

Towards the decarbonisation plan of Politecnico di Torino

Action plan for the achievement of
PoliTO Campus sustainability goals

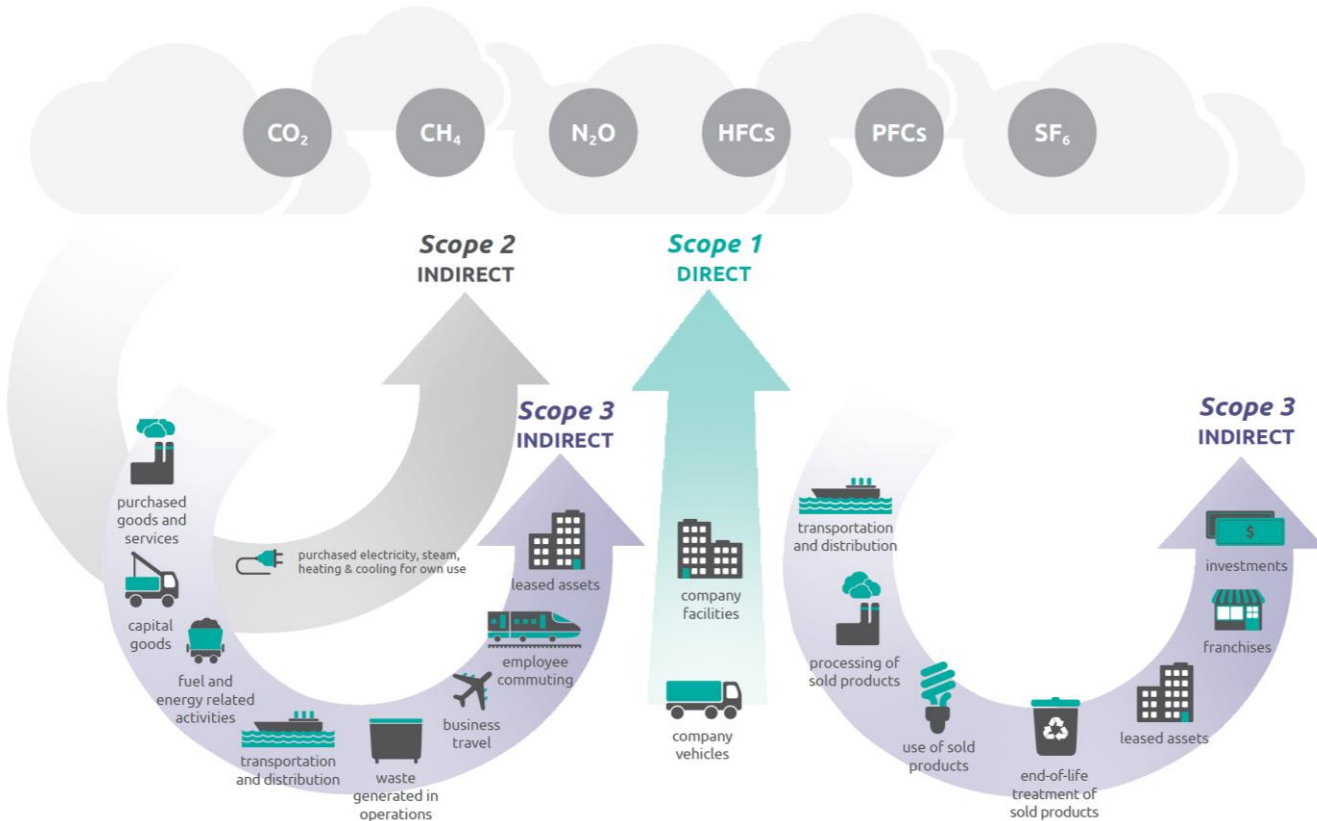
Last update: October 2023



**Politecnico
di Torino**

GHG emissions quantification

GHG protocol and action fields



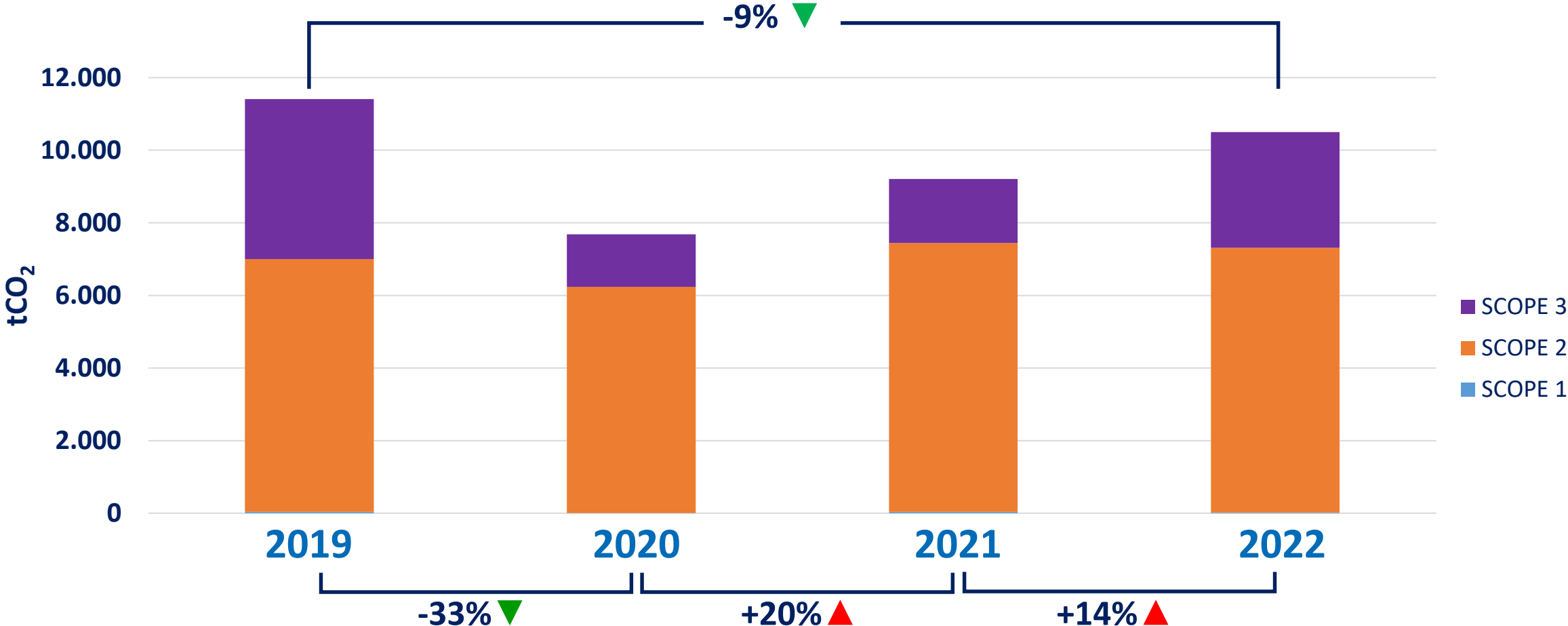
* Figure from <https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance>

The “**GHG Protocol Corporate Accounting and Reporting Standard (2004)**” protocol (<https://ghgprotocol.org/corporate-standard>) establishes a standardised methodology to quantify GHG emissions.

An organization's carbon footprint has three components (scopes), in particular:

- **Scope 1** > direct GHG emissions that occur from sources that are controlled/owned by an organization;
- **Scope 2** > indirect GHG emissions emissions associated with the purchase of electricity, steam, heat, or cooling;
- **Scope 3** > emissions are the result of activities from assets not owned/controlled by the organization, but that it indirectly affects in its value chain.

