



Aree Produttive, Aree Pro-Adattive

AG2030 | Agenda 2030 e Sustainable Development Goals

Localising the Sustainable Development Goals in urban planning: challenges and opportunities

a cura di
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Agenda 2030 and Sustainable Development Goals

Main contents

- What are the Sustainable Development Goals?
- A downscaling challenge
- Why are we discussing about SDGs and sustainability?
 - Two examples in brief:
 - Sustainability Report of Politecnico di Milano
 - AP+A Research Project

What are the Sustainable Development Goals?



What are the Sustainable Development Goals?



Who?

193 member States - The Sustainable Development Goals (SDGs), also known as the Global Goals, were **adopted by all United Nations Member States in 2015 as a universal call to action...**

What are the Sustainable Development Goals?



Why?

SDGs were conceived to **tackle some of the more pressing challenges facing the world today**. All 17 Goals **interconnect**, meaning success in one affects success for others. Dealing with the **threat of climate change impacts** how we **manage our fragile natural resources**, achieving **gender equality** or **better health helps eradicate poverty**, and fostering **peace and inclusive societies** will **reduce inequalities** and help **economies prosper**. In short, this is the greatest chance we have to improve life for future generations.

The SDGs coincided with another historic agreement reached in 2015 at the **COP21 Paris Climate Conference**, which provided a set of **common standards and achievable targets to reduce carbon emissions, manage the risks of climate change and natural disasters**, and to build back better after a crisis.

What are the Sustainable Development Goals?



When?



In **2015**, the world came together around an ambitious vision for a safer, healthier, and more prosperous world **by 2030**.



However, the **SDGs will have to be updated to 2050**.

For example, the **14th World Forestry Congress** recently concluded with a declaration **setting out a vision for 2050** that sees forests playing “a decisive role” in ending hunger, improving livelihoods and combating climate change (United Nations Food and Agriculture Organisation – FAO, 2019). The same goes for the **EU Biodiversity Strategy**: the EU calls for **overarching long-term goals** for biodiversity in line with the United Nation vision of “**living in harmony with nature**” **by 2050**. The ambition should be that by 2050 **all of the world's ecosystems are restored, resilient, and adequately protected**.

What are the Sustainable Development Goals?



How?



Data and analytics are needed to **measure development progress and map how SDG targets interact in a given context**. It is needed to apply e.g. **geo-referenced data and multi-layered mapping to link environmental, social and economic information**, as well as new analytics, including **machine learning and predictive analyses**, to help countries **map out future development scenarios**.

What are the Sustainable Development Goals?



Where?



Much of the international discussion in the formation of the SDGs has naturally and rightly concentrated on the pressing **development needs of the developing countries** and the **support they will need from more developed countries and the international community in achieving the goals.**

The global indicator framework includes **231** unique indicators. Please note that the total number of indicators listed in the global indicator framework of SDG indicators is 247 (twelve indicators repeat under two or three different targets).

LEVELS

Global



European



Italian



Regional



City



What are the Sustainable Development Goals?

SDGs in brief



Goal 1. End poverty in all its forms everywhere (5 main targets, 10 related indicators)

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture (5 main targets, 10 related indicators)

Goal 3. Ensure healthy lives and promote well-being for all at all ages (9 main targets, 21 related indicators)

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (7 main targets, 9 related indicators)

Goal 5. Achieve gender equality and empower all women and girls (6 main targets, 10 related indicators)

Goal 6. Ensure availability and sustainable management of water and sanitation for all (6 main targets, 9 related indicators)

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all (3 main targets, 4 related indicators)

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all (10 main targets, 14 related indicators)

What are the Sustainable Development Goals?

SDGs in brief



Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation (5 main targets, 9 related indicators)

Goal 10. Reduce inequality within and among countries (7 main targets, 11 related indicators)

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable (7 main targets, 11 related indicators)

Goal 12. Ensure sustainable consumption and production patterns (8 main targets, 10 related indicators)

Goal 13. Take urgent action to combat climate change and its impacts (3 main targets, 6 related indicators)

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development (7 main targets, 7 related indicators)

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (9 main targets, 11 related indicators)

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels (10 main targets, 22 related indicators)

Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development (19 main targets, 24 related indicators)

Part I

A downscaling challenge





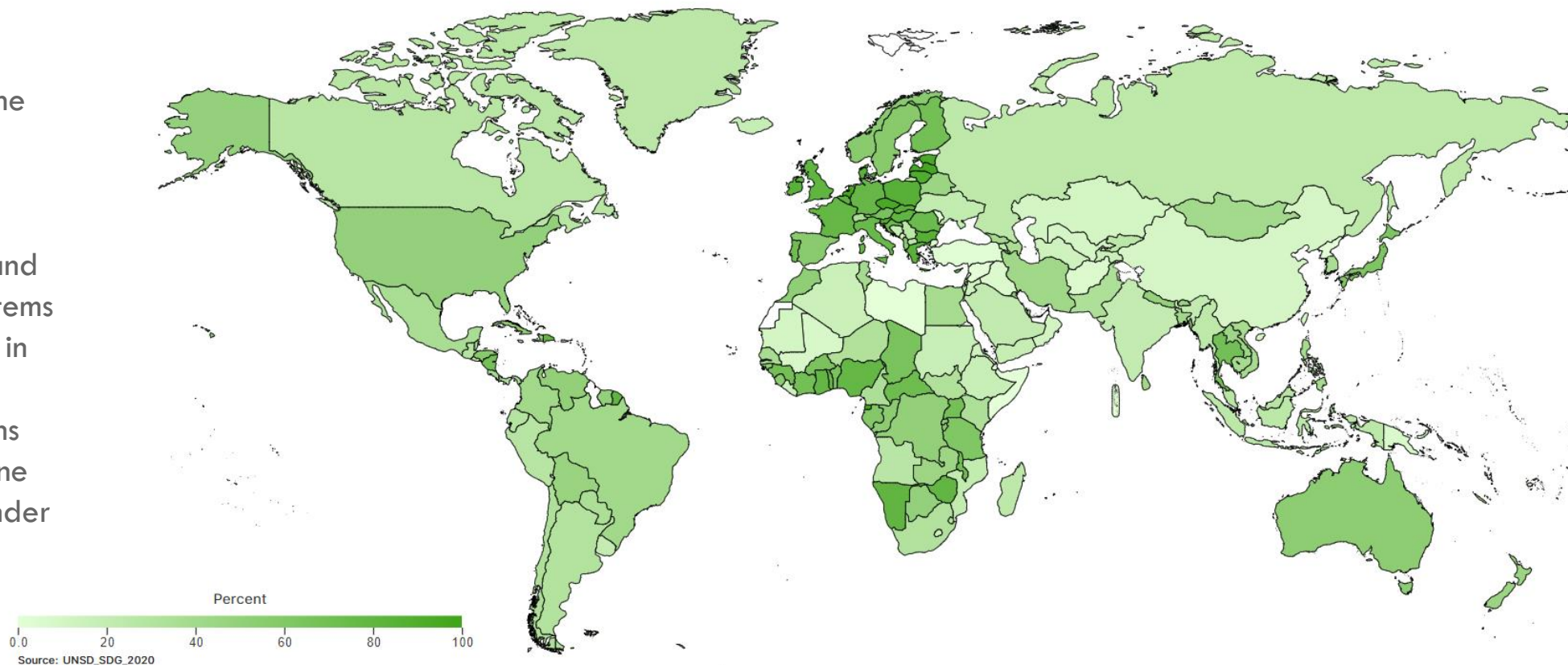
The Sustainable Development Goals - Indicators at **Global Level**



SDG 15. Goal – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Average proportion of Terrestrial Key Biodiversity Areas (KBAs) covered by protected areas Percent | Total

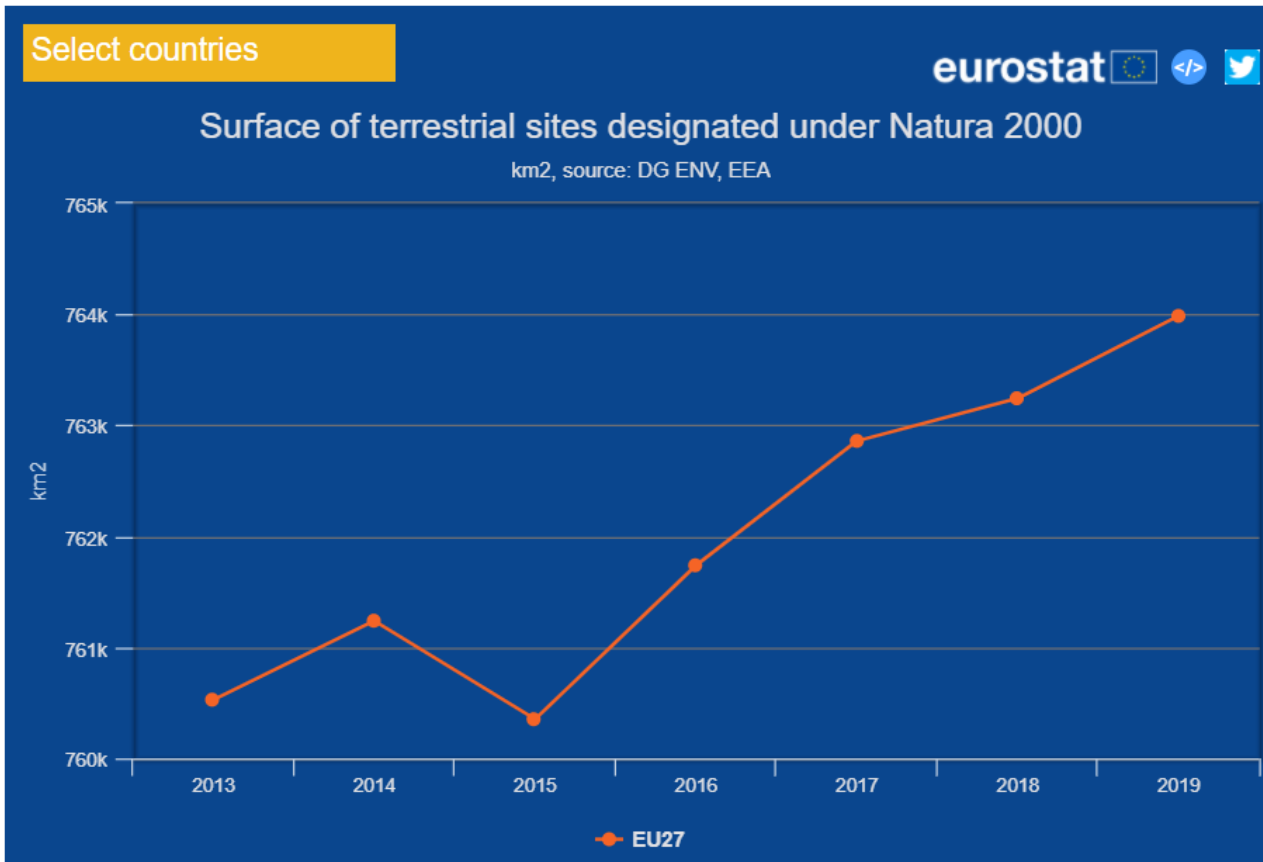
Target 15.1:
By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements



The Sustainable Development Goals - Indicators at **European Level**



SDG 15. Goal – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



The **indicator measures the surface of terrestrial sites designated under Natura 2000**. The Natura 2000 network comprises **both marine and terrestrial protected areas designated under the EU Habitats and Birds Directives** with the goal to maintain or restore a favourable conservation status for habitat types and species of EU interest.

