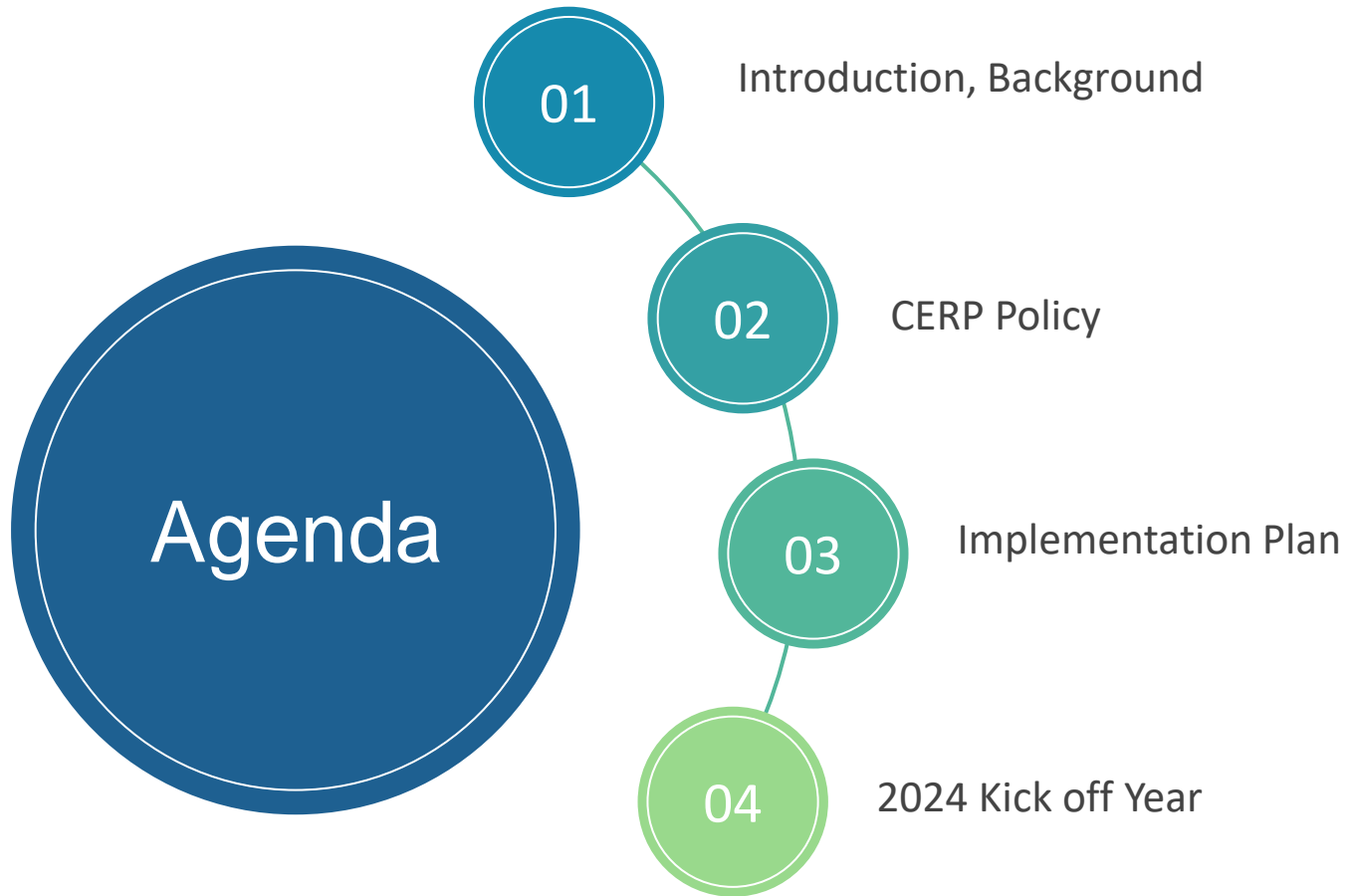


# CERN Environmentally Responsible Procurement CERP

Project Status and next steps





# Introduction - DG VISION since 2016



*"Increasing CERN's visibility through its impact on society"*  
 Environmental and sustainability considerations must be included in all we do *ab initio*



2016  
 First Environment Report 2017-2018

2018  
 Second Environment Report 2019-2020

2021  
 2022  
 Third Environment Report 2021-2022 - Dec 23

ISO 50001 Certification

CERP Policy approved - June 23

Implementation plan - Dec 23

*"CERN should become a role model for environmentally-aware scientific research laboratory"*



# CERN Environment Priority Objectives

More details in <https://hse.cern/environment-report-2021-2022>

## ENERGY

**1215 GWh**

The Laboratory is committed to limiting rises in electricity consumption to 5% up to the end of Run 3 compared to the 2018 baseline year, which corresponds to a maximum target of 1314 GWh, while delivering significantly increased performance of its facilities. It is also committed to increasing energy reuse.