GHG emissions: from 2019 to 2022



11.408 tCO₂

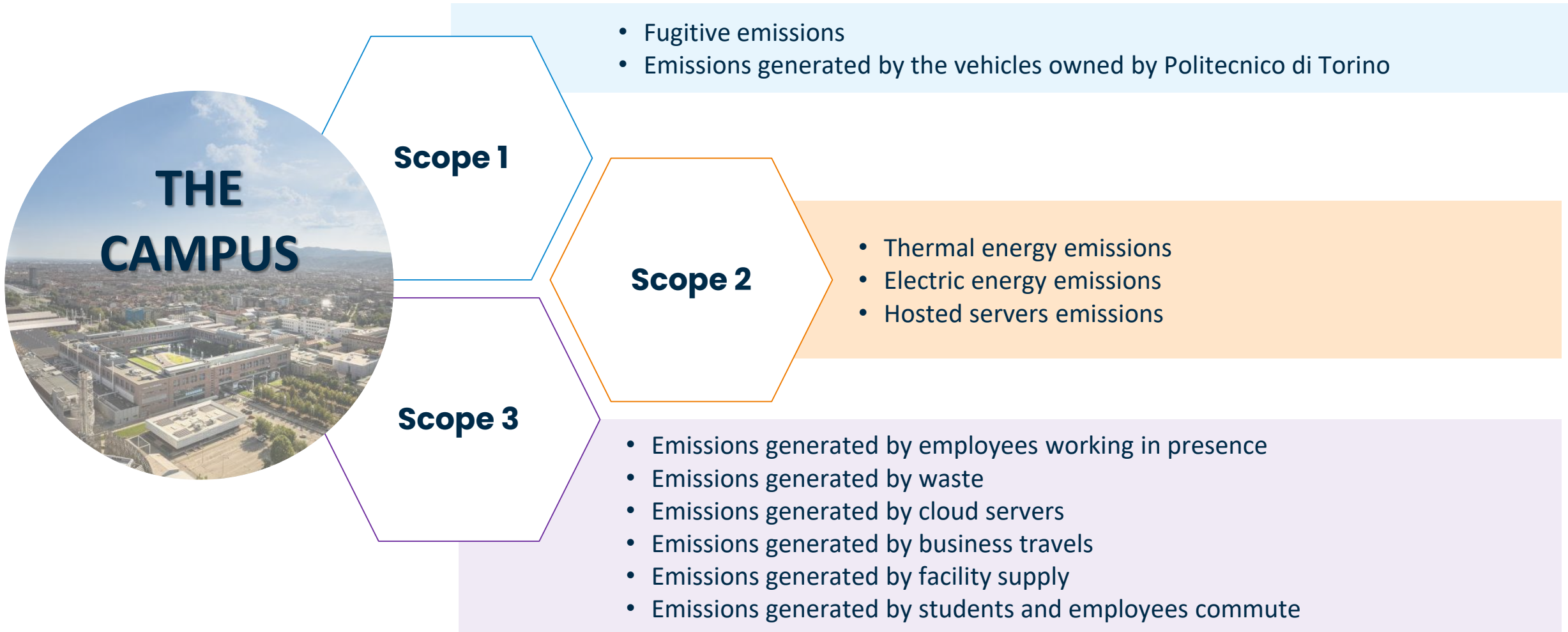
7.685 tCO₂

9.210 tCO₂

10.500 tCO₂

Towards decarbonisation: action framework

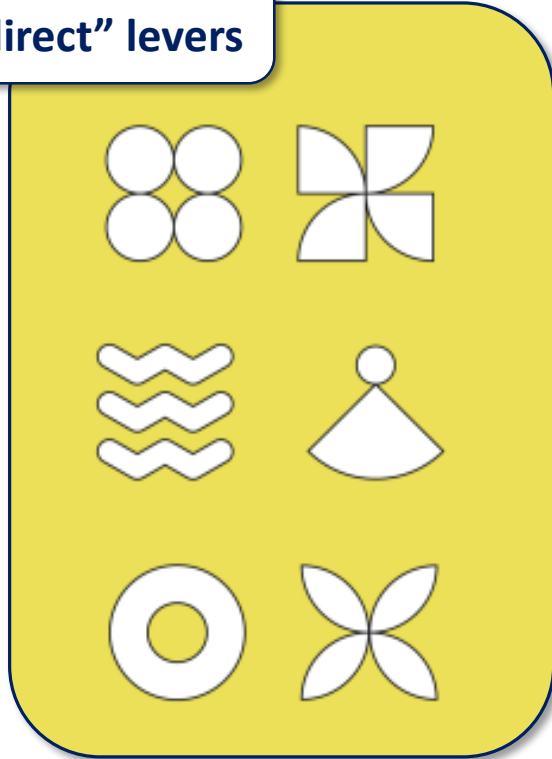
The action framework started at Politecnico di Torino is in line with the GHG protocol:



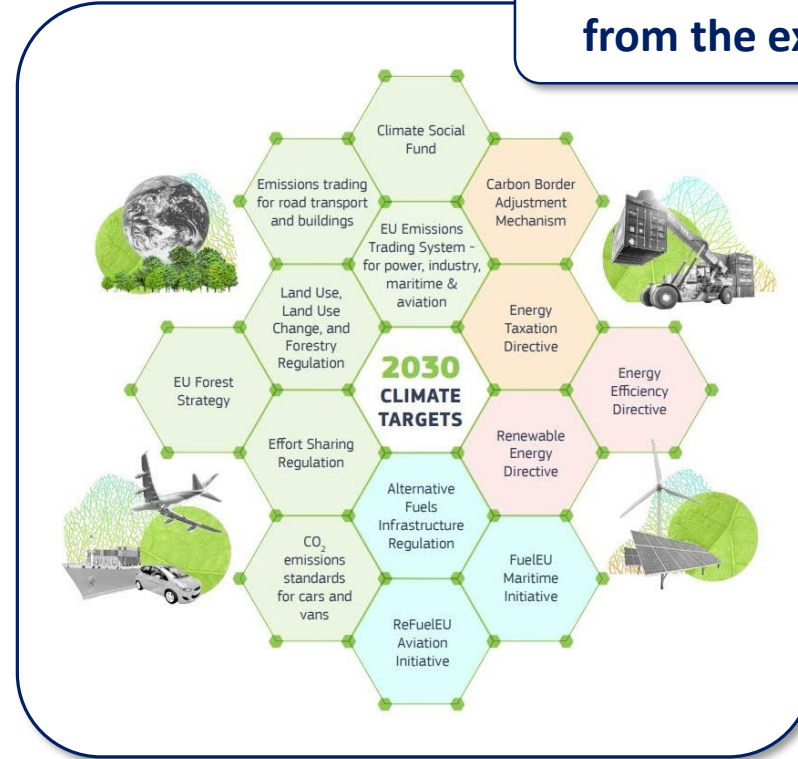
Priority focus and levers available

The **reduction of GHG emissions** is a consequence of actions carried out **both by the University** (i.e., “direct levers”) and **by the external context** (system choices).

