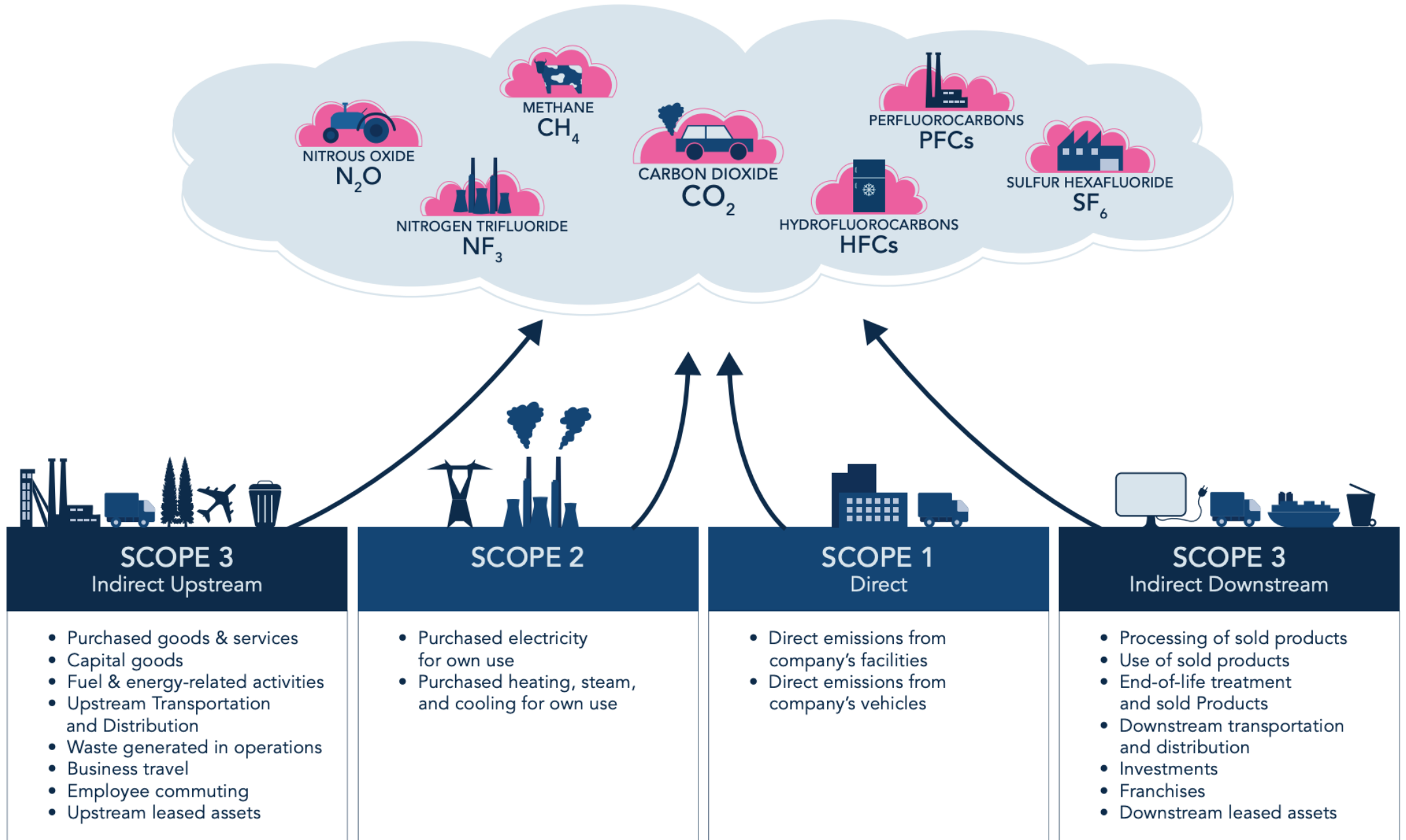




Sustainability into Pre-Procurement and Procurement: CERN's Recent Journey

Enrico Cennini - CERN/IPT-PI-SE



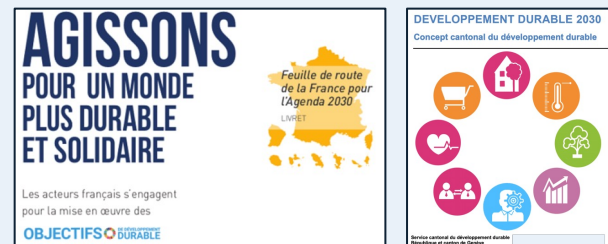


Graphic by Embedding Project (Adapted from GHG Protocol)