## EMISSIONS

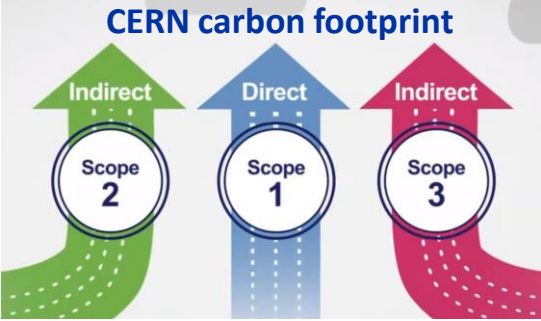
**184 173 tCO<sub>2</sub>e**

CERN's objective is to reduce direct emissions by 28% by the end of Run 3 compared to the 2018 baseline year, which corresponds to a maximum target of 138 300 tCO<sub>2</sub>e.

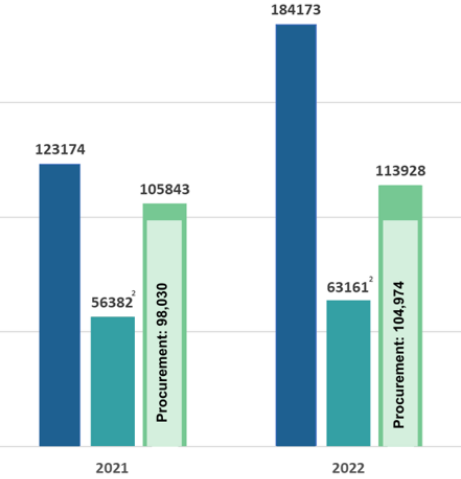
## WATER AND EFFLUENTS

**3234 ML**

The Laboratory is committed to keeping the increase in its water consumption below 5% up to the end of Run 3 compared to the 2018 baseline year, which corresponds to a maximum target of 3651 ML, despite a growing demand for water cooling at the upgraded facilities.



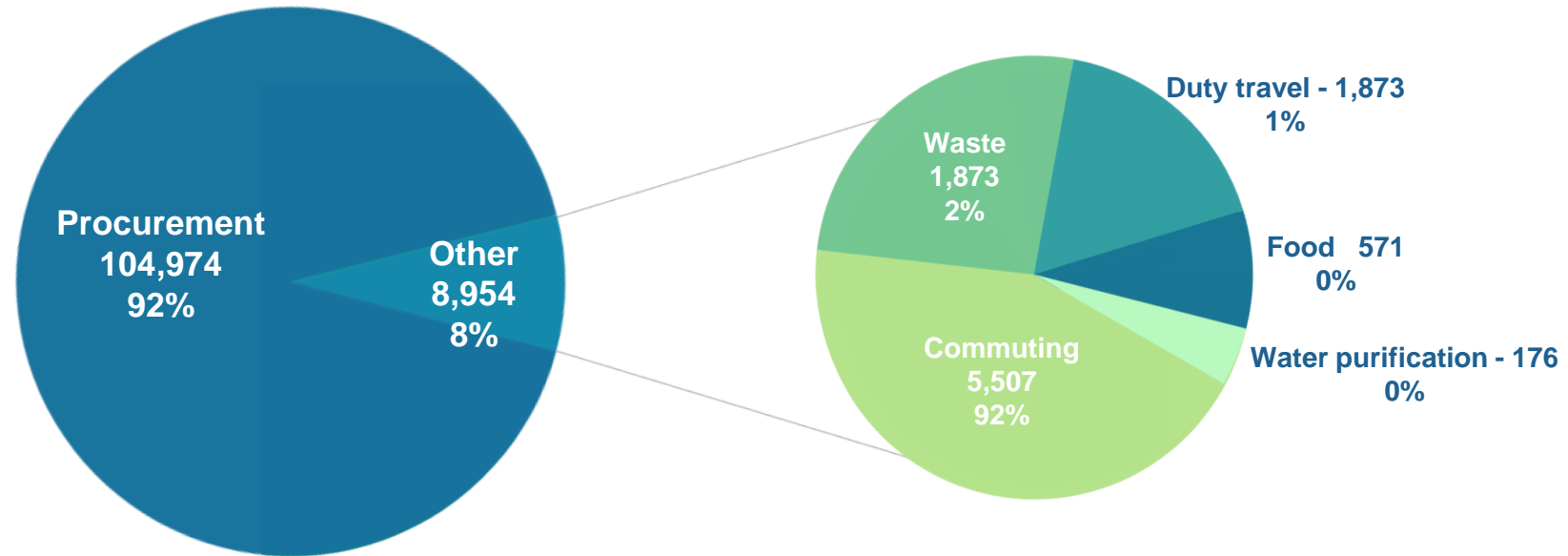
- Report on Scope 3 emissions for the first time
  - Objectives set for scopes 1 and 2 emissions, for now
- Scope 1 (direct): 184 173 tCO<sub>2</sub>e  
 Scope 2 (energy) : 63 161 tCO<sub>2</sub>e  
 Scope 3 (indirect) : 113 928 tCO<sub>2</sub>e