Areas of intervention on which the University has “direct” levers

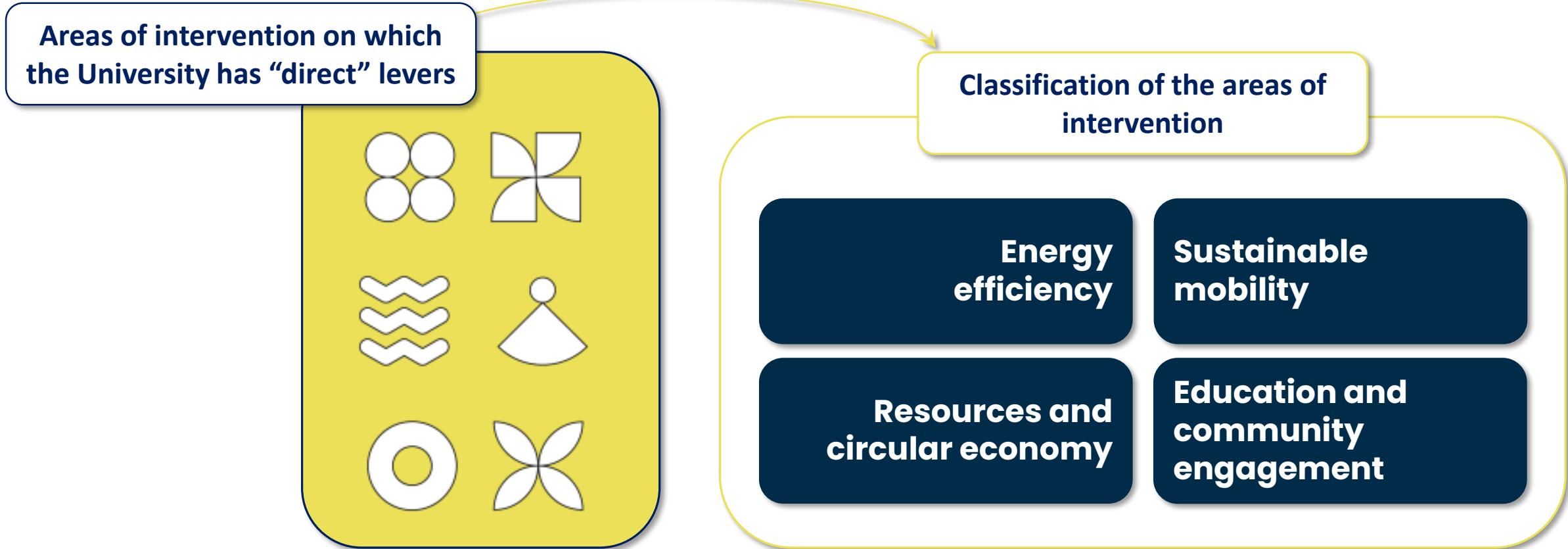


Areas of intervention gained from the external context



Priority focus and levers available









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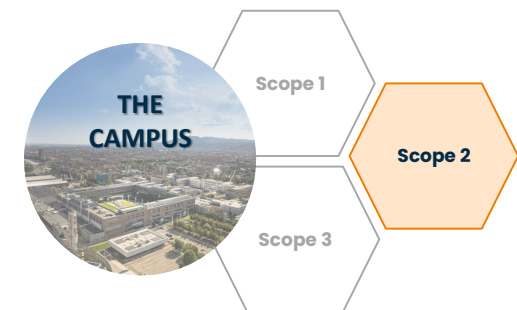
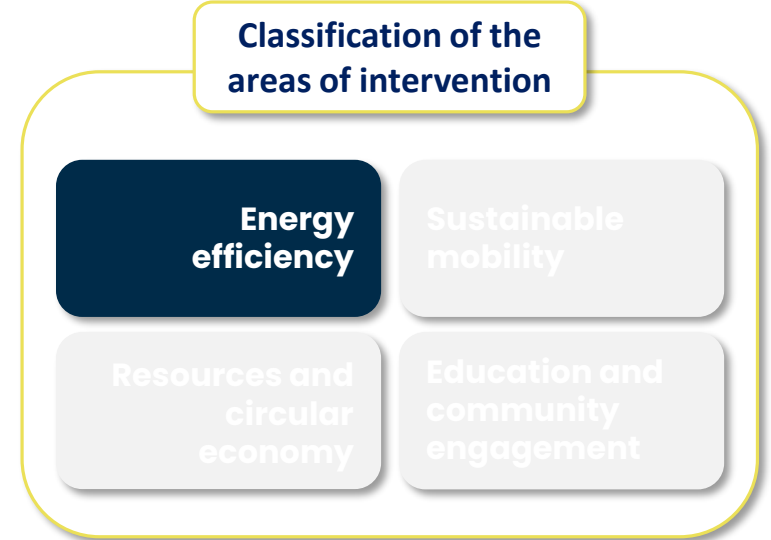
Actions: energy efficiency

Progress

Energy efficiency








Sustainability protocol for university buildings: new constructions and retrofiting (IISBE agreement)	
3-years works program 2023-2025: building retrofiting interventions (envelope insulation, window replacement, LED, photovoltaic implementation) for: <ul style="list-style-type: none"> • Corso Castelfidardo • Via Peano 	
DASHBOARD for the monitoring of the updates on the decarbonisation plan	
Implementation of the available sensors network throughout PoliTO Campus	
Automatic alert feedback implementation related to photovoltaic systems	
Definition of optimized control strategies and tuning of HVAC systems and lighting bodies	
Data Centers efficiency implementation	
Optimization of the learning/social environments	