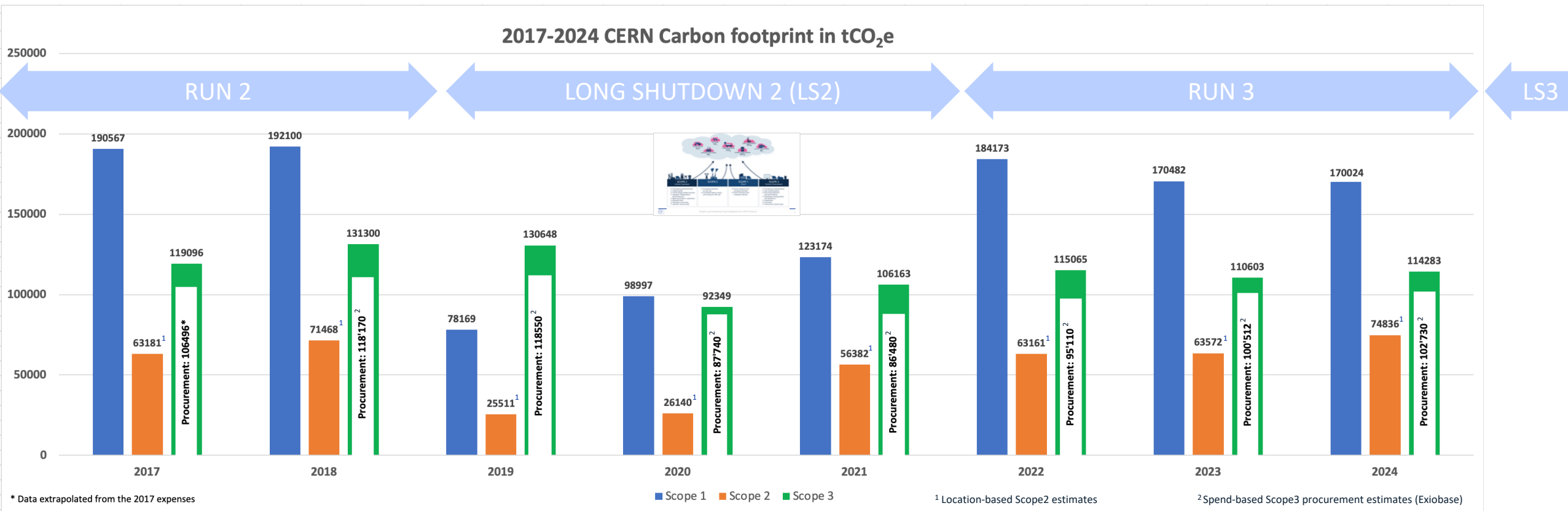
Sustainability in Europe

- United Nations - 2030 Agenda for Sustainable Development.
- « ... *Building a climate-neutral, green, fair and social Europe – Green Deal ...* »
- UN Sustainable Development Goals.
- EU Directives:
 - CSRD (Corporate Sustainability Reporting Directive) - Reporting
 - CS3D (Corporate Sust. Due Diligence Directive) - Supply Chain Due Diligence
- EU Framework : ESPR (Ecodesign for Sustainable Products Regulation).
- 2030 Agendas in EU in favor of Sustainable Development.

« ... *to reconcile the economy with the way we consume our planet ...* »



CERN Procurement impact on Emissions, Compliance, and Risk Management



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



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



35% (RUN) up to 50% (LS) of CERN's annual carbon footprint is driven by procurement.

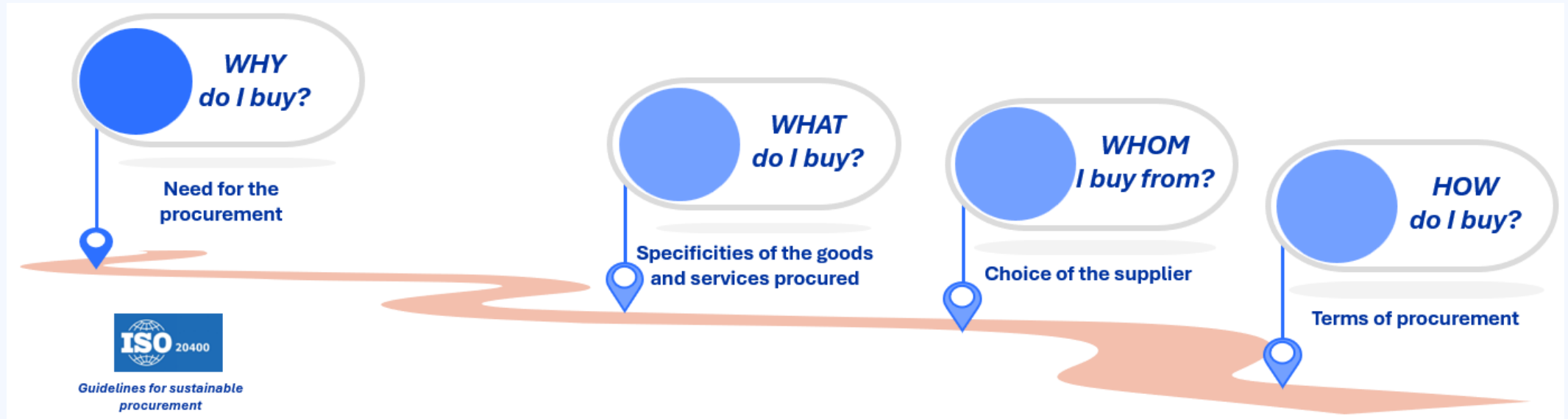


- Increasing Rules/Regulations on Sustainability.
- Alignment with CERN sustainability goals.
- CERN decision to report (GRI standards)



- Mitigate risks of environmental impacts.
- Partnership with strategic suppliers to prevent/mitigate supply chain risks.
- Enhance responsibility across the supply chain.