<sup>3</sup> Spend-based Scope3 procurement estimates (Exiobase)

# Scope 3 Emissions :

2022 CERN+TEAMS indirect emissions (SCOPE 3) in tCO<sub>2</sub>e



40% of global emissions are driven from organisations through their purchases.

~35% at CERN

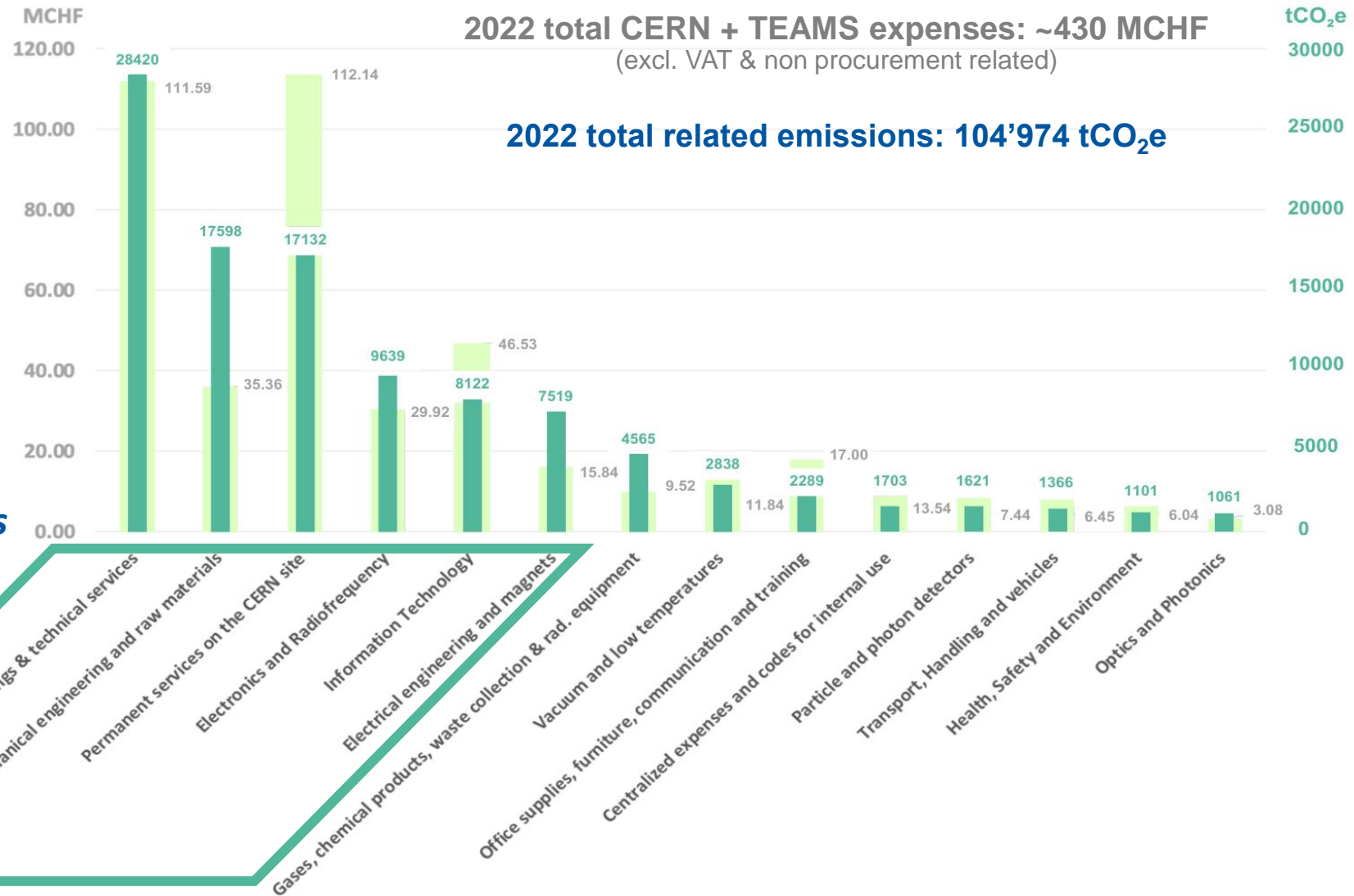
In 2022, > 90% of CERN's indirect (Scope 3) emissions resulted from purchases of goods & services.

