



CIÊNCIAS

Sustainability Living Lab experimentation & community engagement



CIÊNCIAS Community

Scientific areas:

-  Chemical Sciences and Technologies
-  Life Sciences
-  Earth Sciences
-  Physical Sciences and Engineering
-  Mathematical Sciences
-  Computer Science and Engineering
-  History and Philosophy of Science

Education programmes:

-  16 degrees
-  40 master's programmes
-  21 PhD programmes

Organisational model:

-  13 R&D centres
-  7 departments
-  300+ labs
-  +40 service units
-  14 buildings (11 on the Campo Grande campus)



SCHOLARSHIPS AND INTERNSHIPS



TECHNICAL AND ADMINISTRATIVE STAFF



TEACHING AND RESEARCH STAFF



STUDENTS





acting towards
promoting
citizenship

supporting research
& innovation
activities

promoting good
practices

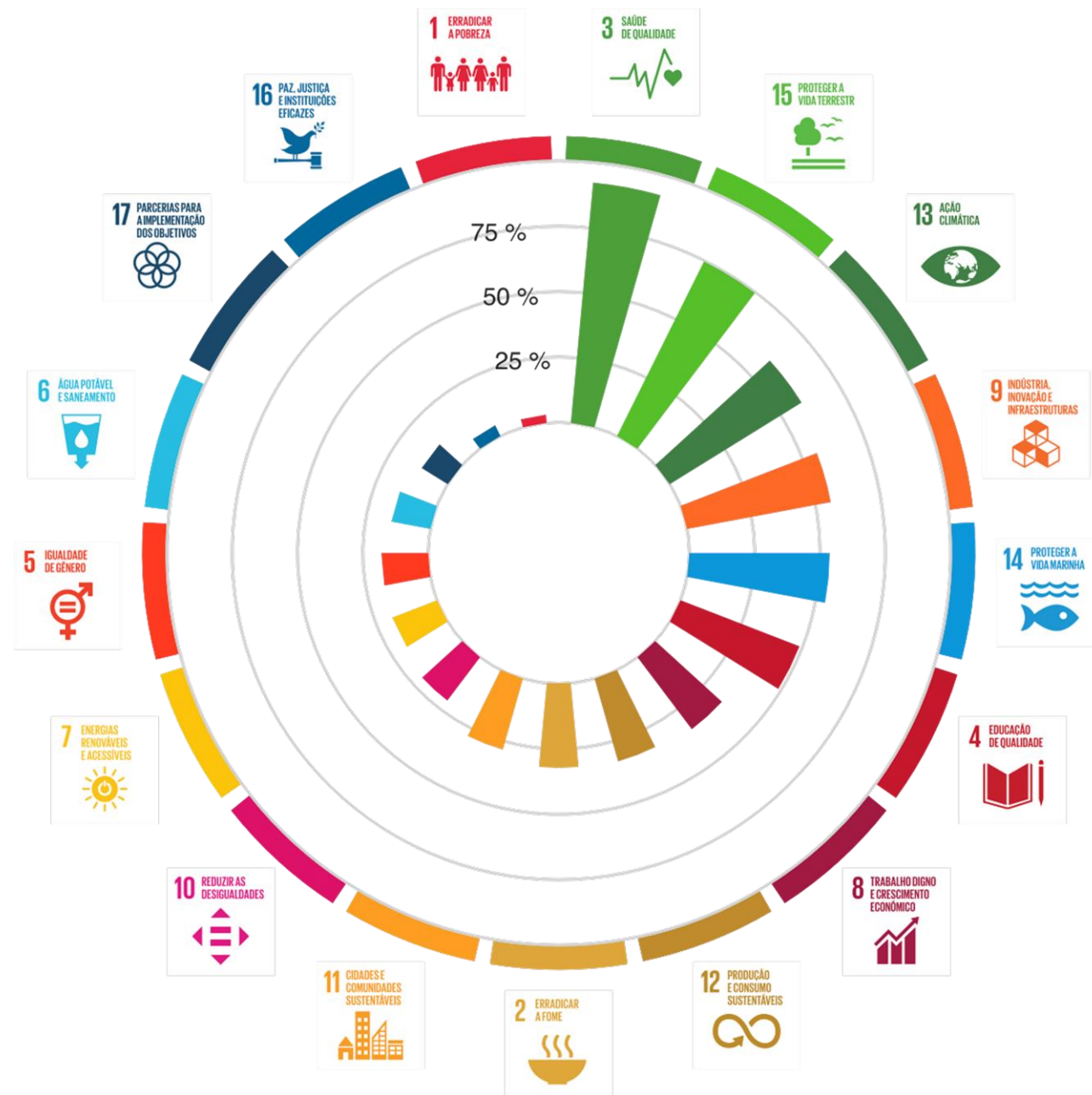


- ❖ since 2015
- ❖ coherence and visibility to existing activities
- ❖ enhancing community involvement