Embedding Sustainability into Pre-Procurement and Procurement Process



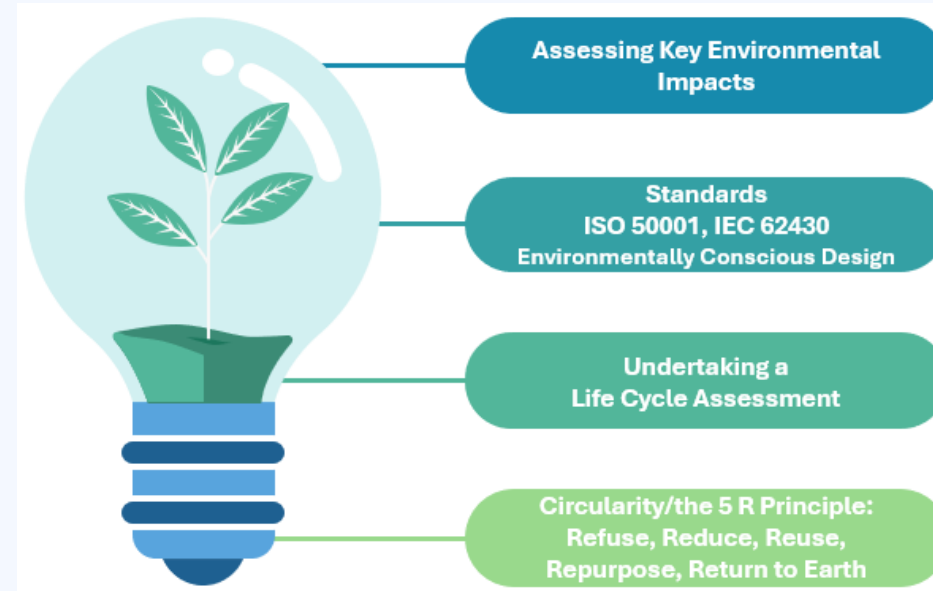
Pre-Procurement phase

Most impactful time to embed sustainability

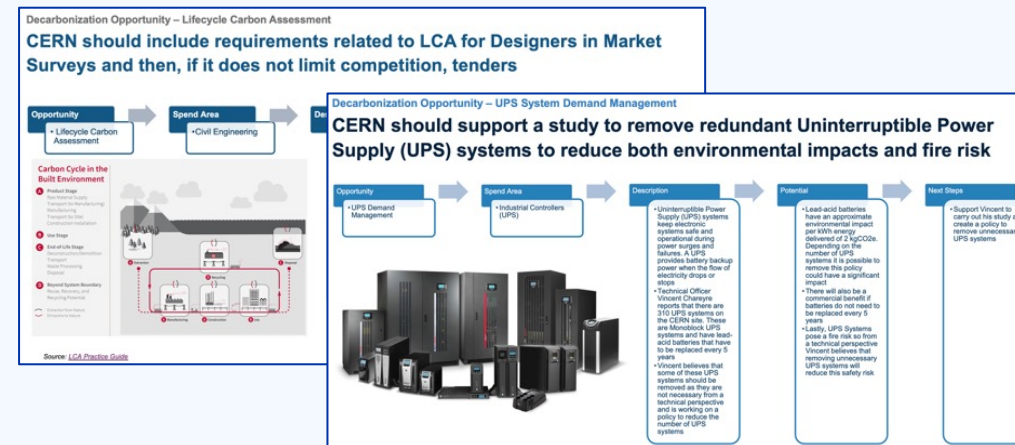
Procurement Process

Set mandatory/desirable sustainability criteria (risk mitigation)

- Assessments (Need & Lifecycle)
Challenge, Perform!
Start with environment!



- Guidelines
Check best practices!