40% of CERN's annual funding is spent with its suppliers.

Suppliers' sustainability maturity impacts CERN's ability to be "an environmentally aware scientific laboratory".

# CO<sub>2</sub> emitting procurement families

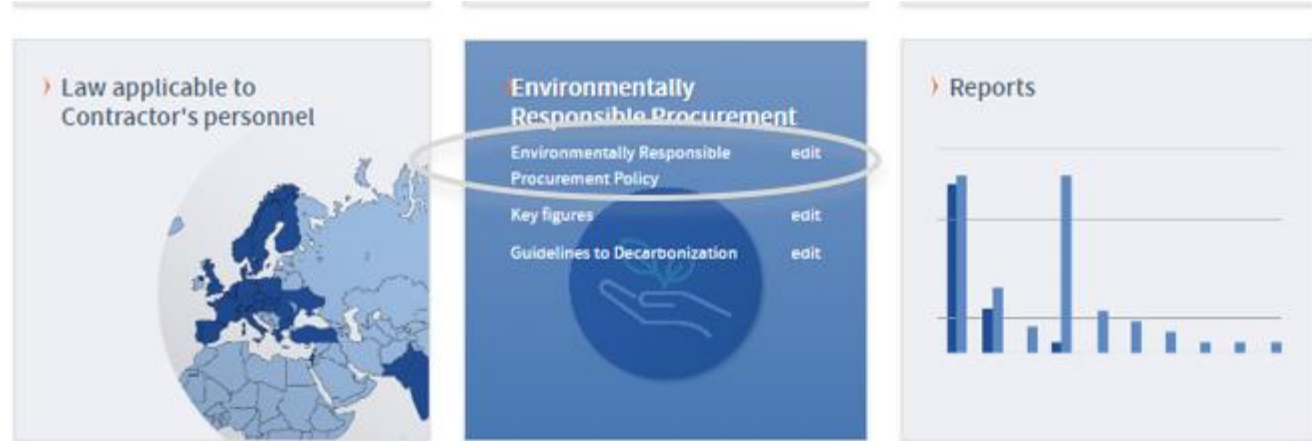
*Top 6 CO<sub>2</sub> emitting Procurement families*



# CERN Environmentally Responsible Procurement Policy (1/3)

CERP Policy available on the Procurement Website

Approved in June 2023 by CERN Extended Directorate



# CERP Policy (2/3)

CERN will embed environmental responsibility **where appropriate** throughout all phases of the procurement process, including at the design phase. [...]

Careful and reasoned attention will be given to the need for the procurement, the specificities of the goods or services being procured, **the choice of the supplier, the terms of procurement and the principle of continuous improvement**. [...]



# CERP Policy (3/3)

The Organization undertakes to:

Integrate environmentally responsible procurement practices into current and future supply chains



Measure the impact of environmentally responsible procurement

Communicate with, and give guidance to, the CERN community on implementing, monitoring and reporting on environmentally responsible procurement;



Demonstrate and share, where appropriate, best practice for environmentally responsible procurement with its Member States and other organisations, particularly other research laboratories. [...]