Classification of the areas of intervention

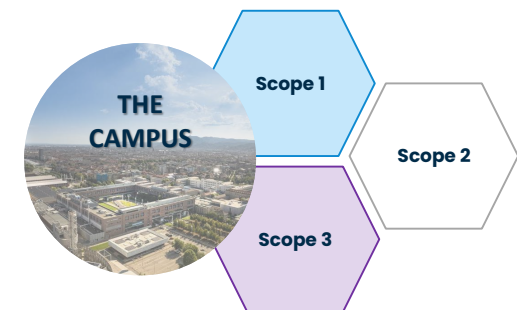
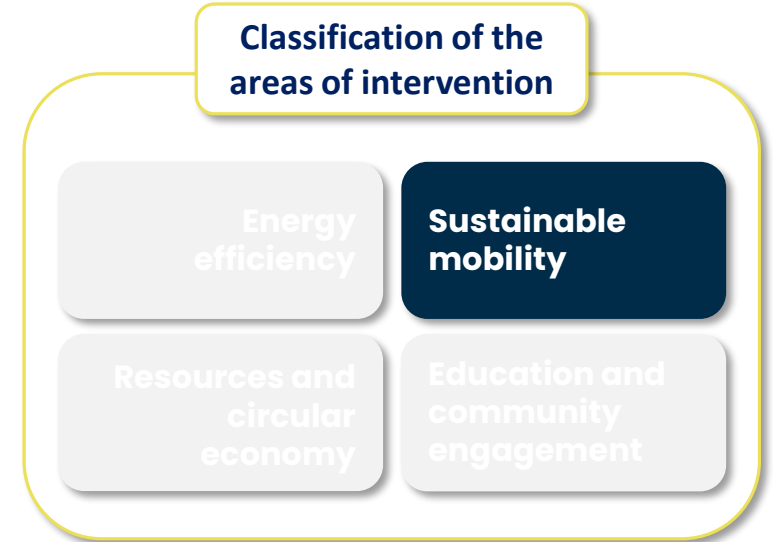


Actions: sustainable mobility

Sustainable mobility

	Progress
Business travels: Good practices for low impact business travels	
Day-to-day mobility: Actions to encourage sustainable transportation choices according to the home-to-work commuting plan	
Electric grid and plug-in vehicle charging stations	
Fleet renewal with low-impact vehicles (BEVs / Plug-in Hybrid / Full Hybrid)	
Fleet integration with soft mobility means (bicycles/pedal assisted bicycles) or low-impact means (electric scooters)	
Optimized management service and dematerialized booking system for University vehicles	
MaaS implementation (Mobility as a Service)	

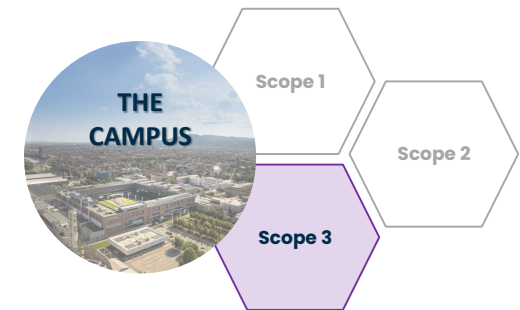
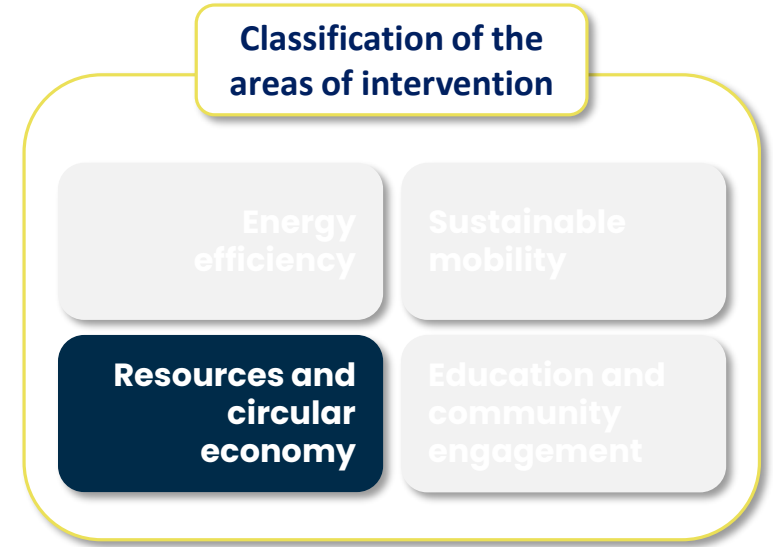
Classification of the areas of intervention