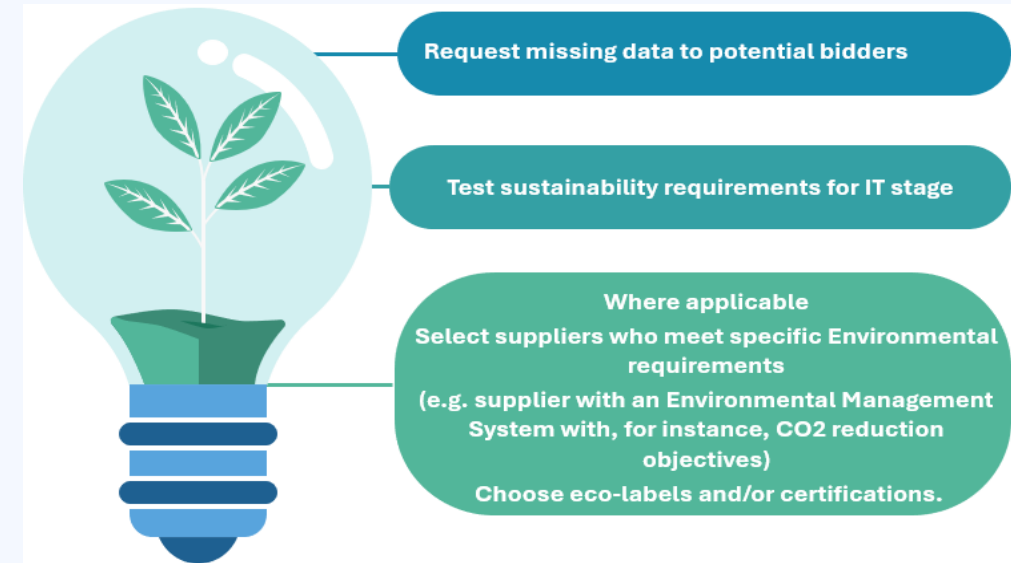


- **Investigate**

- *Collect information, analyse supplier sustainability maturity.*
- *Evaluate suppliers based on their sustainability performance.*

- **Communicate**

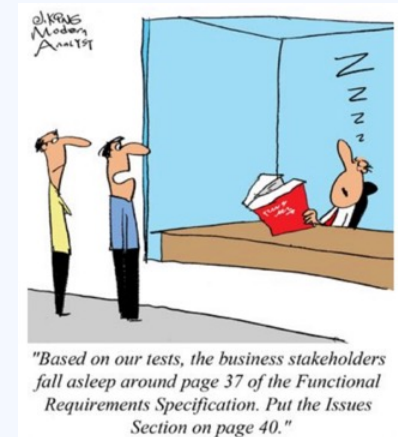
- *Communicate Corporate Sustainability mission and goals.*
- *Engage supplier to discuss Sustainability expectations and capabilities.*



- **Influence specifications**

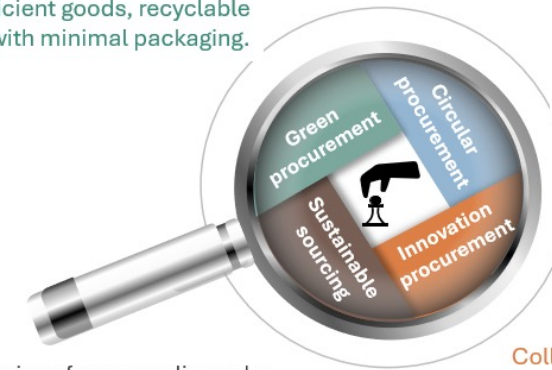
- *Include mandatory or desirable sustainability requirements.*
- *Include measurable sustainability requirements.*

Example: Supplier shall take back all packaging, delivery outside peak hours, delivery in bulk quantities...



- **Set Sustainability Strategy**
Set Targets!

Purchasing products that have a reduced environmental impact throughout their lifecycle such as energy-efficient goods, recyclable materials, or products with minimal packaging.



Procuring goods/services from suppliers who demonstrate environmental responsible practices such as reducing carbon emissions, etc.

Selecting suppliers who offer products/services designed for reuse, refurbishment, or recycling thus emphasizing the entire lifecycle of the product and its potential for reuse.

Collaborating with strategic suppliers on innovative solutions such as new technologies, materials, or processes that meet CERN's environmental objectives.

- **Total Cost of Ownership**
Consider!

Example: For energy at CERN, all costs such as maintenance, repairs, and disposal are taken into consideration in the adjudication price (ISO 50001 certification).



- **Evaluation of Suppliers and adjudication**

- *Lowest Compliant (LC): Environmental aspects are evaluated separately.*
- *Best Value for Money (BVFM): Bidders' proposal assessed, scored, and weighted as part of the quality criteria.*

**Lowest
Compliant**

→ **Yes/No assessment** and lowest compliant bidder wins.

**Best Value
For Money**

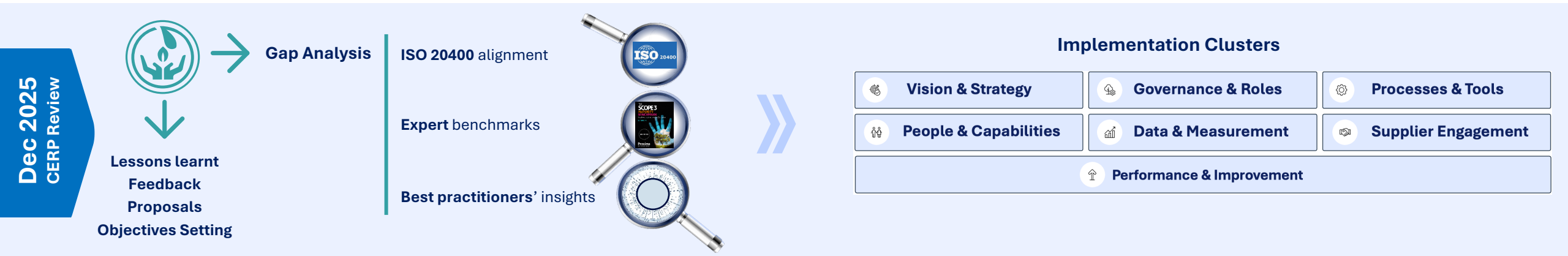
→ **Quality Score + Price Score, Weighting.**