# In practice

Need for the procurement

**WHY**  
*do I buy?*

Specificities of the goods/services procured

**WHAT**  
*do I buy?*

Choice of the supplier

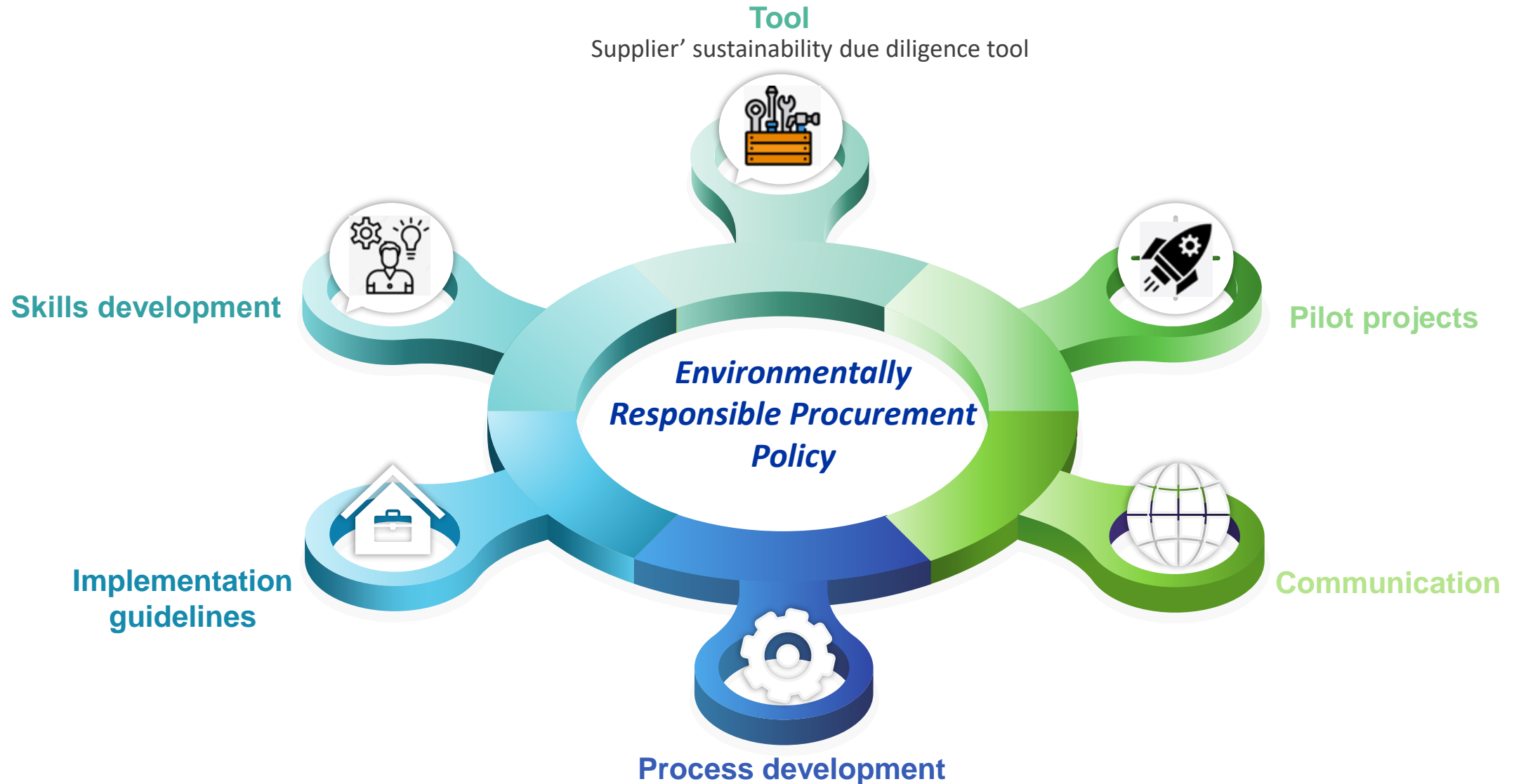
**WHOM**  
*I buy from?*

Terms of procurement

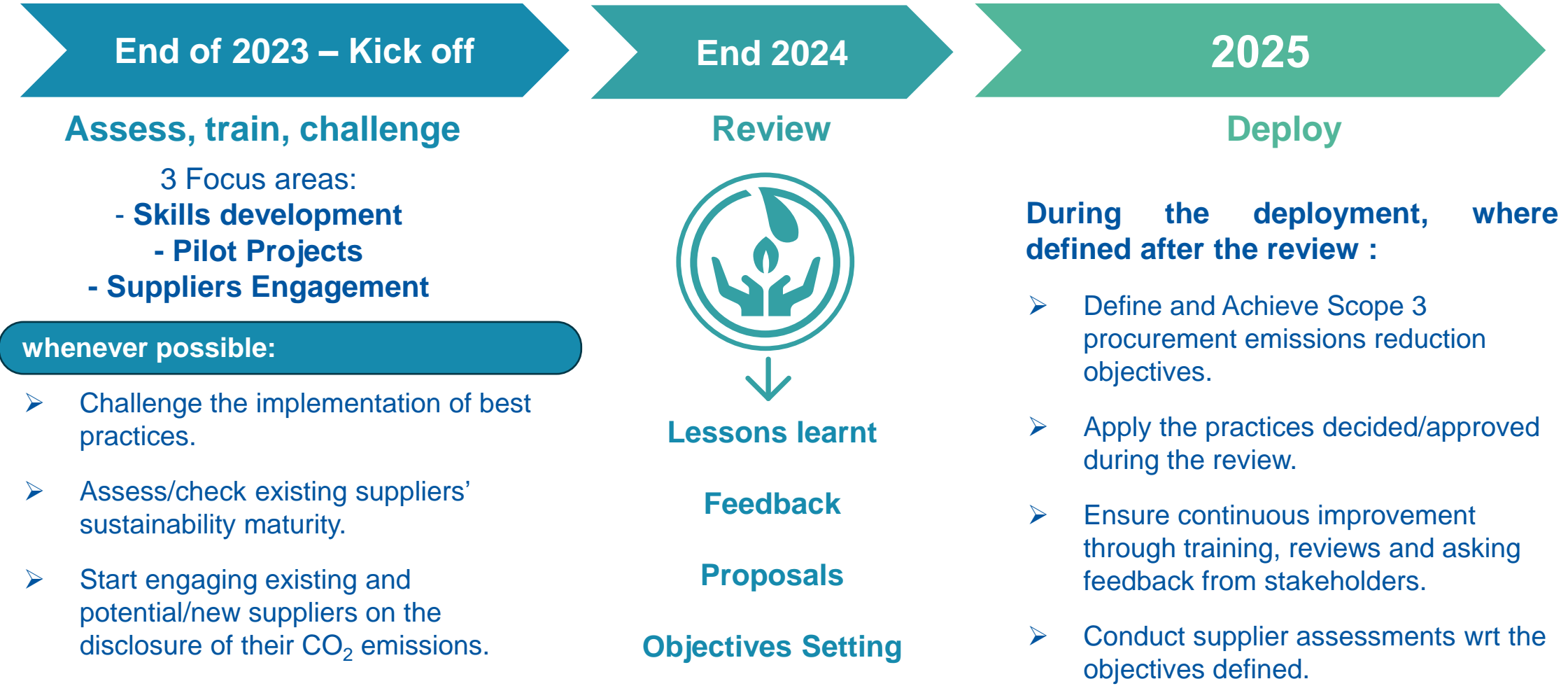
**HOW**  
*do I buy?*



# CERP Policy - Implementation Plan



# CERP implementation - A phased approach



# CERP Policy implementation – Process

At earliest possible stage of Procurement Process:

Challenging procurement strategy (Startup meeting)

Challenging the implementation of environment criteria

Decision: Yes / No

Request for information at MS stage

Case by case or  
Systematic ?

- If it does not significantly limit competition OR impact the balanced industrial return OR price, then mandatory/desirable environment criteria should be included in MS for prequalification and in the technical specification at tender stage or included in adjudication basis
- Contract performance : SLA, energy monitoring (ISO50001 compliance), CO2 emissions disclosure improvements etc...

Collect Data /share lessons learnt eventually update/develop objectives and guidelines.