Comparability - geographical

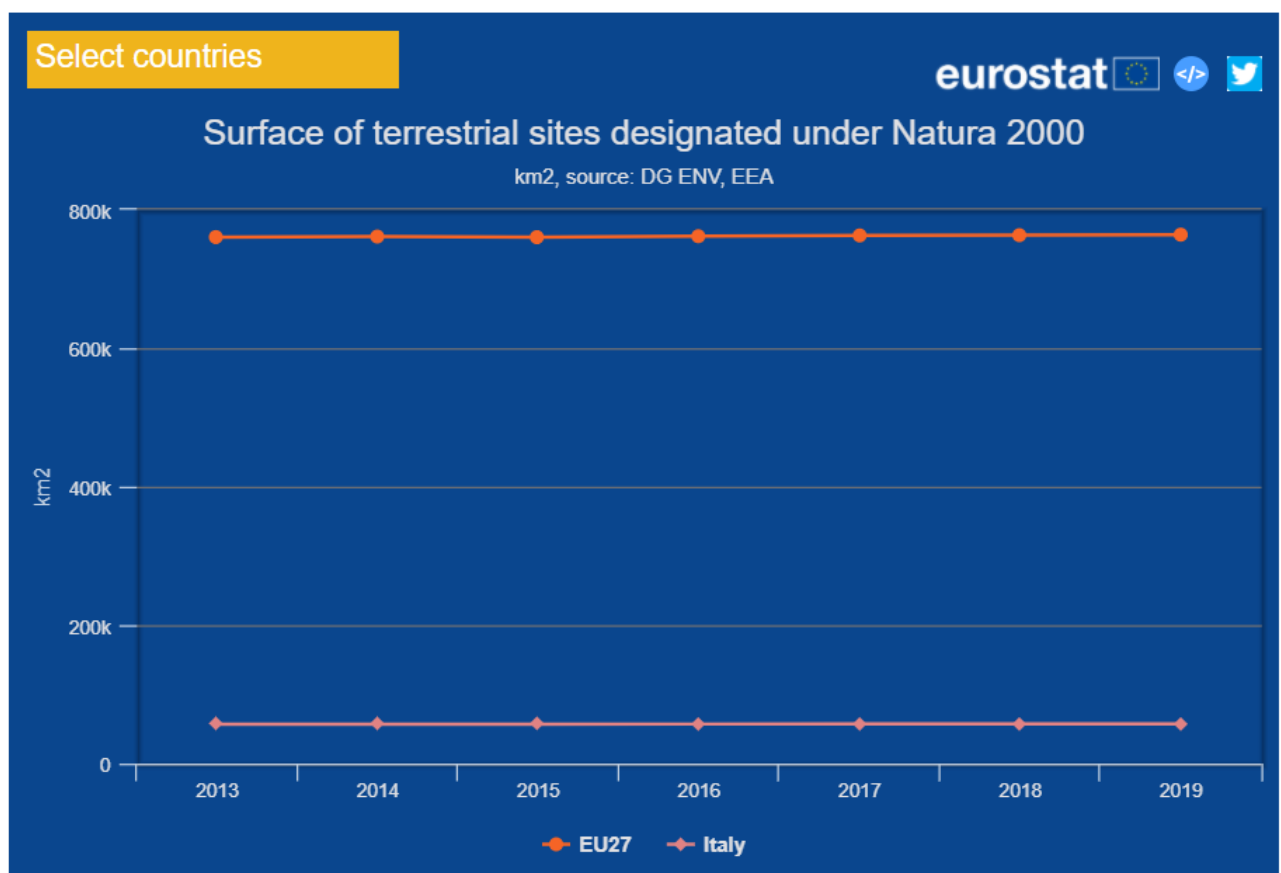
Data are comparable between all EU Member States and the other presented countries.



The Sustainable Development Goals - Indicators at *Italian* Level



SDG 15. Goal – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



Each country is required to fill in a standard data form where sites designated under the Directives are reported in detail, included the size of the site in km2, the existing habitats and species and their percentage cover of the site. A thorough typology has been developed to support precise reporting.

The Sustainable Development Goals – Indicators at *Italian* Level



SDG 15. Goal – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



Indeed, the Italian National Institute of Statistics (ISTAT) fulfills the alignment with the European Statistical System (ESS)...

The Sustainable Development Goals - Indicators at **Regional Level**



SDG 15. Goal – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

ITALIAN DATA FOR UN-SDGs

Sustainable Development Goals of the 2030 Agenda



Regione Lombardia

SDG 15.1.2 - Percentage of key sites for terrestrial and freshwater biodiversity included in protected areas, by ecosystem type

Lombardia	Nord	Italia
16,1%	18,8%	21,6%

Protected areas (Istat, Elaboration on data from the Ministry of the Environment and the protection of the territory and the sea, 2017,%)

... and Italian Regions are aligned with National priorities (i.e. Italian [National Strategy for Sustainable Development](#) – SNSvS¹), using ISTAT data to analyse their *status quo* and monitor their progresses towards the Sustainable Development Goals achievement.

The Sustainable Development Goals - Indicators at **Regional** Level



SDG 15. Goal – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Conservation Letters

A journal of the Society for Conservation Biology

Open Access

POLICY PERSPECTIVE | Open Access |

The Contributions of the EU Nature Directives to the CBD and Other Multilateral Environmental Agreements

Alison E. Beresford, Graeme M. Buchanan, Fiona J. Sanderson, Rebecca Jefferson, Paul F. Donald

First published: 13 May 2016 | <https://doi.org/10.1111/conl.12259> | Citations: 21

Abstract

Through a review of published studies and new analyses of publicly available data, we assess how the European Union (EU) Nature Directives complements the CBD strategic goals for 2020 as set out in the 20 Aichi Targets, thereby addressing a question posed by the European Commission about the coherence of the Directives with other international biodiversity commitments. We find evidence that the Directives complement several Aichi Targets and other Multilateral Environmental Agreements (MEAs). For example, 92% of the EU's Important Bird and Biodiversity Areas (IBAs), many of them otherwise unprotected, are partly or wholly covered by the Natura 2000 network of protected areas (contributing to Aichi Target 11). Species listed on Annex I of the Birds Directive have fared better than other species (Aichi Target 12). As 65% of EU citizens live within 5 km of a Natura 2000 site, and 98% within 20 km, these sites have the potential to raise awareness of biodiversity (Aichi Target 1) and to deliver ecosystem services to a high proportion of the EU's population (Aichi Target 14). The Nature Directives provide a regulatory framework that, with fuller implementation, will help EU Member States to meet their obligations under the CBD and other MEAs.

The Sustainable Development Goals - Indicators at **City Level**



SDG 15. Goal – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

There are currently working on a strategy development and data gathering!
Città metropolitana di Milano established a coordination direction in the governance construction phase



The Sustainable Development Goals - Indicators at **Global** Level



SDG 11. Goal - Make cities inclusive, safe, resilient and sustainable

Target: 11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities

SDG INDICATOR 11.2.1

Public transport access

Definition: Indicator 11.2.1 is the “*proportion of population that has convenient access to public transport, by sex, age and persons with disabilities*”.

Goal: “*Provide access to safe, affordable, accessible and sustainable transport systems for all*” by 2030.

We are currently not aware of data for this indicator. You can notify us of available data for this indicator via our [feedback form](#).

The Sustainable Development Goals - Indicators at European Level



SDG 11. Goal - Make cities inclusive, safe, resilient and sustainable

Target: 11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities



The indicator measures the share of collective transport modes in total inland passenger transport performance, expressed in passenger-kilometres (pkm). Collective transport modes refer to buses, including coaches and trolley-buses, and trains. Other collective transport modes, such as tram and metro systems, are not included as the data collection methodology for these transport means is not sufficiently harmonised between Member States. Total inland transport includes transport by passenger cars, buses and coaches, and trains. All data are based on movements within national territories, regardless of the nationality of the vehicle. For countries, where rail transport statistical legislation does not apply, the totals contain only the share of coaches, buses and trolley buses.

Comparability - geographical

Data comparability between EU Member States respectively other presented countries is limited because neither concepts nor data collection methodologies for passenger transport by road are fully harmonised at the EU level.

Source: Eurostat SDGs Indicators: https://ec.europa.eu/eurostat/cache/metadata/EN/sdg_09_50_esmsip2.htm

The Sustainable Development Goals - Indicators at Italian Level



SDG 11. Goal - Make cities inclusive, safe, resilient and sustainable

Target: 11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities



The indicator measures the share of collective transport modes in total inland passenger transport performance, expressed in passenger-kilometres (pkm).

The Italian National Institute of Statistics fulfills the alignment with the European Statistical System (ESS)



The Sustainable Development Goals - Indicators at Regional Level



SDG 11. Goal - Make cities inclusive, safe, resilient and sustainable

Lombardy Region

SDG			Data Source	Survey name	Indicator descriptors
SDG 11	Lombardy	Nord	Italy		
Households per difficulties of links with public transport means	30,1	29,2	33,5	Istat	Multiscopo sulle famiglie: aspetti della vita quotidiana (PSN:IST-00204)
<i>Famiglie che dichiarano difficoltà di collegamento con mezzi pubblici nella zona in cui risiedono (Istat, 2019, %)</i>					
Students who travel to their study place, only by public transports	31,3	29,9	28,5	Istat	Students aged less than 35 who usually travel to their study place, only by public transports
<i>Studenti che si spostano abitualmente per raggiungere il luogo di studio solo con mezzi pubblici (Istat, 2019, %)</i>					
Persons who travel by private means of transport	71,4	73,8	74,2	Istat	Persons aged 15 and over who usually travel to their work place by private means of transport
<i>Persone che si spostano abitualmente per raggiungere il luogo di lavoro solo con mezzi privati (Istat, 2019, %)</i>					

The analysis of the SDGs' indicators at National and Regional levels are based on the Italian National Institute of Statistics data.

The Sustainable Development Goals - Indicators at **City** Level



SDG 11. Goal - Make cities inclusive, safe, resilient and sustainable

We can access other data **not yet directly linked** to the achievement of the Sustainable Development Goals



The Sustainable Development Goals – Recap

Why the global and local targets and indicators are aligned?

- Political commitment
- Data availability

In most cases, **global indicators (and targets) differ from local ones**

LEVELS



Part II

Why are we discussing about SDGs and sustainability?



A multi-scalar challenge

SCALES

AT THE LARGE SCALE / LOC as an ecological connector, a new green node connecting linear systems of tree-lined streets

AT THE LOCAL SCALE / LOC as an urban resilient spot to mitigate climate hazards, improve human comfort and increase quality of life.

AT THE BUILDING AND BUILDING COMPONENT SCALE / LOC as a booster of sustainable construction

ECO-SYSTEM SERVICES

PROVISIONING	REGULATING
SUPPORT	CULTURAL

PROVISIONING	REGULATING
SUPPORT	CULTURAL

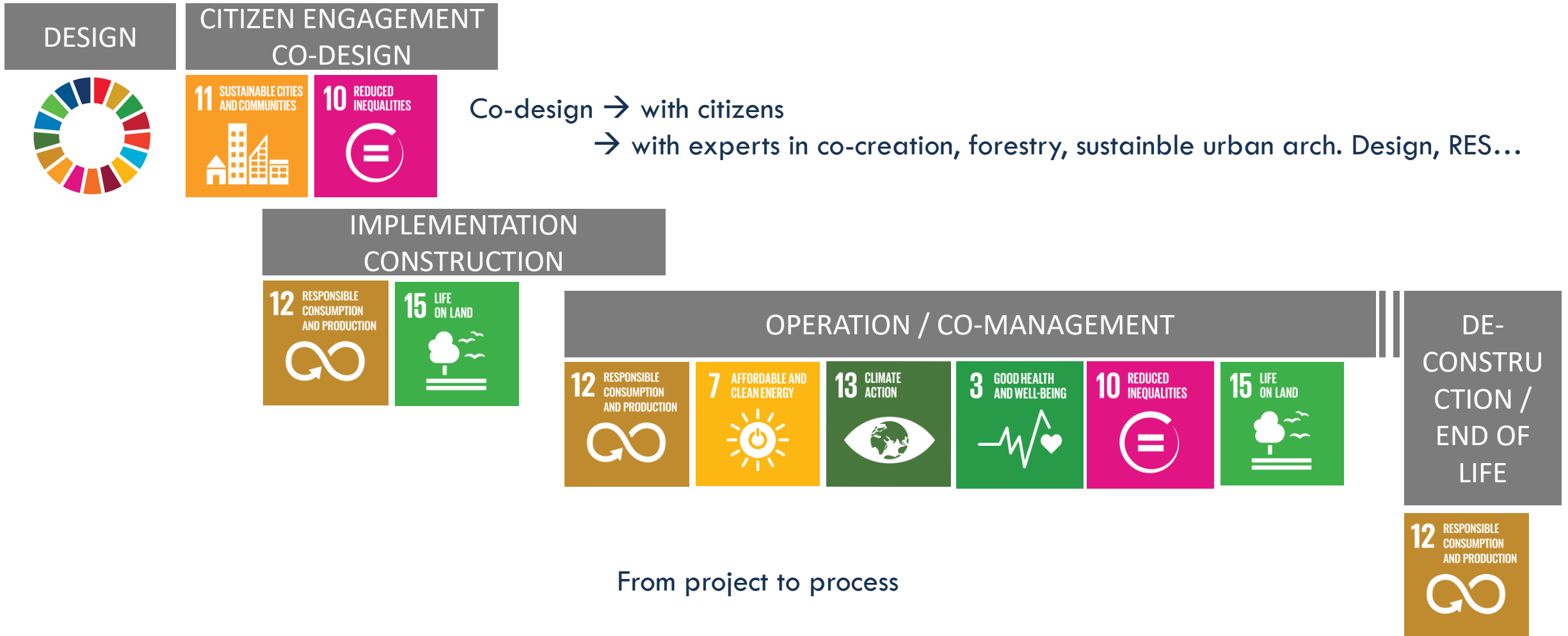
PROVISIONING	REGULATING
SUPPORT	CULTURAL

SDGs



A multi-temporal challenge

Localizing SDGs on the timeline through a COMPLETE CO-CREATION PATHWAY



From project to process

SDGs localisation – examples

Concerning future works related to sustainability, the understanding and localisation of SDGs is at the forefront.