Sustainability on
campus

Sustainability
Projects & Good
Practices

Training Offer





Sustainability on
campus

Sustainability
Projects & Good
Practices

Training Offer

Energy

Water

Gas

Waste

Greenhouse gases

Green Infrastructure



we produce ~10% of the energy we consume



Energy
Water
Gas

Waste

Greenhouse gases

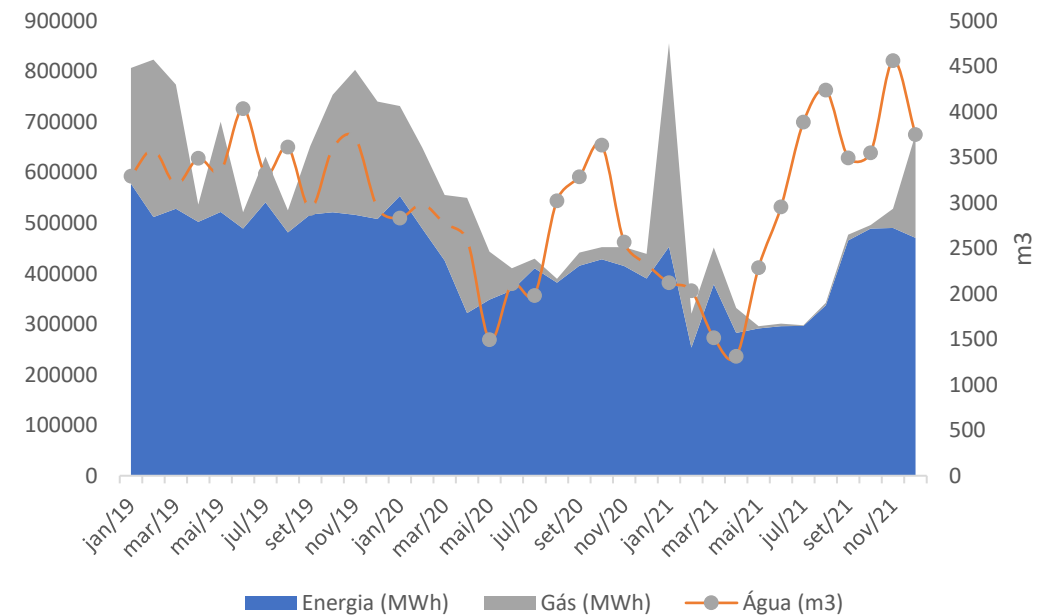
Green Infrastructure

SUSTAINABILITY ON CAMPUS

Consumption



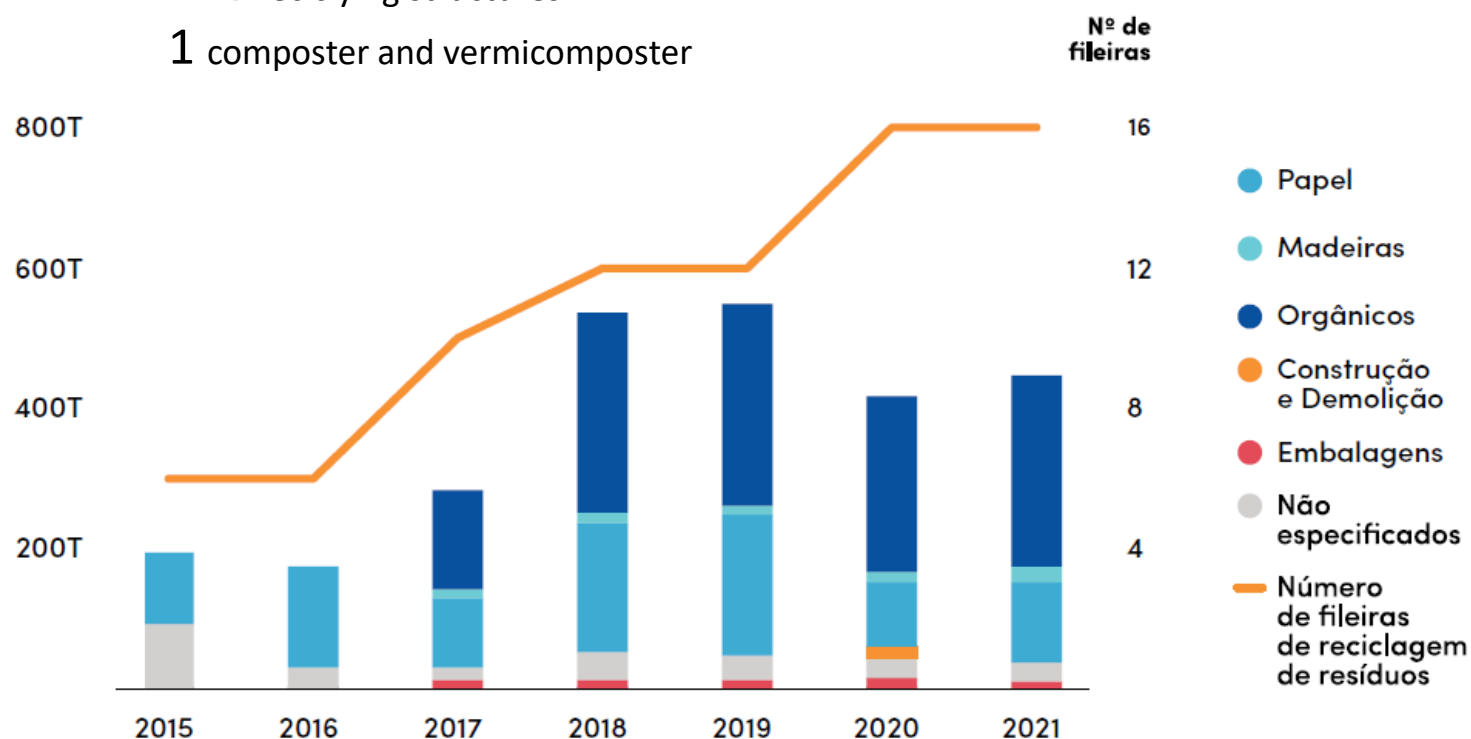
	2019	2020	2021	
energy (MWh)				
	total	6215	4946	4504
	per capita	0,99	0,77	0,68
água (m³)				
	total	41073	31603	35715