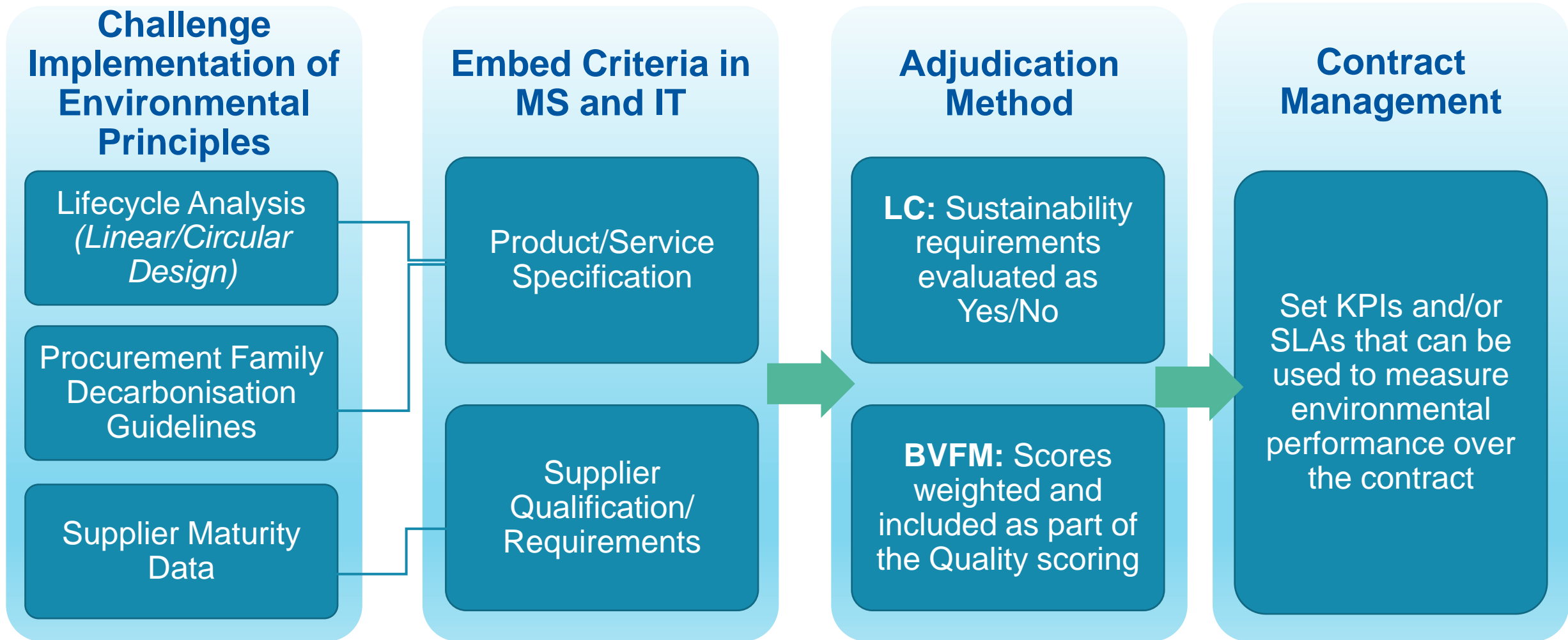
- MS & IT
- Adjudication
- Contract follow up

Market maturity  
Best practices & guidelines  
TCO analysis

Minimum level of action

Replies from suppliers are mandatory/collected/reported

# Approach adopted in Pilot Projects



Involvement of IPT-PI at each step of the procurement process to facilitate the implementation of the Policy in close collaboration with the Departments' Technical Officers