Some examples of **our works related to SDGs localisation:**

- Sustainability Report of Politecnico di Milano
- Research Project: Aree Produttive - Aree Pro-Adattive

A brief introduction - The sustainability in reporting

Some examples taken from the industrial sector.

Industries worldwide started to report their progresses in achieving the Sustainable Development Goals (SDGs) within the Global Reporting Initiatives (GRI) framework.

The global standards for sustainability reporting

Application	This Glossary includes definitions for the following GRI Standards:
	<ul style="list-style-type: none">• <i>GRI 101: Foundation 2016</i>• <i>GRI 102: General Disclosures 2016</i>• <i>GRI 103: Management Approach 2016</i>• <i>GRI 201: Economic Performance 2016</i>• <i>GRI 202: Market Presence 2016</i>• <i>GRI 203: Indirect Economic Impacts 2016</i>• <i>GRI 204: Procurement Practices 2016</i>• <i>GRI 205: Anti-corruption 2016</i>• <i>GRI 206: Anti-competitive Behavior 2016</i>• <i>GRI 207: Tax 2019</i>• <i>GRI 301: Materials 2016</i>• <i>GRI 302: Energy 2016</i>• <i>GRI 303: Water and Effluents 2018</i>• <i>GRI 304: Biodiversity 2016</i>• <i>GRI 305: Emissions 2016</i>• <i>GRI 306: Waste 2020</i>• <i>GRI 307: Environmental Compliance 2016</i>• <i>GRI 308: Supplier Environmental Assessment 2016</i>• <i>GRI 401: Employment 2016</i>• <i>GRI 402: Labor/Management Relations 2016</i>• <i>GRI 403: Occupational Health and Safety 2018</i>• <i>GRI 404: Training and Education 2016</i>• <i>GRI 405: Diversity and Equal Opportunity 2016</i>• <i>GRI 406: Non-discrimination 2016</i>• <i>GRI 407: Freedom of Association and Collective Bargaining 2016</i>• <i>GRI 408: Child Labor 2016</i>• <i>GRI 409: Forced or Compulsory Labor 2016</i>• <i>GRI 410: Security Practices 2016</i>• <i>GRI 411: Rights of Indigenous Peoples 2016</i>• <i>GRI 412: Human Rights Assessment 2016</i>• <i>GRI 413: Local Communities 2016</i>• <i>GRI 414: Supplier Social Assessment 2016</i>• <i>GRI 415: Public Policy 2016</i>• <i>GRI 416: Customer Health and Safety 2016</i>• <i>GRI 417: Marketing and Labeling 2016</i>• <i>GRI 418: Customer Privacy 2016</i>• <i>GRI 419: Socioeconomic Compliance 2016</i>

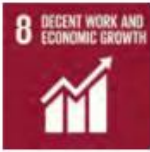

A brief introduction - The sustainability in reporting

Some examples taken from the industrial sector.

Industries worldwide started to report their progresses in achieving the Sustainable Development Goals (SDGs) within the Global Reporting Initiatives (GRI) framework.

Real Estate



SDG	Relevance to Berkeley	Contribution through our business activities and Our <u>Vision</u>
	<p>Berkeley supports around 29,250 jobs annually directly and through our supply chain, and has contributed over £13.5 billion to UK GDP in the last 5 years. Our people are key to the success of our business and we recognise the benefits of ensuring that diverse views and skills are represented. It is important to ensure decent work for all, and equal pay for work of equal value (in line with target 8.5). The skills crisis presents a significant risk to our industry, so it is vital that we encourage new people into employment and promote opportunities for training.</p>	<ul style="list-style-type: none">– Attract and retain a diverse workforce and create an inclusive environment.– Provide a variety of routes through which people seeking to improve their skills can join the business, including through apprenticeships, industrial placements and our Graduate Scheme.– Provide the right environment and support to enable employees to fulfil their potential.– Take action to ensure that modern slavery and human trafficking does not take place within our business and supply chain.– Pay at least the Living Wage Foundation's Living Wage.
	<p>Over the last five years, we have built 19,660 homes across London and the South of England. The nature of our business provides the opportunity to have a positive impact on the places where we operate. We recognise the importance of creating homes and places with reduced environmental impact (in line with target 11.6) and spaces that are inclusive, accessible and resilient (in line with target 11.7).</p>	<ul style="list-style-type: none">– Develop complex brownfield sites that carry high operational risk, which others are usually not willing or able to take on.– Create well-designed, high quality, safe and sustainable homes and places that are resilient to climate change and have more nature after than before we started developing.– Implement a coherent approach to building communities and look to understand the social value generated by new development.– Incorporate features into homes and places that make it easier for residents to live a sustainable lifestyle and that contribute to their wellbeing.

A brief introduction – The sustainability in reporting

Some examples taken from the industrial sector.

Industries worldwide started to report their progresses in achieving the Sustainable Development Goals (SDGs) within the Global Reporting Initiatives (GRI) framework.

Energy

NP+ Aree Produttive, Aree Pro-Adattive



STATUS AS AT END 2019

More than 6 million tons of avoided CO₂ (3.086kt in 2019)
Carbon index -7,4% (0,14 kgCO₂/kWh as at end 2019)

64,04% CCGT plant CAR performance index
89% of indirect consumption supplied by "green" energy

2.597 MW installed capacity in renewable energy plants
91,8% capital invested in renewable energy plants

Human Capital Coverage **+3%** compared to 2018

More than **46thousand** training hours, **7,8 days/man**, **84%** of training on technical and managerial topics, **98%** of our employees

Power of Diversity project supported by Valore D

100% ISO 14001 and/or OHSAS 18001-ISO 450001 **certified**
Italian companies consistent with their activities

Repowering & reblading projects for our Italian wind farms

CDP Climate Change - **Rating B**

ESG rating & indexes

Sustainable Procurement and Suppliers Code of Conduct
More than **10,500** students involved in our local activities



Sustainability Report of Politecnico di Milano

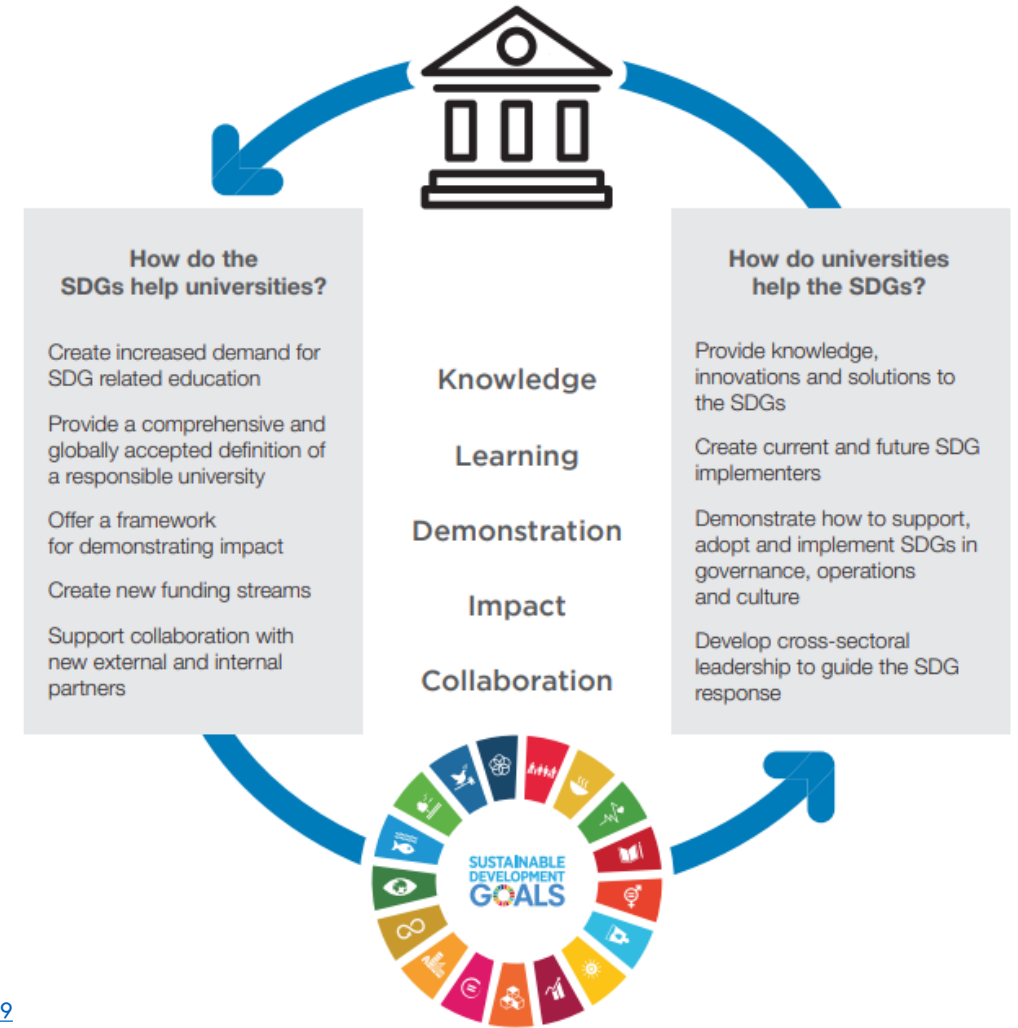
Universities worldwide started to **report their progresses in achieving the Sustainable Development Goals (SDGs)** inside and outside their campuses (Albareda-Tiana, 2018; Mori Junior et al., 2019; Mawonde & Togo 2019), **meanwhile feeding the university community interest in sustainability issues** and initiatives (Dahle & Neumayer, 2001).