- **Contract Management**

- *Monitor the supplier's adherence to sustainability clauses of the contract.*
- *Collaborate with suppliers for continuous improvement/new opportunities (e.g. innovation).*

Set KPIs and/or SLAs that can be used to measure sustainability performance over the contract

CERN journey from Environmentally Responsible Procurement to Sustainable Procurement



CERN Supplier Engagement - Survey

Scope and data collected

WHY

Identify **maturity** of suppliers on **sustainability level**
Identify to what degree suppliers are **willing to collaborate**

WHO

Sent to **300+ suppliers** from **all** procurement code families

WHAT

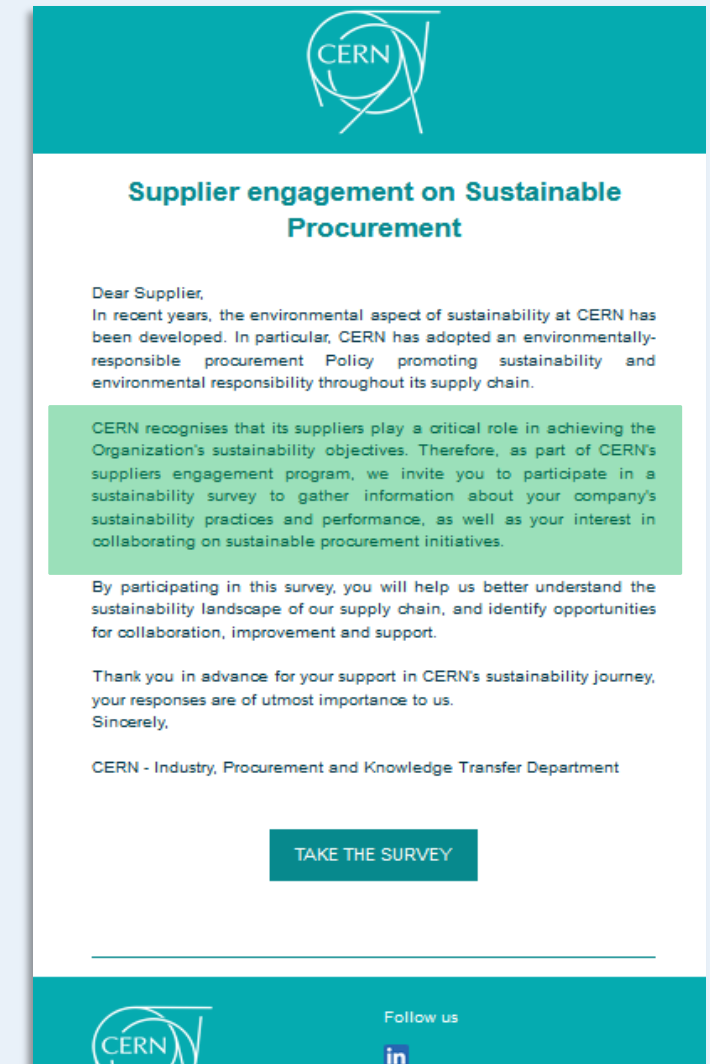
Questionnaire with **targeted** sustainability questions

HOW

Weekly automated emailing through **SpotlerMail+**

Response Rate

87 out of 267 suppliers among 9 procurement code families = 32.5%

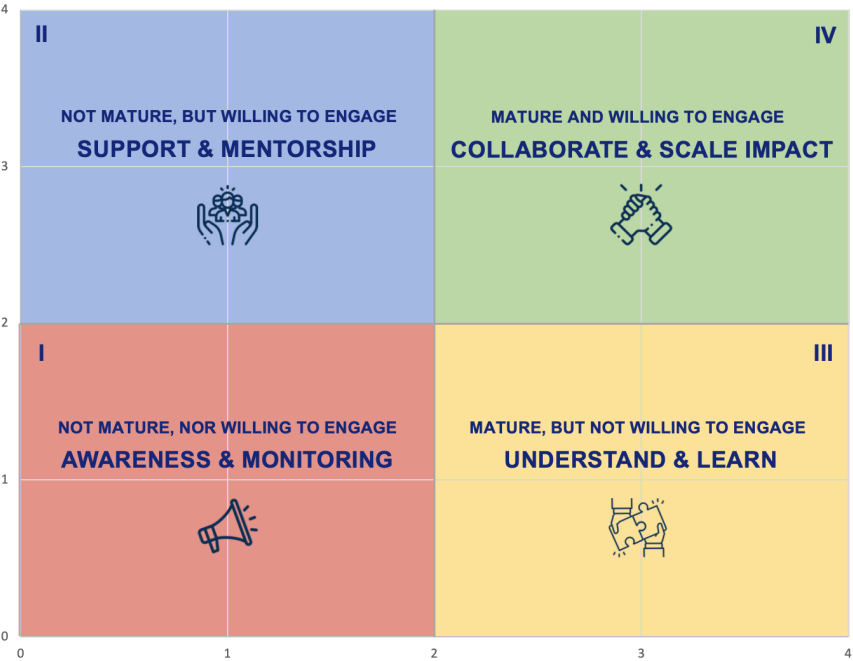


CERN Supplier Engagement - Methodology

Questions were asked to **suppliers** to **assess** and **score** their level of:

Sustainability Maturity		Weight on score	Engagement Willingness		Weight on score
	Does your company currently have a sustainability/environmental policy or program in place ?	10%		Would you be interested in collaborating with CERN to calculate these emissions?	50%
	Does your company hold any certifications related to environmental or sustainability practices?	10%			
	Does your company have initiatives in place to encourage sustainability/environmental practices across its supply chain ?	15%		Would your company be open to setting targets for reducing the carbon footprint of its supplies or services provided to CERN?	20%
	Does your company measure its carbon footprint ?	20%			
	Does your company publish a report on its carbon footprint ?	15%			
	Is your firm able to provide data on CO2 emissions specifically related to services or products provided to CERN contracts?	10%		Length of relationship with CERN in years	15%
	Has your company defined specific sustainability/environmental goals for the next 5 years ?	20%		Yearly average contract amount in the last 3 years	15%

CERN Supplier Engagement - Action Plan



Matrix key	I	Supplier not mature, nor willing to engage
	II	Supplier not mature, but willing to engage
	III	Supplier mature, but not willing to engage
	IV	Supplier mature and willing to engage



To develop **ad hoc engagement action plans** for suppliers per quadrant.

Notes	Actions
Supplier sustainability category: Quadrant IV - <i>mature</i> and <i>willing</i> - BUSINESS CASE MATERIAL • Not able to provide CO2e activity-based data. At another level. • Carbon neutral business for Scope 1, 2 and element of Scope 3 → report on their CO2 emissions publicly. Offsetting. • Extremely strong compliance and due diligence processes on both the environmental and social impact. They audit, they go on site and are very selective about their mills across the globes. • Great knowledge and awareness on sustainability governance, policies and stakeholders' expectations and related risks	☒ CO2e emissions/contract requested ☐ Send invitation to the Supplier Workshop. ☐ Send Data Request through Responsibly to update info
Supplier sustainability category: Quadrant II - <i>not mature, but willing</i> • 3 persons company. • Comply to many sustainability Norwegian regulations, especially on metal waste and energy. • Renewable energy supplied company (hydropower) • Not able to provide CO2e activity-based data.	☒ CO2e emissions/contract requested ☐ Send invitation to the Supplier Workshop. ☒ Send training material and CO2e calculator. ☒ 2024 CO2e received on 15 Aug 2025 - link

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Key takeaways

01

Why an Environmentally Responsible Procurement Policy?

- ✓ **Procurement impact:** 35% (RUN) up to 50% (LS) of CERN's annual carbon footprint is driven by procurement.
- ✓ **Prevent/mitigate** supply chain risks.
- ✓ **Stakeholder expectations:** CERN wants to align with internal sustainability objectives and global best practices (e.g. ISO 20400, GRI, SDG reporting).

02

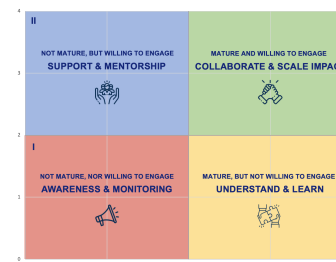
Embedding Sustainability

- ✓ **Ideally** at the need definition and design phases.
- ✓ **Set mandatory/desirable sustainability criteria** throughout the procurement process.
- ✓ **Engage suppliers on sustainability** to learn/spread value in the Supply Chain.

03

Supplier Engagement - Who's ready and who needs help?

- ✓ **Tailor** engagement per quadrant.
- ✓ **Use** surveys, audits, training, and pilot collaboration.



04

The CERP Policy Project becomes the CERN Sustainable Procurement (CSP) Project.

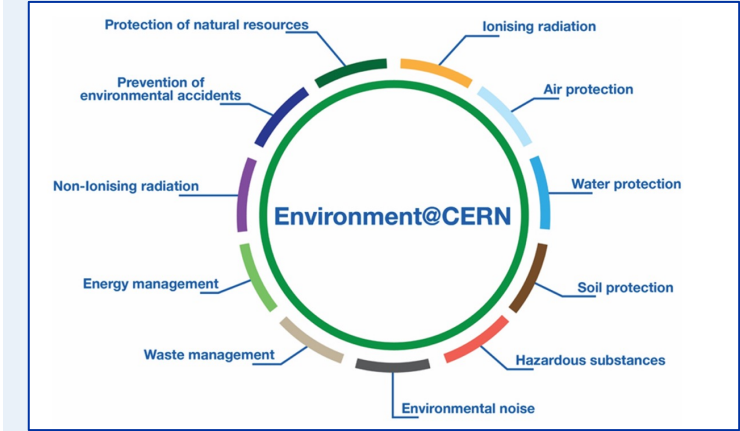
- ✓ **Deployment and scaling** in all Departments.
- ✓ **Setting targets and KPIs** supported by **dashboards**.
- ✓ **Launch** new supplier engagement rounds.