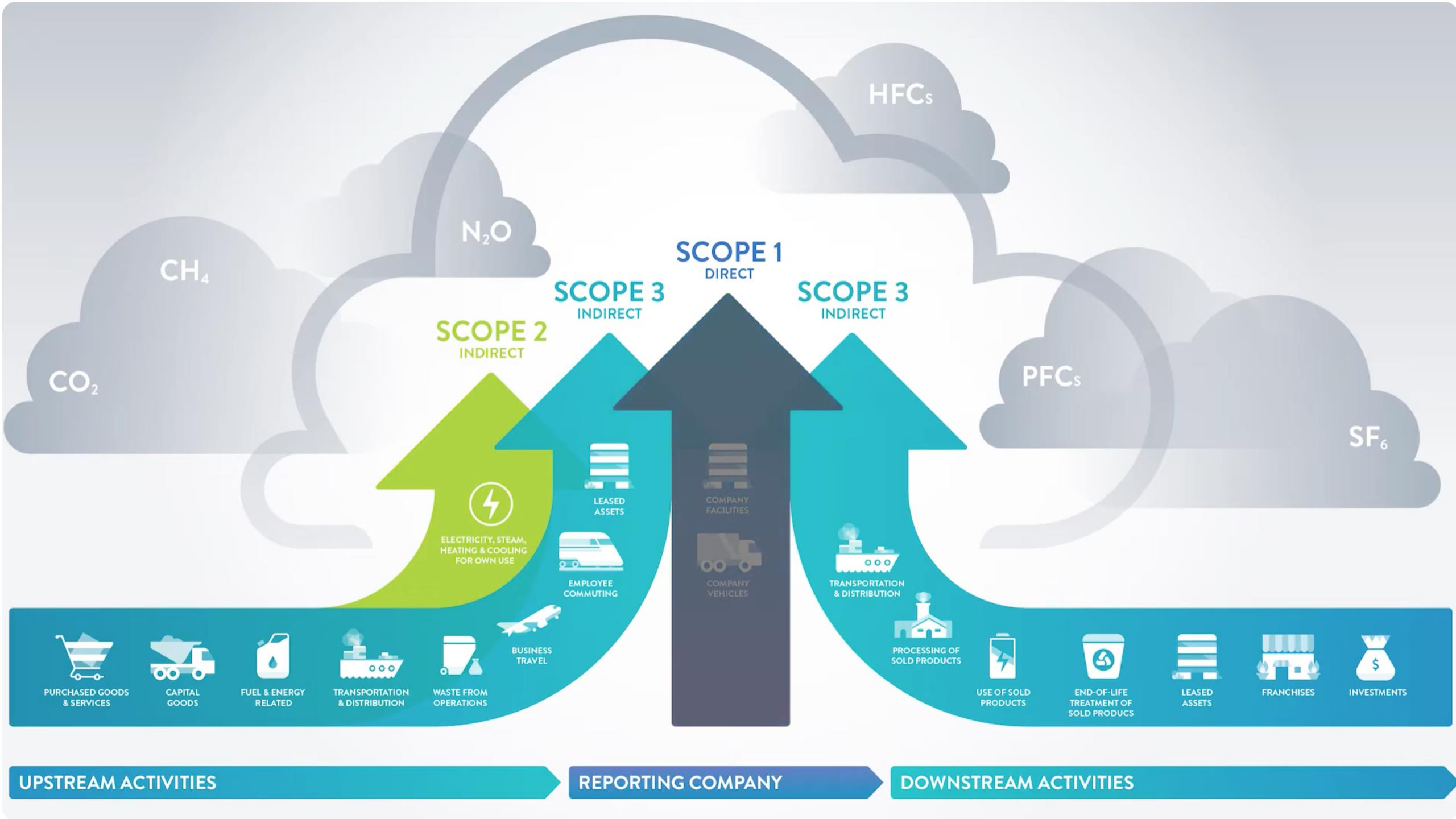
# Examples Pilot Projects

Type of contract	Description	Cost range (CHF)	Status	Next step	PF	Status
Civil engineering	Construction of new Bg 777	>10M	Market Survey	200k - 750k	1	Design, MS-IT prpreparation for construction
Supply	Supply of steel bars 316LN-MS-4954	200k - 750k	Market Survey	Market Survey	5	Market Survey document updated with questions around sustainability for information.
Supply	Provision and support of public cloud services	750k - 5M	Market Survey	MS closed 31.01.2024	4	Input provided on : <ul style="list-style-type: none"> <li>- key environmental impacts of Cloud Computing Services</li> <li>- mitigation actions suppliers can take to reduce these</li> <li>- questions that CERN can include in an Invitation to Tender to compare supplier bids</li> <li>- evaluation criteria that could be used to evaluate the responses to these questions given that BVFM adjudication is being applied</li> </ul>
Civil engineering	Supply of the roof renovation work of building 167 on the Swiss part of CERN	200k - 750k	Announcement	Invitation to Tender 06/2024	1	Environmentally responsible roof insulation was discussed during the Procurement Family 1 decarbonization strategy meetings so some ideas could be applied to this procurement. Our influence may be limited if these suppliers have already been qualified in a pervious Market Survey
Services	Provision of services for the transport of persons for CERN-MS4950	750k - 5M	Announcement	Market Survey 03/2024	11	Interest in embedding environmental responsibility into this procurement. After discussion adjudication moved to BVFM instead of Lowest bid.
Supply	Supply of UPS from 20 to 200 kVA	200k - 750k	Announcement	Market Survey 02/2024	2	Environmentally responsible procurement of UPS systems was discussed during the Procurement Family 2 decarbonization strategy meetings so some ideas could be applied to this procurement.
Supply	Supply of Inspection Systems for the LHC Beam Screen - IT4866	200k - 750k	Invitation to Tender	Invitation to Tender	5	Suppliers maturity assessed (1st round). Weighting criteria proposed for a BVFM adjudication on sustainability and environmental impact proposed. It has been also suggested a criteria on Total Cost of Ownership.
Supply	Supply of Servers and Storage for Physics Data Processing, Acquisition and Control systems	750k - 5M	Market Survey	Market Survey	4	Market Survey document updated with questions around sustainability for information.

# Conclusion:







UPSTREAM ACTIVITIES

REPORTING COMPANY

DOWNSTREAM ACTIVITIES

# What are Scope 1, 2 and 3 emissions?

[Full video: ESG Base](#)