However, there is still a lack in combining this **twofold mission:**

Report Universities progresses towards sustainability and SDGs achievement

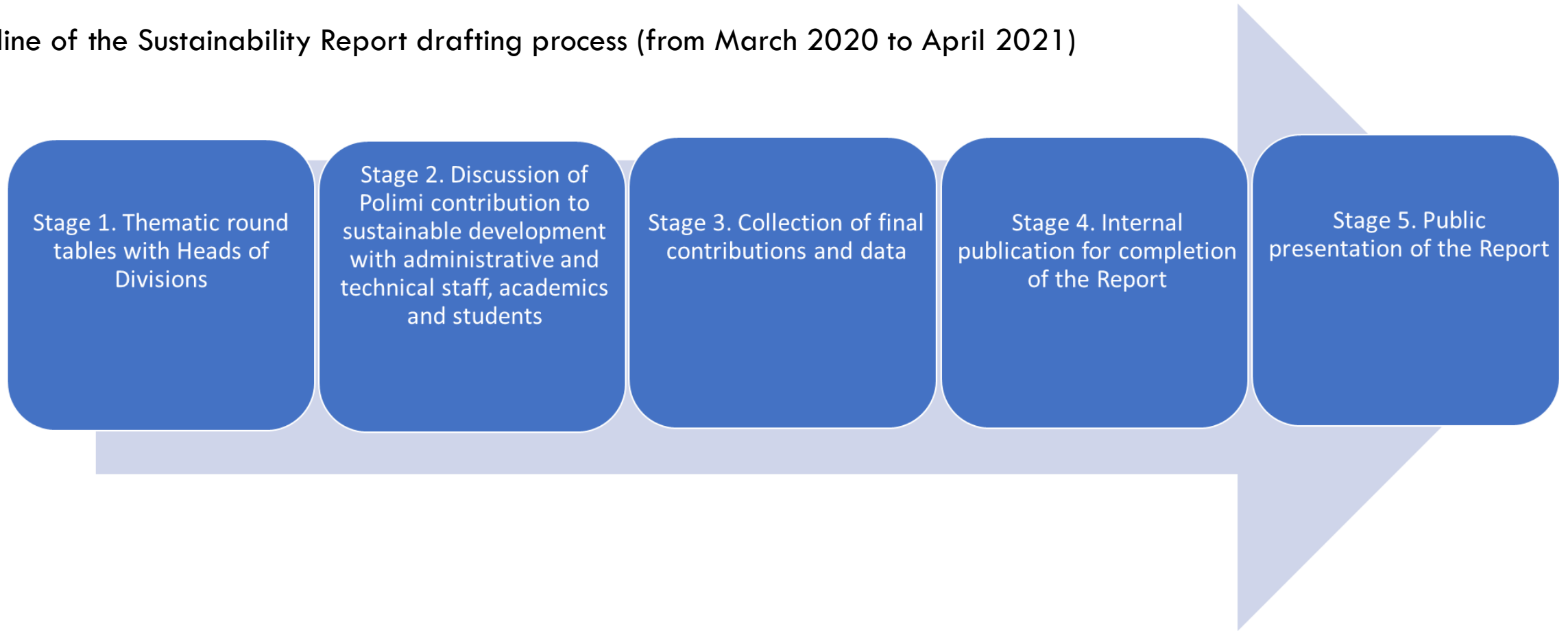


Feed the university community interest and awareness of sustainability issues



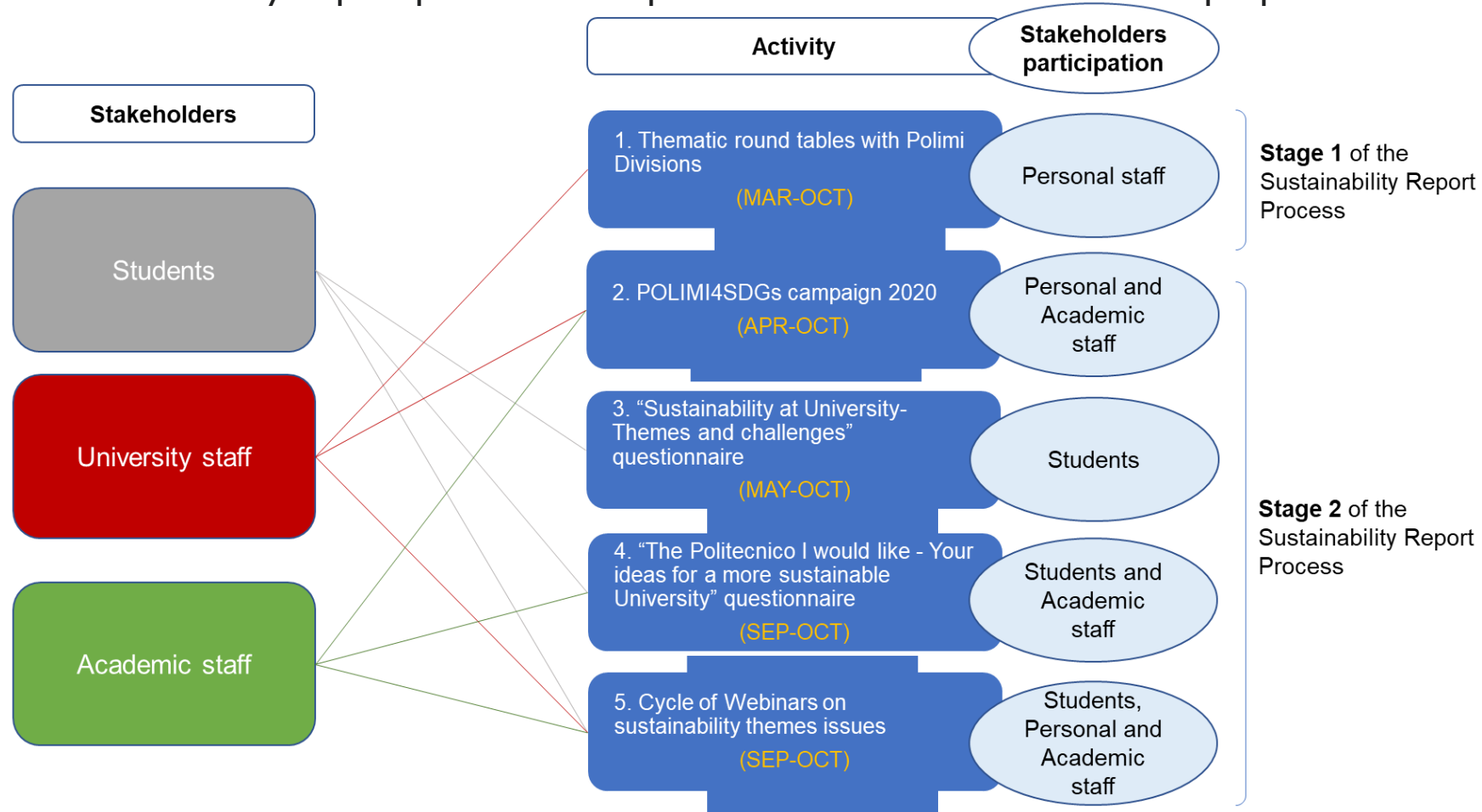
Sustainability Report of Politecnico di Milano

Timeline of the Sustainability Report drafting process (from March 2020 to April 2021)



Sustainability Report of Politecnico di Milano

Shared governance process structure. The categories of stakeholders defined the engagement activities types proposed along the process. The stages of the Sustainability Report process are reported and linked to the activities proposed.



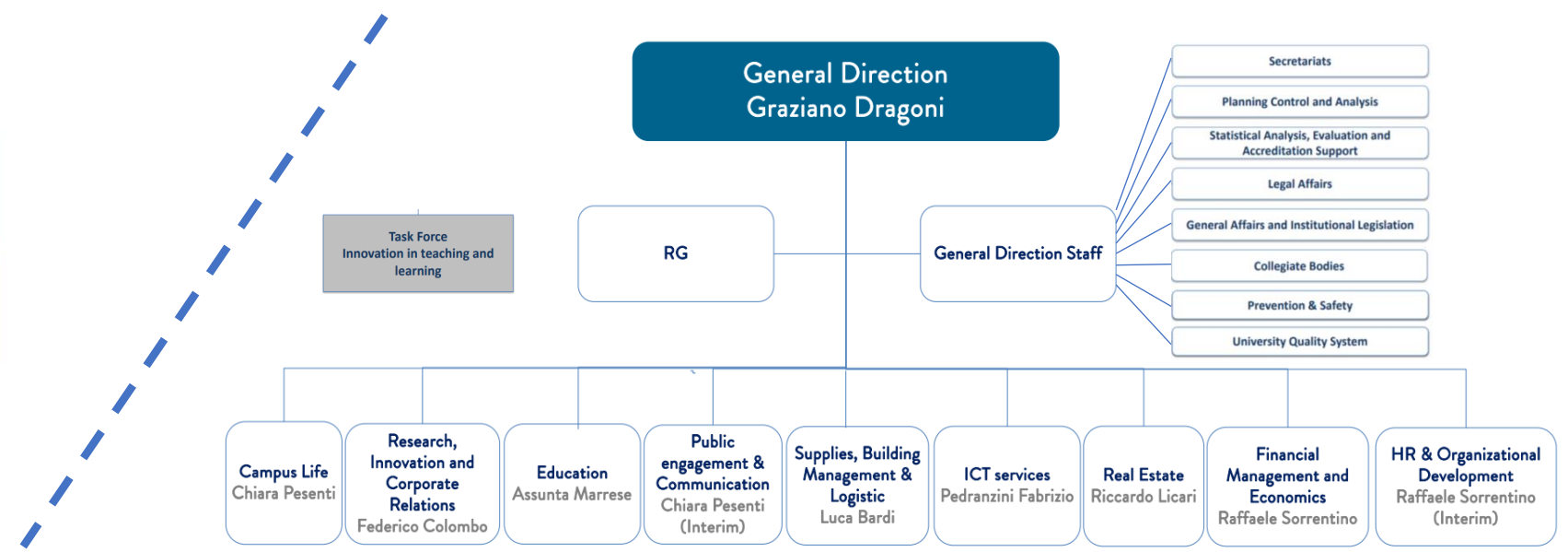
Stage 1. Thematic round tables with Heads of Divisions

Sustainability Report of Politecnico di Milano

Thematic round tables with Heads of Divisions. Stakeholders involved: Personal staff

The main objective of this activity was to explore to what extent the daily work and future projects of Polimi could contribute in achieving the SDGs.

To this purpose, it dedicated interviews with the Heads of the ten different Divisions of Polimi have been organized (one hour per interview).

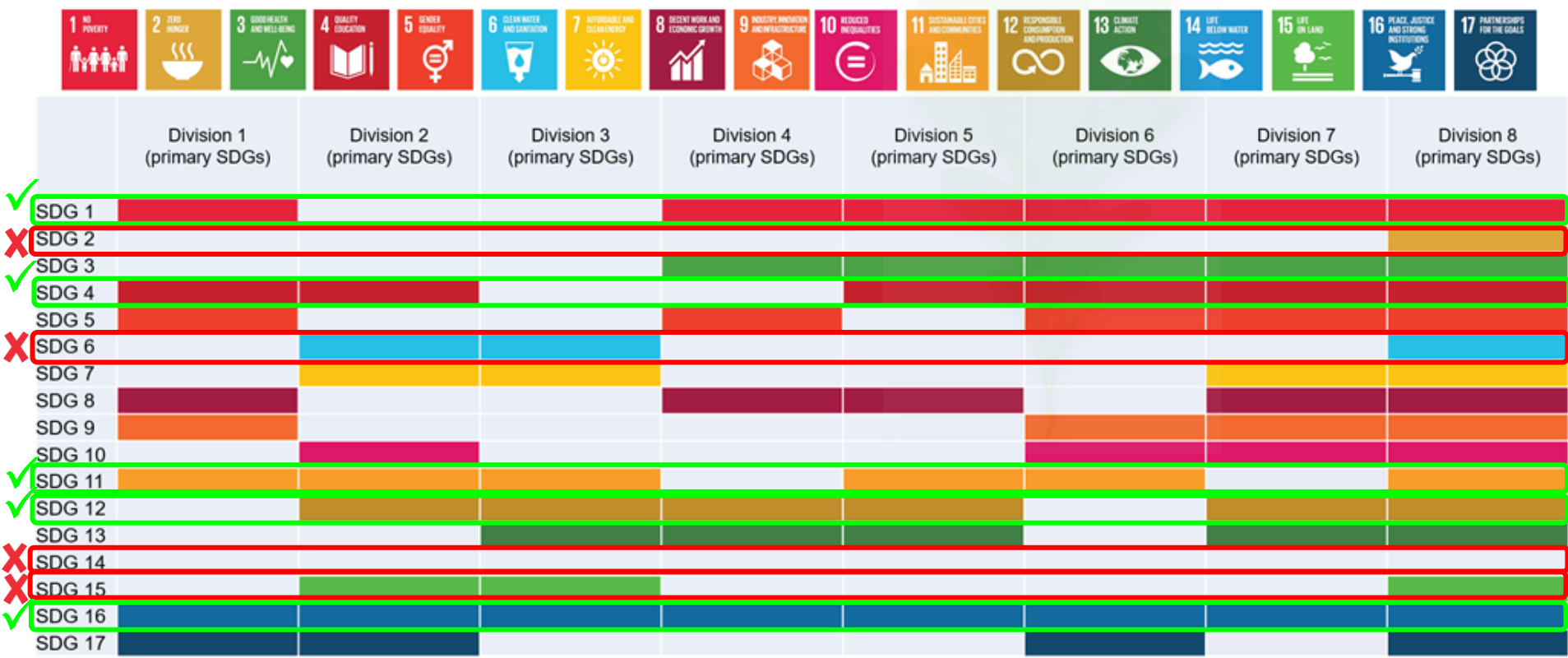


Sustainability Report of Politecnico di Milano

Thematic round tables with Heads of Divisions. Stakeholders involved: Personal staff

Contribution of Politecnico Divisions to SDGs achievement.