Thank you!

Questions?

Sustainability at CERN



Education is one of CERN's core missions



Diversity is a core value for CERN



CERN is a model for collaboration



Technologies for health care



CERN Knowledge Transfer



CERN Energy management



CERN Environment Protection



Beam Line for Schools Competition



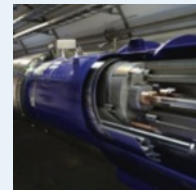
25BY'25 Diversity and Inclusion Initiative



Synchrotron Light Source (SESAME) in Jordan



Cancer therapy



Magnet in the LHC Tunnel



Heating local housing

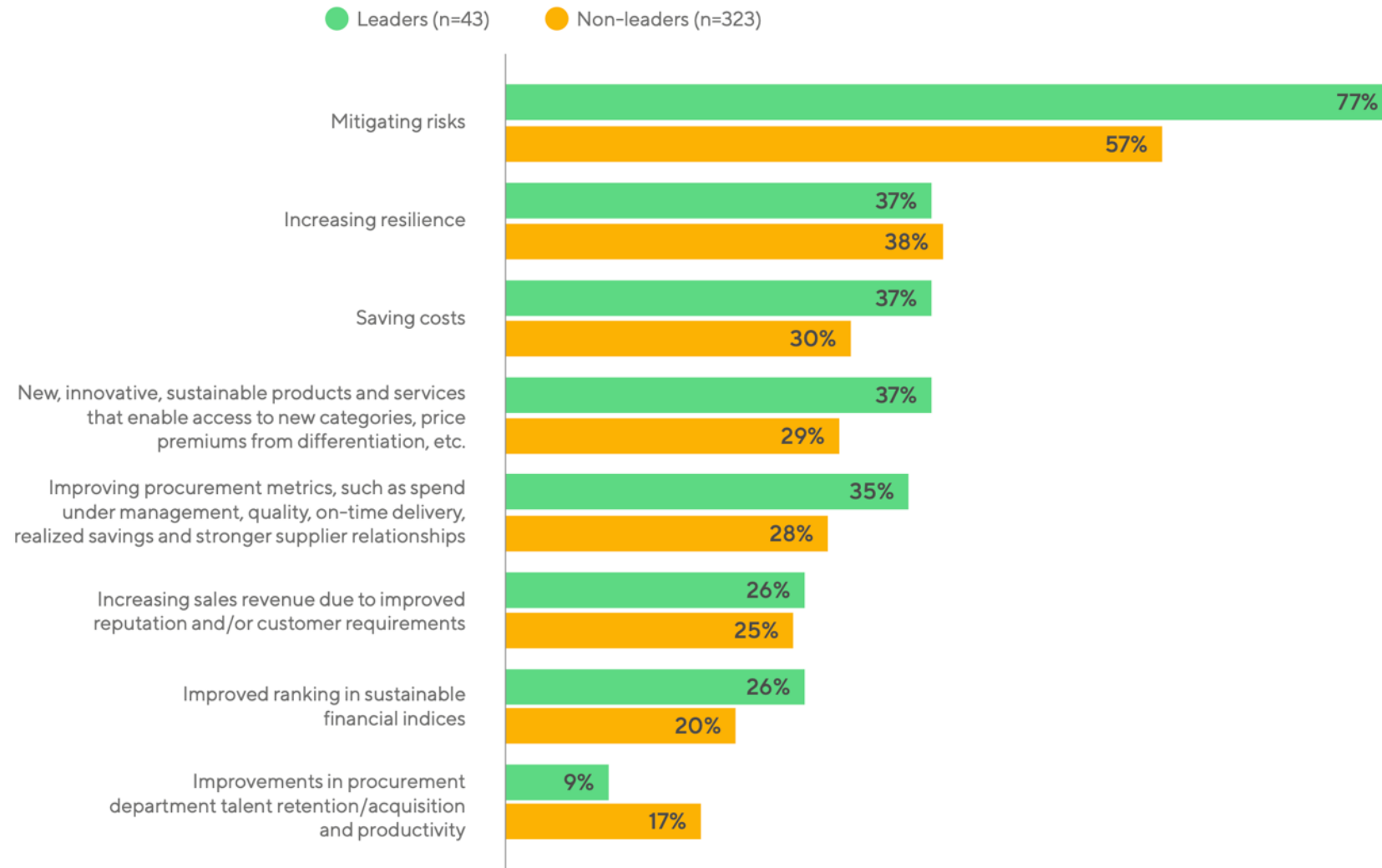


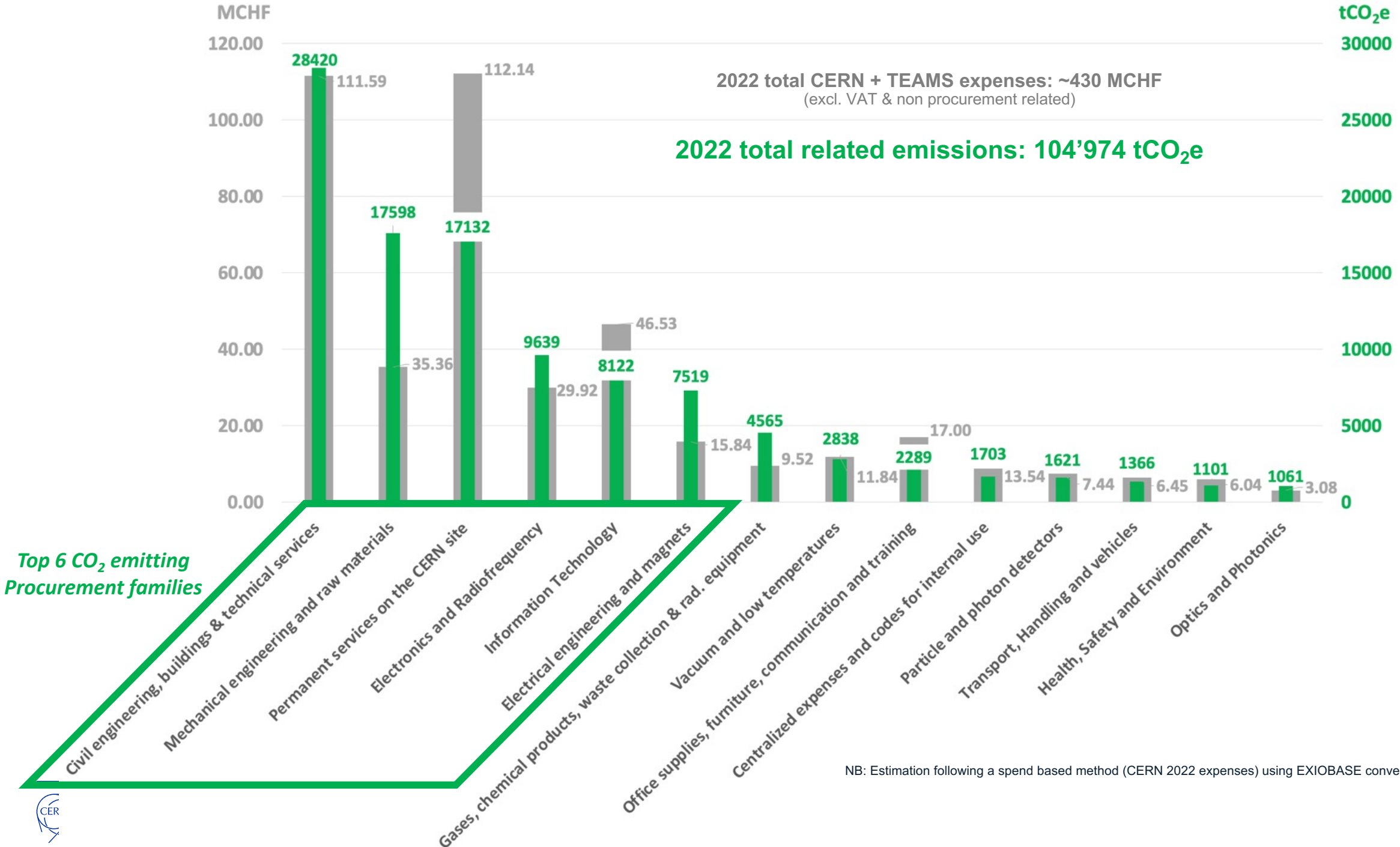
Reports (GRI Standard)

Benefits of Sustainable Procurement

“Sustainable Procurement Barometer 2024,” EcoVadis and Accenture, February 2024. Based on data collected from nearly 600 buyers and more than 1,000 suppliers, worldwide.

What benefits has your organization derived from its sustainable procurement program? (n=366)





Location-based vs. Market-based Scope 2 estimation

These are two different methods of calculating carbon emissions associated with electricity consumption.

Location-based Scope 2 estimates are based on the average emissions intensity of the electricity grid in a particular location.

- It considers the emissions from all electricity sources in that location, regardless of the contractual agreements or specific electricity purchases made by the consumer.
- This method assumes that consumers are using the average mix of electricity sources in their region.
- Location-based estimates may not accurately reflect the emissions impact of consumers who have made efforts to support renewable energy.

Market-based Scope 2 estimates consider the specific contractual agreements and electricity purchases made by the consumer.

- It considers the emissions associated with specific renewable energy certificates (RECs) or power purchase agreements (PPAs) that the consumer has invested in.
- This method allows consumers to track the emissions associated with their own electricity choices and helps support the development of renewable energy projects.
- Market-based estimates are more conservative because they provide a more accurate reflection of the emissions impact of individual consumers.

In summary:

- **Location-based estimates provide a general overview of the emissions intensity of the electricity grid in a specific location, while market-based estimates reflect the specific choices and investments of the consumer.**
- **Market-based estimates can give consumers more accurate information about their own emissions impact and allow them to support renewable energy projects directly.**