Actions: resources and circular economy

Resources and circular economy






	Progress
Waste and plastic reduction: <ul style="list-style-type: none"> Waste sorting Vending machines and water dispensers Water bottles distribution Plastic-free cafeterias 	
Food: <ul style="list-style-type: none"> Local and certified products Food impact communication 	
Sustainable events: <ul style="list-style-type: none"> Sustainable events checklist Sustainable merchandising 	
Water saving: <ul style="list-style-type: none"> Water consumption survey Sanitary water use efficiency 	

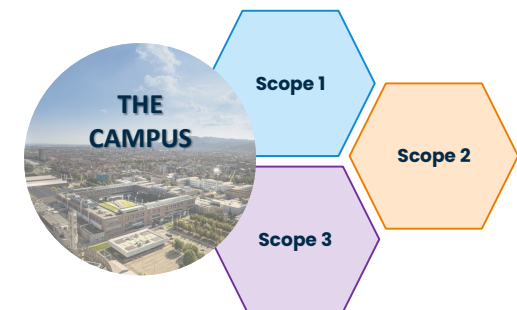
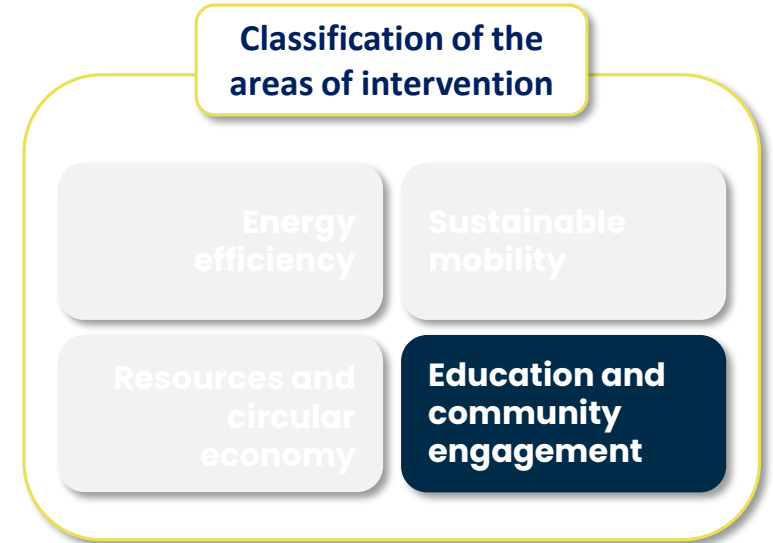


Actions: education and community engagement

Education and community engagement

Progress

<p>Call for ideas Targeted to the entire PoliTo community: on adaptation initiatives and topics related to sustainability</p>	
<p>Cooperation with PoliTO research groups Testing research-based solutions at the scale of university campuses</p>	
<p>Nature Based Solutions Planting program at the scale of PoliTO Campus</p>	
<p>“Foresight-driven” program towards Polito 2040 PoliTO towards the urgent challenge of climate and ecological crisis</p>	
<p>SDGs classification on:</p> <ul style="list-style-type: none"> • Scientific publications and research projects • Teaching courses 	



An overview of the action plan