Since it is still an ongoing process, the Divisions have been anonymized.



The main SDGs the Divisions have achieved according to their main activities and projects are:

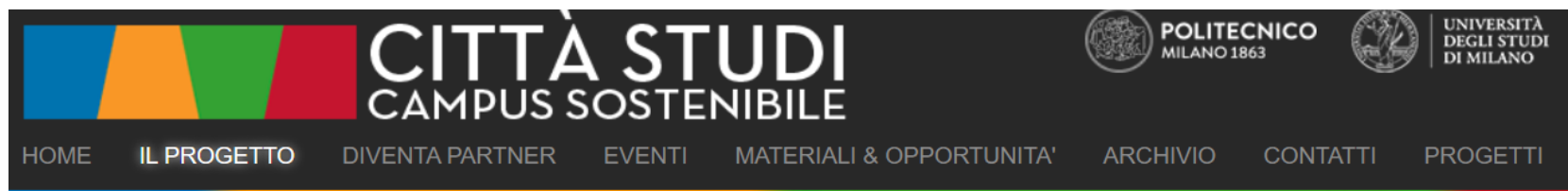
- **SDG 1**, No Poverty - 6 Divisions (75%) achieved this goal;
- **SDG 4**, Quality Education - 6 Divisions (75%) achieved this goal;
- **SDG 11**, Sustainable Cities and Communities - 6 Divisions (75%) achieved this goal;
- **SDG 12**, Responsible Consumption and Production - 6 Divisions (75%) achieved this goal;
- **SDG 16**, Peace and Justice Strong Institutions - 8 Divisions (100%) achieved this goal.

Sustainability Report of Politecnico di Milano

Stage 2. Discussion of Polimi contribution to sustainable development with administrative and technical staff, academics and students

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

POLIMI4SDGs 2017 and 2020 campaigns – Academic and personal staff



Aprile 2020. Lancio della seconda campagna di **auto-mappatura** dell'impegno del Politecnico di Milano verso il raggiungimento degli **obiettivi di sviluppo sostenibile (SDGs)** dell'Agenda 2030 delle Nazioni Unite.

Sei anche tu impegnato in questa sfida globale?

Segnalaci una o più attività istituzionali, di didattica, di ricerca che affrontano i temi e le sfide dello sviluppo sostenibile, compilando il veloce modulo qui sotto! Ogni attività richiede la compilazione di un modulo.

Puoi prendere visione delle domande contenute nei moduli scaricando il [documento in formato Microsoft Word](#)

La campagna di mappatura 2020 si è conclusa in data 31 maggio 2020.

È tuttavia possibile continuare a segnalare le attività (in avvio, in corso o concluse), contribuendo alla diffusione della cultura della sostenibilità in Ateneo.

Stage 2. Discussion of Polimi contribution to sustainable development with administrative and technical staff, academics and students

Sustainability Report of Politecnico di Milano

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

POLIMI4SDGs 2017 and 2020 campaigns – Academic and personal staff

What we asked for:



Primary SDG



Secondary SDGs

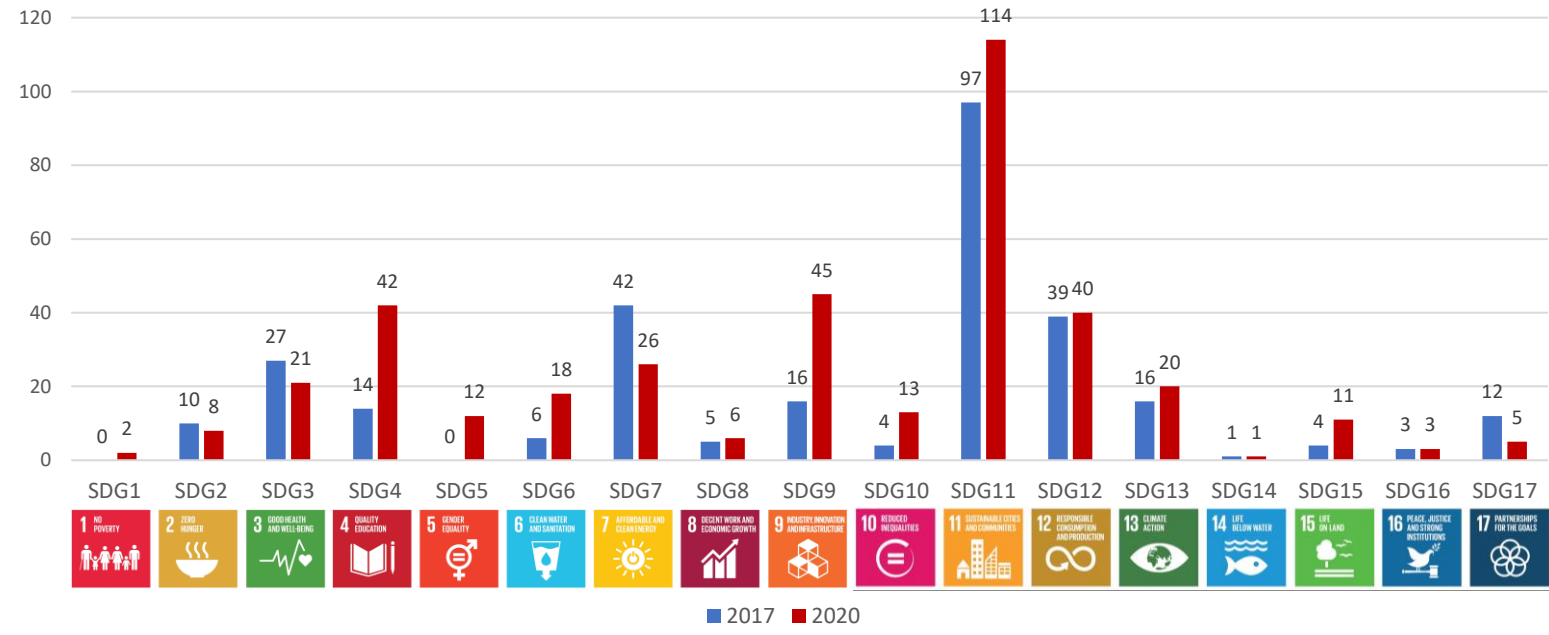


Sustainability Report of Politecnico di Milano

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

POLIMI4SDGs 2017 and 2020 campaigns – Academic and personal staff

Primary SDG at Politecnico -
Research, Teaching and Institutional activities 2017-2020



Sustainability Report of Politecnico di Milano

Stage 2. Discussion of Polimi contribution to sustainable development with administrative and technical staff, academics and students

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

POLIMI4SDGs 2017 and 2020 campaigns

Primary SDG at **Politecnico**

Research, Teaching and Institutional activities **2017-2020**



Primary SDG in **Research activities 2017-2020**



Primary SDG in **Teaching activities 2017-2020**



Primary SDG in **Institutional activities 2017-2020**



Concerning the **coverage of the SDGs**, the main results of this initial engagement and listening phase, generally **confirmed the main vocation and competences of Polimi as a scientific-technological university**, both in teaching and research activities

Sustainability Report of Politecnico di Milano

Stage 2. Discussion of Polimi contribution to sustainable development with administrative and technical staff, academics and students

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

“Sustainability at University – Themes and challenges” questionnaire

Sustainability at University- Themes and challenges

Dear student,
Thank you for accepting our invitation.
This questionnaire aims to explore your awareness of sustainability issues and challenges, with particular reference to Politecnico di Milano campuses.
Your answers will not be evaluated and will not be published unless in aggregate data for scientific research purposes only, thus ensuring absolute privacy.
To complete this multiple-choice questionnaire you would need maximum 10 minutes.
Thanks for your support and for the time you have dedicated to us!

The **questionnaire** was structured using **Microsoft Forms** and administered to the community in May, making use of different **web channels** (i.e. Homepage, Città Studi Campus Sostenibile website Homepage, Facebook, Instagram and Politamtam) **due to the COVID-19 health emergency limitations.**

The questionnaire includes **30 questions divided in four sections:**

- section 1. “General questions”
- section 2. “Governance and initiatives of the Politecnico di Milano”
- section 3. “The Politecnico towards the Sustainability Goals”
- section 4. “The Politecnico I would like” Each section

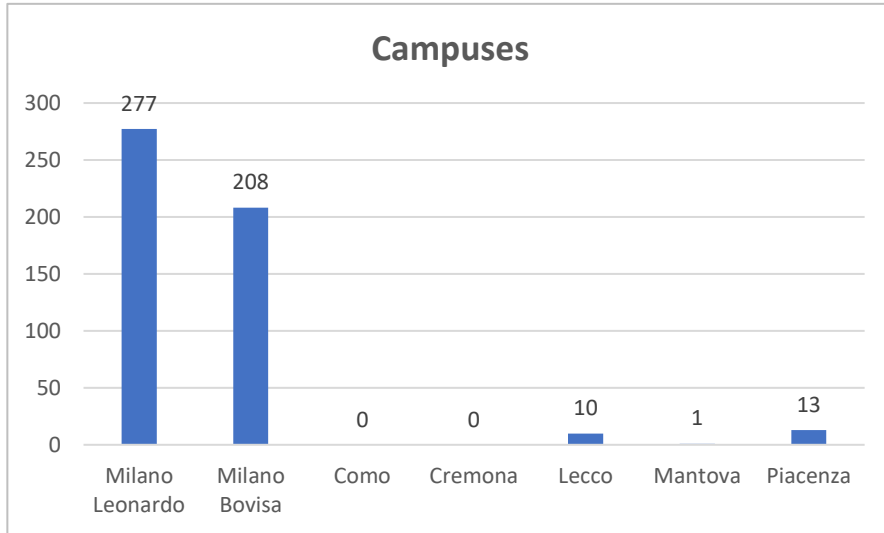
It aims to **explore the students’ awareness of sustainability themes**, collecting their **requests, perceptions and needs** related to sustainability issues, also considering the areas of application of such suggestions (e.g. internship activities, events, etc).

Sustainability Report of Politecnico di Milano

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

“Sustainability at University – Themes and challenges” questionnaire

The questionnaire “Sustainability at University - Themes and challenges” collected **514** total answers out of the 46.324 current Polimi students (about 1,11%).



Percentage of respondents per Campus (respondents/total number of students):
Milano Leonardo 1.13% Milano Bovisa 1.24% Lecco 0.62% Mantova 0.17% Piacenza 1.34%

The respondents were divided by home Campuses of affiliation. The majority of respondents are located in Milano Leonardo Campus (i.e. about 54%) and Milano Bovisa Campus (i.e. about 40%); about 2% of the respondents are located in Piacenza and Lecco Campuses, respectively; 1 respondent (about 0.2%) is located in Mantova Campus and no respondent is located in Como and Cremona Campuses.

We need to enhance our communication strategies of sustainability themes to engage students located in different Campuses!

Sustainability Report of Politecnico di Milano

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

“Sustainability at University – Themes and challenges” questionnaire

The **first section**, composed of **8 questions**, aims to collect general data such as the **School and degree course** the student is enrolled in, his/her home Campus, **how many years** he/she has been enrolled, **his/her interest in sustainability themes** (the answer range from 1 - not at all - to 5 - highly).

The **second section** comprises **12 questions** generally concerning the **student aware of the SDGs, the Polimi initiatives** (e.g. the Project “Città Studi Campus Sostenibile” or the CO2 Emissions Mitigation Plan recently approved, see the Introduction section for further information), **the Sustainability Unit administrative office** (i.e. its functions and activities, such as the Polimi yearly attendance at Sustainable Development Festival, among others).

