and from work.

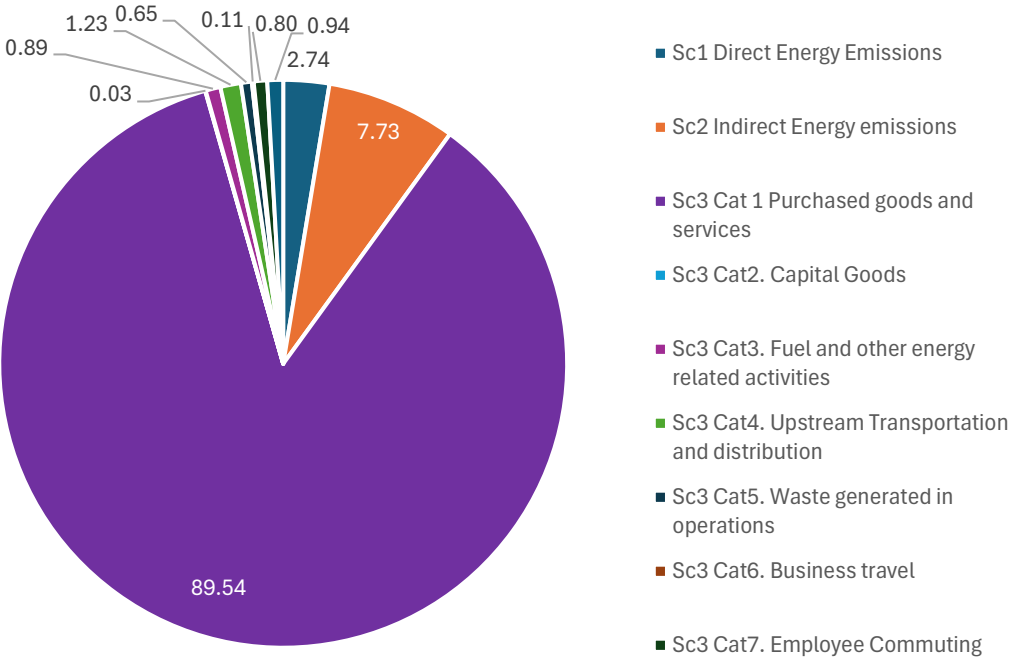


# GHG Emissions 2024

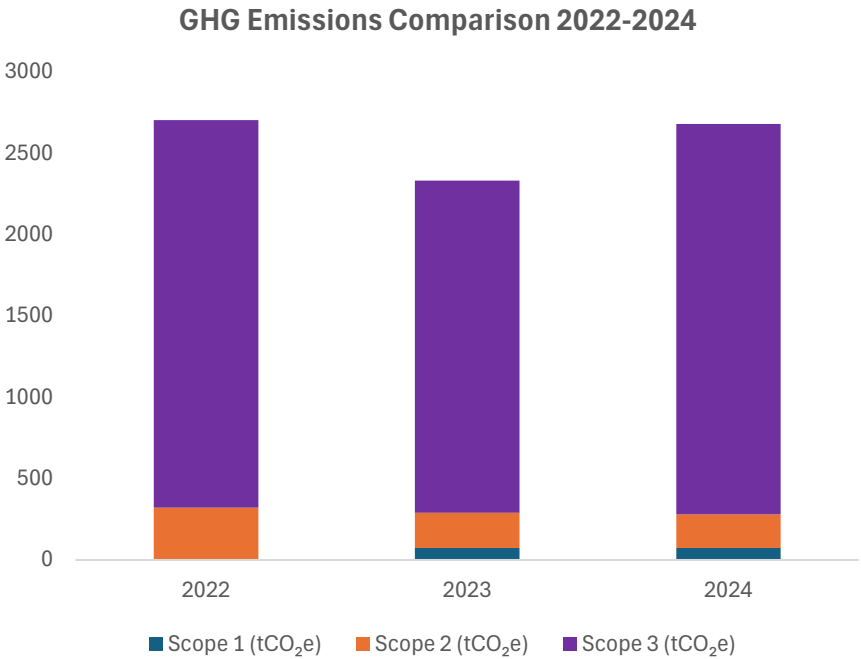
Category	Tonnes of CO <sub>2</sub> eq	% contribution
Scope 1	73.0	2.7%
Scope 2	207	7.7%
Scope 3	2,399	89.5%
Total Emissions	2,680	100%



Category	% contribution in detail
Sc1 Direct Energy Emissions	2.74
Sc2 Indirect Energy emissions	7.73
Sc3 Cat 1 Purchased goods and services	89.54
Sc3 Cat2. Capital Goods	0.03
Sc3 Cat3. Fuel and other energy related activities	0.89
Sc3 Cat4. Upstream Transportation and distribution	1.23
Sc3 Cat5. Waste generated in operations	0.65
Sc3 Cat6. Business travel	0.11
Sc3 Cat7. Employee Commuting	0.80
Sc 3 Cat9. Downstream transportation	0.94



# Overall Comparison over the years (2022-2024)



Metric	Unit	2022	2023	2024
Total emissions	Tonnes	2,702.7	2,332	2,680
Products sold	Tonnes	269.4	309.3	410.4
Number of widgets	EA	2,900,224	1,914,275	3,176,572
Emissions per product	Tonnes CO <sub>2</sub> eq/Tonnes	10.0	10.0	10.0
Emissions per widget	Tonnes CO <sub>2</sub> eq/widget	0.9	0.9	0.9

# Hotspots

Hotspot (Scope & Category)	Emissions Contribution	Comments / Insights
Scope 3, Category 1 - Purchased Goods (Polymers)	~80%	Raw material emissions dominate (mainly plastic resins). Key opportunity: shift to recycled or lower-carbon materials.
Scope 2 - Electricity Consumption	~7–8%	Electricity used in production. Strategy: move to green electricity suppliers, explore onsite renewables (e.g., solar PV).
Scope 1 - Refrigerant Emissions	~3%	Emissions from chillers (R-410A leaks). Regular maintenance and lower-GWP refrigerants can reduce this.
Scope 3, Category 4 - Upstream Transportation	~1–2%	Transport of raw materials to Thormac. Strategy: prioritize local suppliers and optimize shipment sizes.
Scope 3, Category 5 - Waste Generated	~1%	Production scrap and operational waste. Focus: improve waste segregation, recycling, and process efficiency.
Scope 3, Category 7 - Employee Commuting	~1%	Staff commuting emissions. Encourage carpooling, flexible working, or EV charging stations.