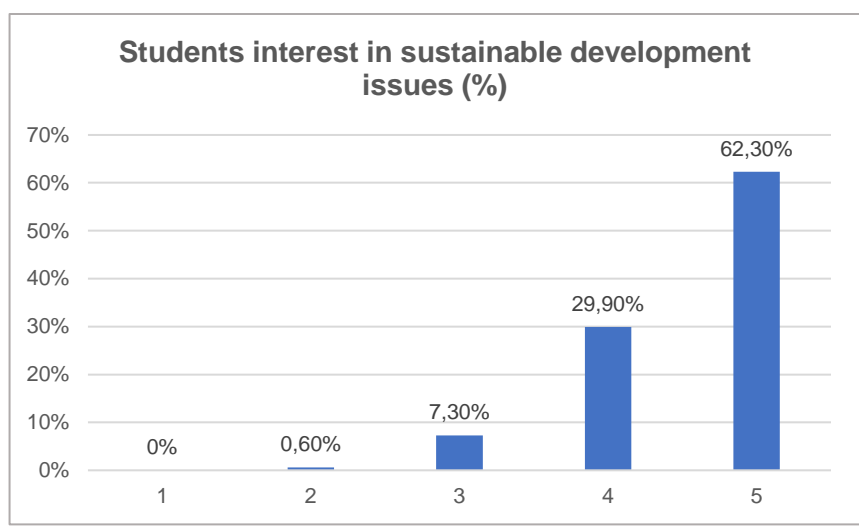
The **third section** includes **6 questions** and aims to explore the **student’s sensitivity to sustainability themes** (e.g. social inclusion) **and Polimi future choices** (e.g. his/her interest in the adoption of a Polimi Sustainability Plan).

The **fourth section**, composed of **4 questions**, aims to **explore to what extent the student would like sustainability issues to be more present in his/her degree course, Campus life** (i.e. making services and/or activities more sustainable) and future work (e.g. integrating sustainability issues and SDGs theme into internships).

Sustainability Report of Politecnico di Milano

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

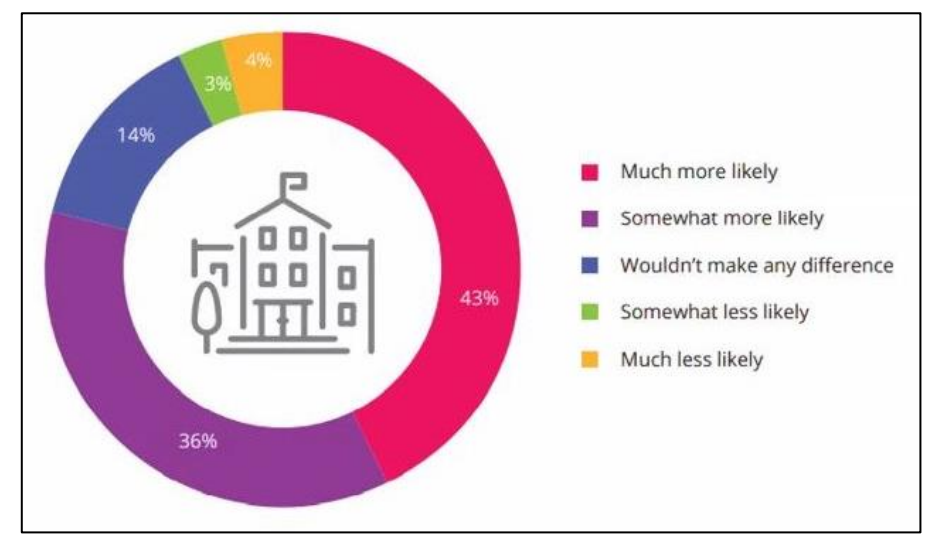
“Sustainability at University – Themes and challenges” questionnaire



Percentage of respondents interested in sustainability issues (from 1 “not at all” to 5 “extremely”).

← **62% of the students interviewed (Polimi) are strongly interested in issues related to sustainable development.**

79% of the students interviewed (QS) are strongly motivated to choose a degree program that deals with issues related to sustainable development. →



ISCN Virtual Event (4/11/20): Meeting with representatives of QS focusing on their future intentions of including sustainability on their World University Rankings.

Sustainability Report of Politecnico di Milano

Stage 2. Discussion of Polimi contribution to sustainable development with administrative and technical staff, academics and students

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

“The Politecnico I would like - Your ideas for a more sustainable University” questionnaire and webinars

The **Cycle of Webinars** was organised within the **Sustainable Development Festival 2020** and focused on four different themes, directly **related to the Sustainability Plan’s main topics and “The Politecnico I would like - Your ideas for a more sustainable University” questionnaire macro-areas.**

Webinar 1. **“University and sustainability: between governance and engagement”** (yellow box).

Webinar 2. **“University and sustainable mobility: which interventions and projects to support it?”** (red box).

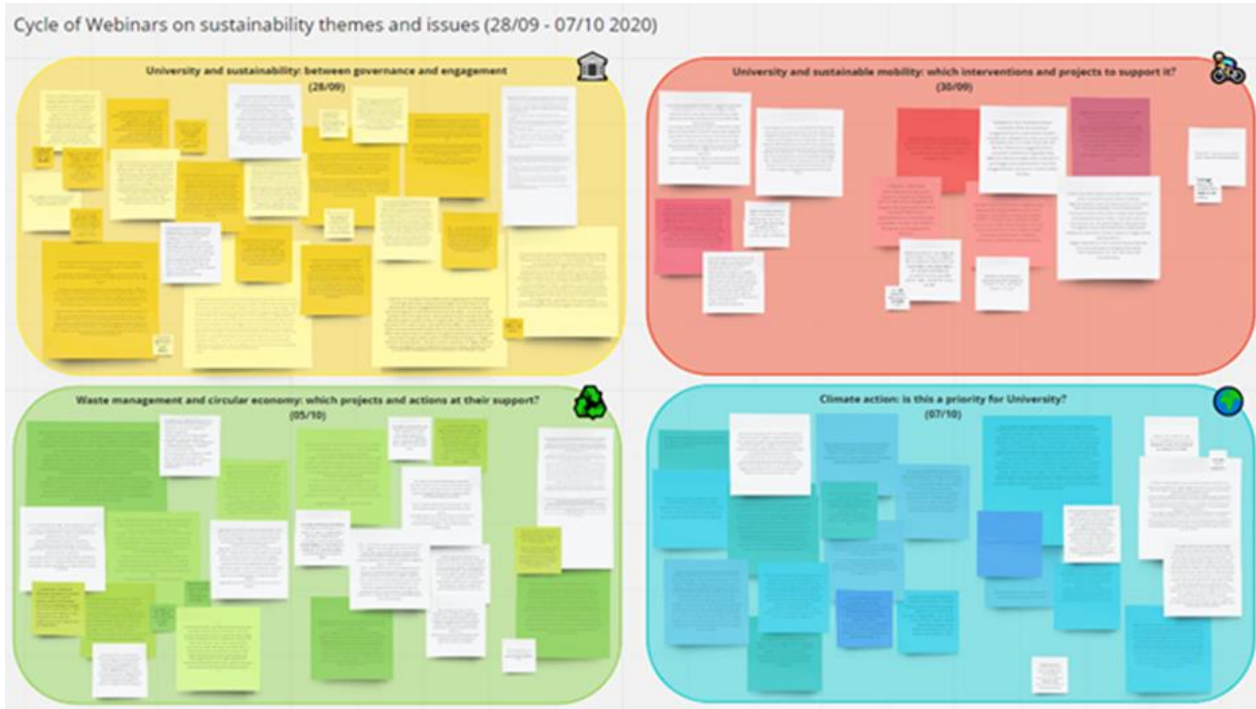
Webinar 3. **“Waste management and circular economy: which projects and actions at their support?”** (green box).



Sustainability Report of Politecnico di Milano

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

“The Politecnico I would like - Your ideas for a more sustainable University”
questionnaire and webinars

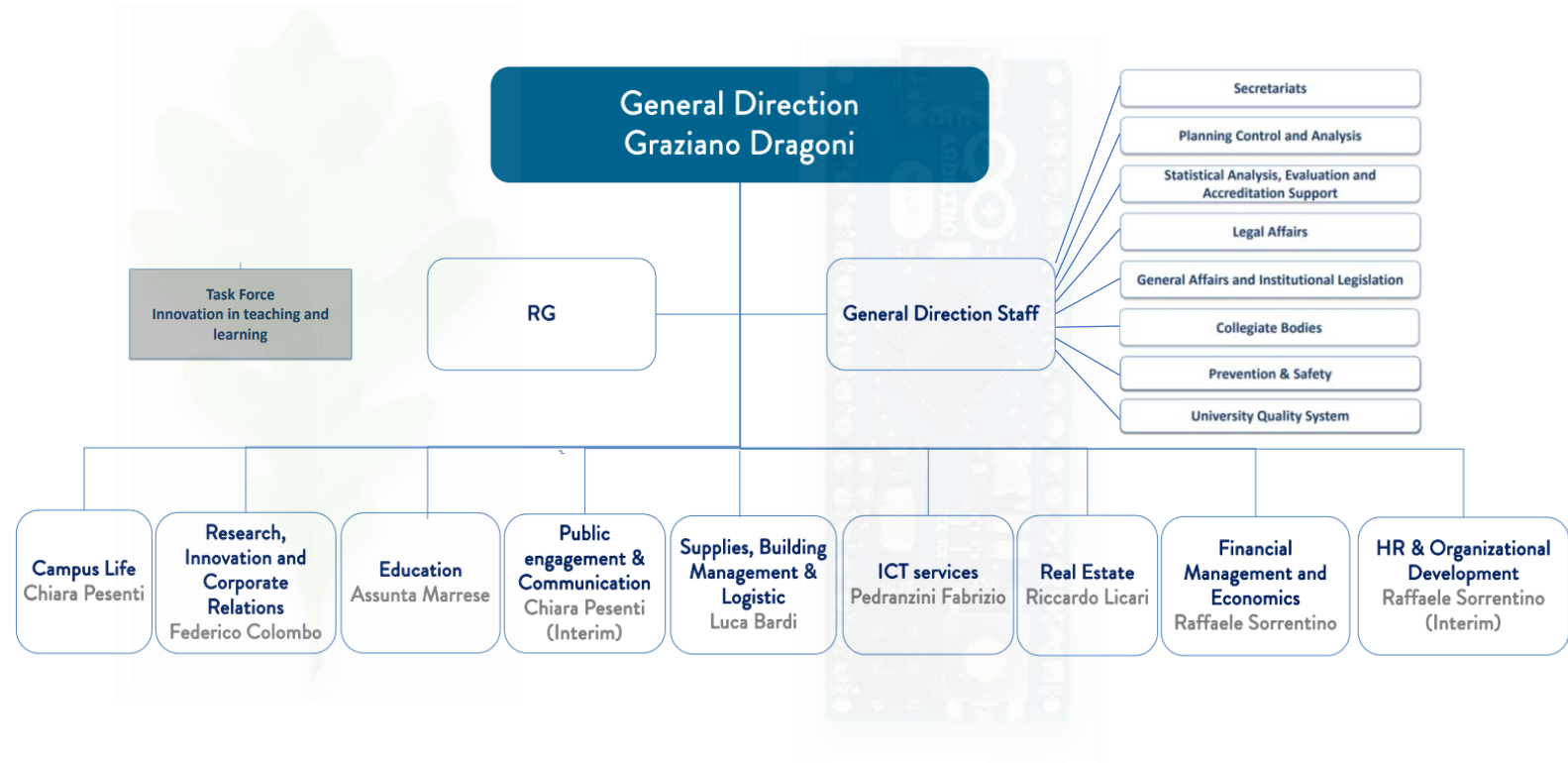


Main issues risen from the questionnaire and webinars:

- **the communication of sustainability events** and activities within and out of the University **is lacking**, the Polimi community is not well-informed, particularly concerning the freshmen;
- **seek to include the sustainability issues in the degree courses and related programmes;**
- **collaborate with the municipal administration** in order to further encourage the creation of cycle/walking paths connecting the heart of the City to the two Polimi Campuses located in Milan (Leonardo and Bovisa);
- **build racks and safety bicycle parking spaces** to avoid possible thefts;
- **increase the water dispensers** and build new **water tanks;**
- **incentivise the sustainable packaging** (i.e. biodegradable) instead of the plastic ones;
- **being able to use your own cup in vending machines**, instead of the plastic cup usually supplied;
- **regulate heating and cooling in the classrooms;**
- **increase the green spaces** to support sociability and general well-being.

Sustainability Report of Politecnico di Milano

Latest three final stages:



Sustainability Report of Politecnico di Milano

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Sustainability Report of Politecnico di Milano

Discussion of Polimi contribution to sustainable development. Stakeholders involved: Students, Personal staff, Academic staff

The **listening process** described and all the related evidence **may support other Universities in drafting their Sustainability Plan according to a shared governance approach**, as first step of a **co-creation pathway**.

A **sustainability plan** should not merely aim at reporting a well-elaborated institutional document as the main outcome; it should **primarily aim at leading to a transformative change** of the whole HE institution towards a sustainable development **starting from our community**, made of students, academic and administrative staff.

Research Project: Aree Produttive – Aree Pro-adattive



Promotore



Con il supporto di:



Finanziatore



For further information, please see <https://www.areeproadditive.polimi.it/>

Research Project: Aree Produttive – Aree Pro-adattive



Main goals:

- spread the **culture of sustainability and adaptation to climate change** in industrial and commercial areas (mainly considering **Small-Medium Enterprises – SMEs**)
- **implement adaptation strategies** in order to rethink places of production of goods and services as pro-adaptive areas, considering different endogenous and exogenous changes (i.e. economic, technological, social, territorial).

Promotore



Con il supporto di:



Finanziatore



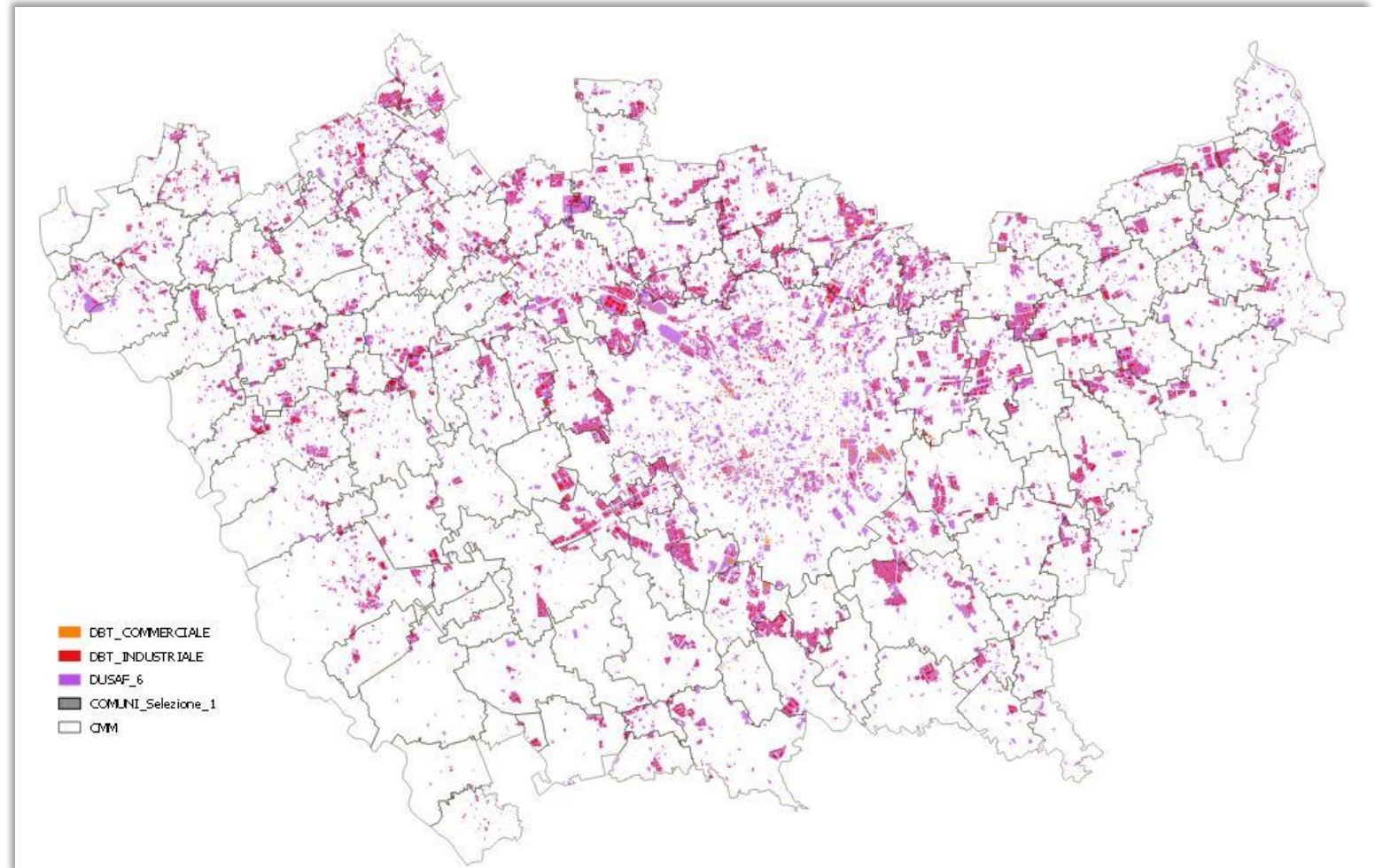
For further information, please see

<https://www.areeproaddattive.polimi.it/>

Research Project: Aree Produttive – Aree Pro-adattive

The urgencies:

- 10,89% of Città metropolitana di Milano total surface
- 30,90% of urban areas



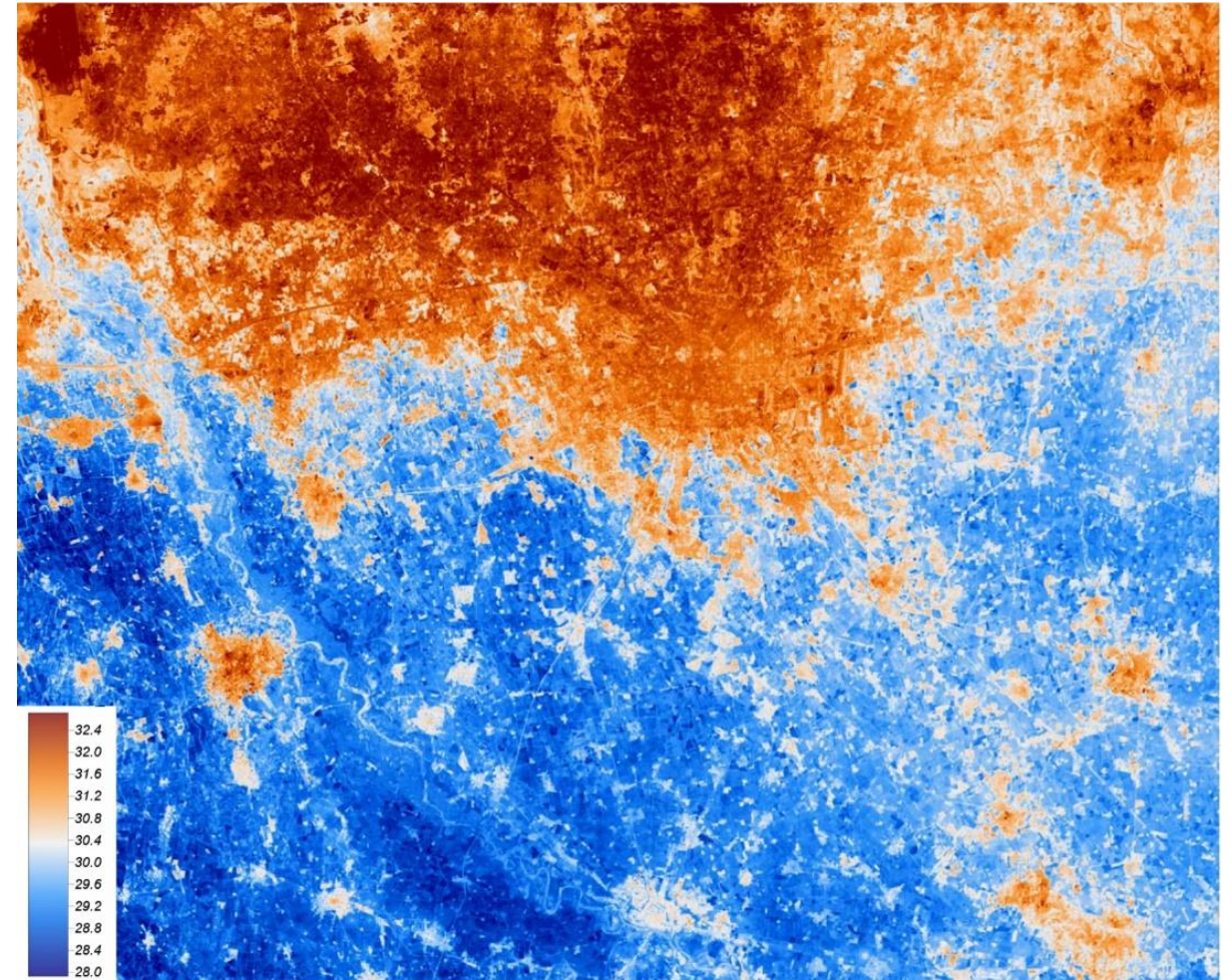
(Source: Data processing: Laboratorio di Simulazione Urbana Fausto Curti, Politecnico di Milano – Data retrived from: Geoportale Regione Lombardia, Dusaf)

Research Project: Aree Produttive – Aree Pro-adattive



The urgencies:

- Extreme temperatures
- Flooding due to heavy rainfall
- Imperviousness
- Settlement morphology

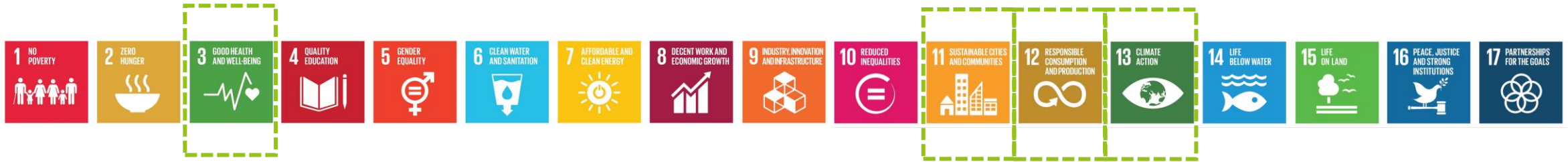


(Daytime air temperature (10:30 AM) in a built and rural environment. Source: Data processing - Laboratorio di Simulazione Urbana Fausto Curti, Politecnico di Milano)

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Alignment with the Sustainable Development Goals: Primary SDGs and Secondary SDGs



3 dimensions:

Inside SMEs

Outside SMEs(private)

Outside SMEs(public)

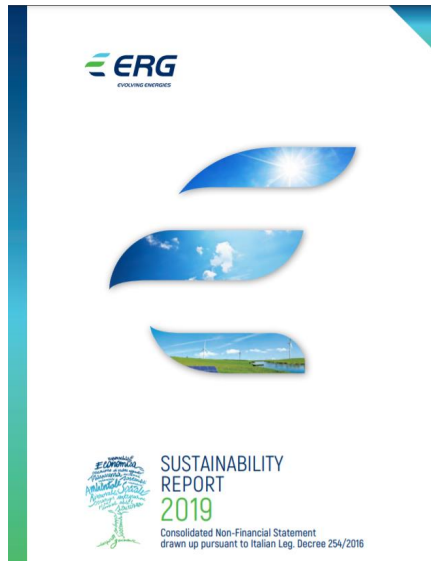
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Alignment with the Sustainable Development Goals



Inside SMEs



Among others:

- Good health and well-being of workers (policies and services)
- Dematerialisation process
- Partnerships with other enterprises/institutions to support the sustainable development

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Alignment with the Sustainable Development Goals



Outside SMEs
Private



Among others:

- Photovoltaic systems
- Nature-based solutions - buildings
- Cool materials



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Alignment with the Sustainable Development Goals



Among others:

- Green infrastructures
- Water management



https://www.geologimarche.it/wp-content/uploads/2018/05/DSimioni-06_06_2018_-_SeminarioAcqueReflue.pdf

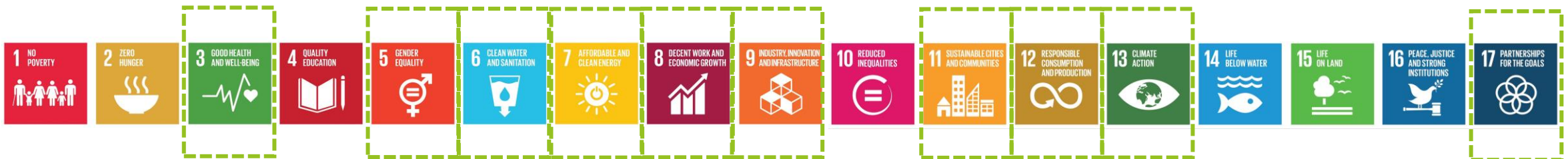
Outside SMEs
Public

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Framework

Urban challenge	Strategy (main goals)	Intervention/ Action	Output indicator [unit]	SDGs Related to output indicator	Outcome indicator [unit]	SDGs Related to outcome indicator
Urban heat waves	Promote an urban afforestation strategy	Plant new trees	Numer of trees planted [1 300]	15	Carbon sequestered [20 tCO ₂ yr ⁻¹]	13
...

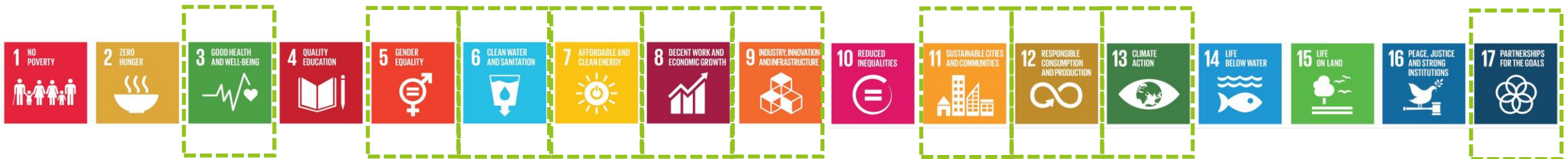


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Framework

Urban challenge	Strategy (main goals)	Intervention/ Action	Output indicator [unit]	SDGs Related to output indicator	Outcome indicator [unit]	SDGs Related to outcome indicator
Urban heat waves	Promote an urban afforestation strategy	Plant new trees	Numer of trees planted [1300]	15	Carbon sequestered [20 tCO ₂ yr ⁻¹]	13
Ecological fragmentation					Reduction of CO ₂ emissions resulting from energy savings [...]	13
					Increased species in urban environment [...]	15



Research Project: Aree Produttive – Aree Pro-adattive



SDGs in
urban planning

**Interlinkages:
SDG 11 and other SDGs**

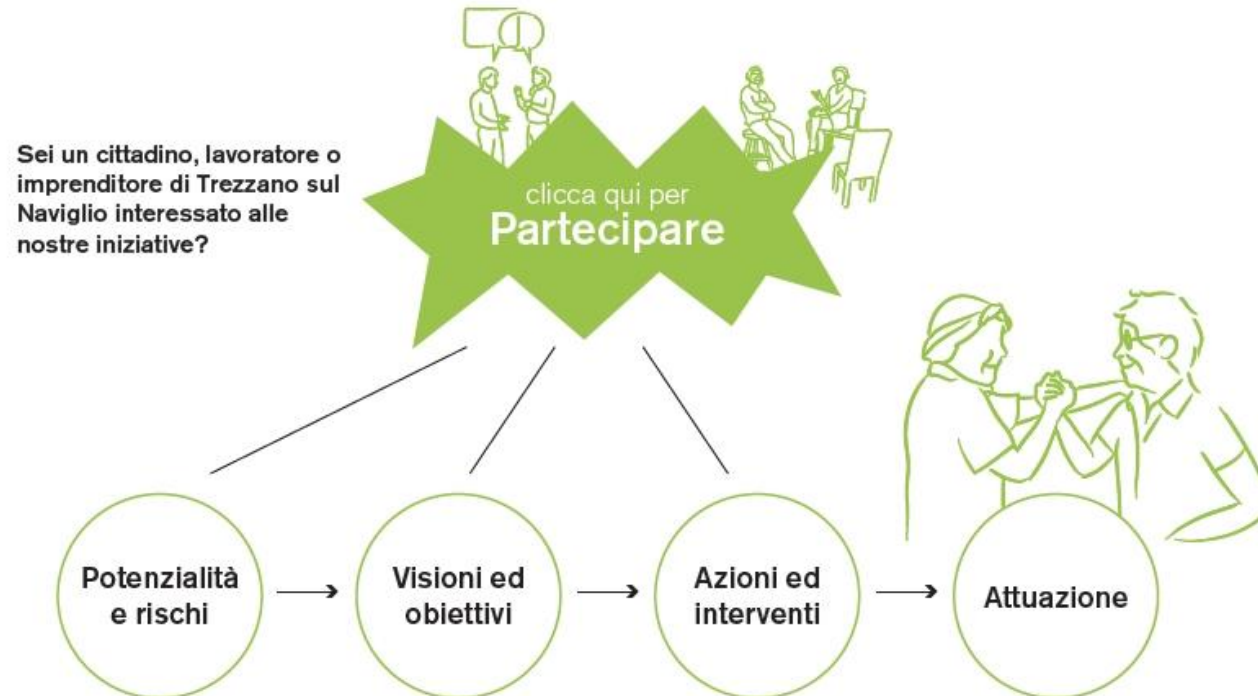


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Living-lab and co-creation process

A context to be enhanced: **Trezzano sul Naviglio** has a deep-rooted **production and commercial tradition** to be strengthened **improving the quality of the internal and external (working) environment**.



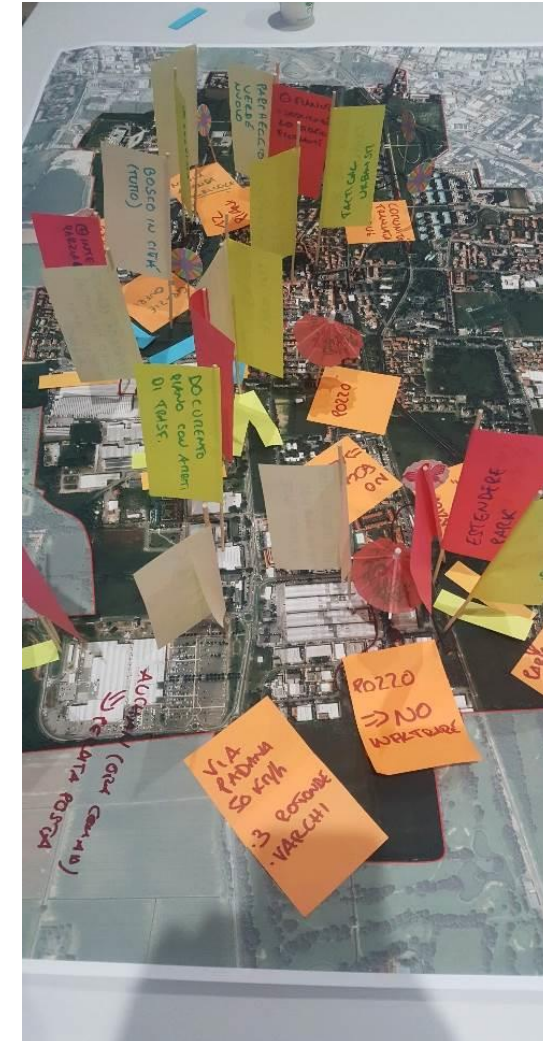
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Living-lab and co-creation process

Projects' main steps:

- engagement of the local community
- raising awareness and technical training of stakeholders
- citizen involvement
- co-production of effective solutions
- use of new governance and urban planning tools
- technical and economic feasibility of the interventions



Localising Sustainable Development Goals in urban planning

What we need to remember



Framework to assess the whole (urban) strategy, considering the contribution of interventions to the Sustainable Development Goals achievement



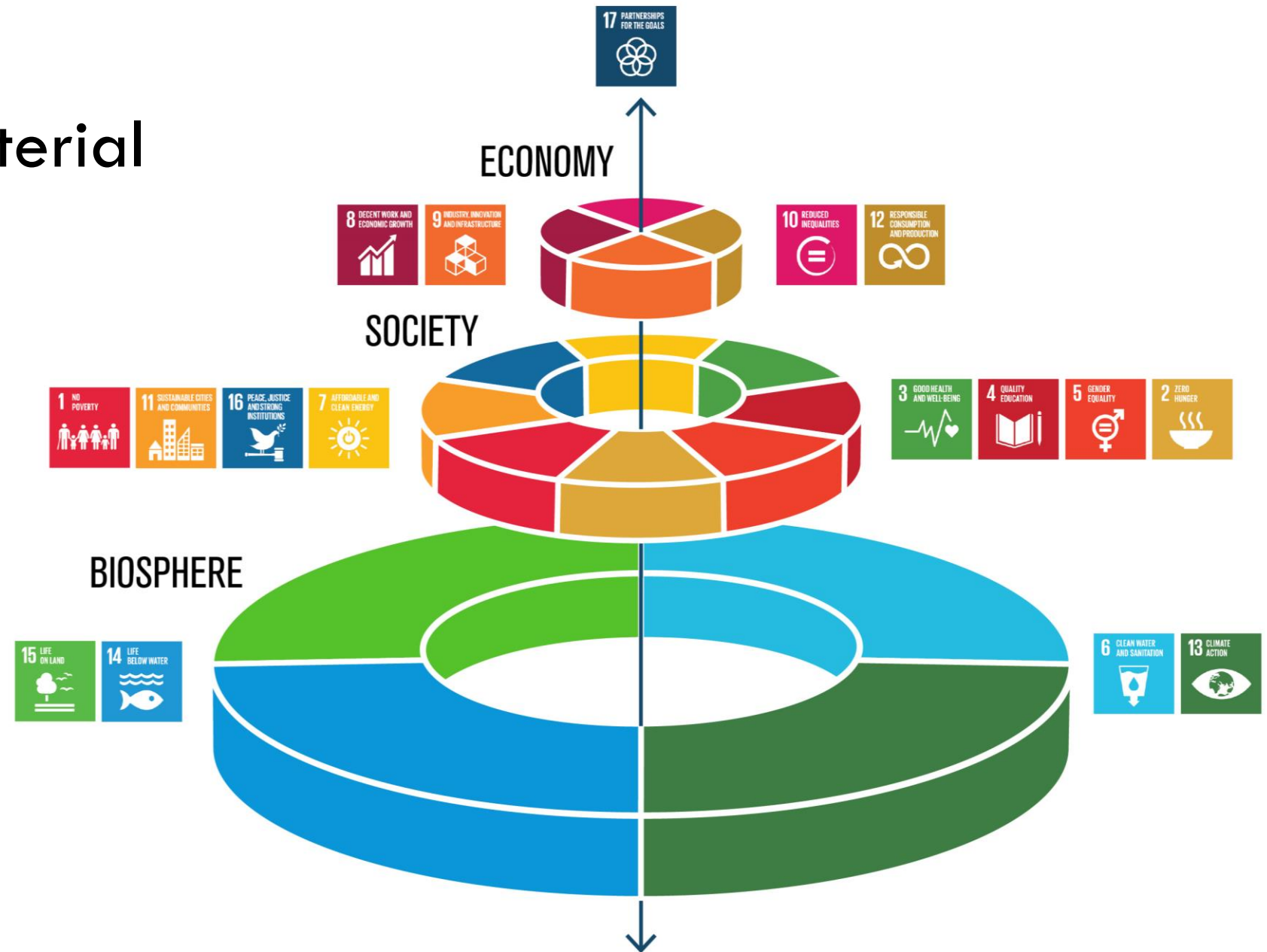
Indicators issues and opportunities to localise and monitor SDGs

Outputs, outcomes and impacts on SDGs

Shared governance to increase **people awareness** of sustainable issues and the **acceptance** of interventions

Supplementary material

SDGs in brief: the wedding cake





Aree Produttive, Aree Pro-Adattive

AG2030 | Agenda 2030 e Sustainable Development Goals

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