	per capita	6,6	4,9	5,4
Gas (MWh)				
	total	2053	998	868
	per capita	0,3	0,2	0,1
produção de energy (MWh)	460	555	566	





118 recycling structures

1 composter and vermicomposter



Per capita / year:

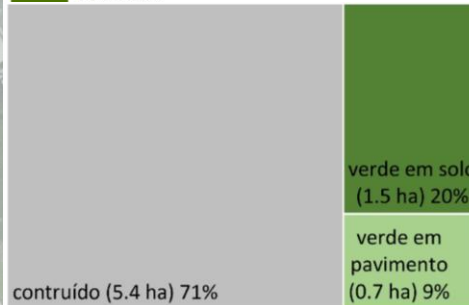
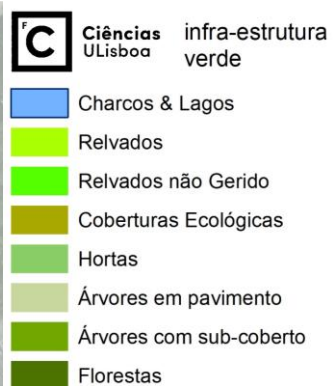
- 40 kg of undifferentiated waste;
- 5 kg of paper;
- 3 kg of glass;
- 2 kg of packaging;
- 8 kg of organic waste

Montado (Sobreiro)

C sequestro $\approx 180 \text{ ton C ano}^{-1}$
(média de $88 \text{ g C m}^{-2} \text{ ano}^{-1}$, Pereira et al., 2017).

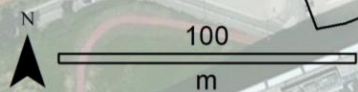
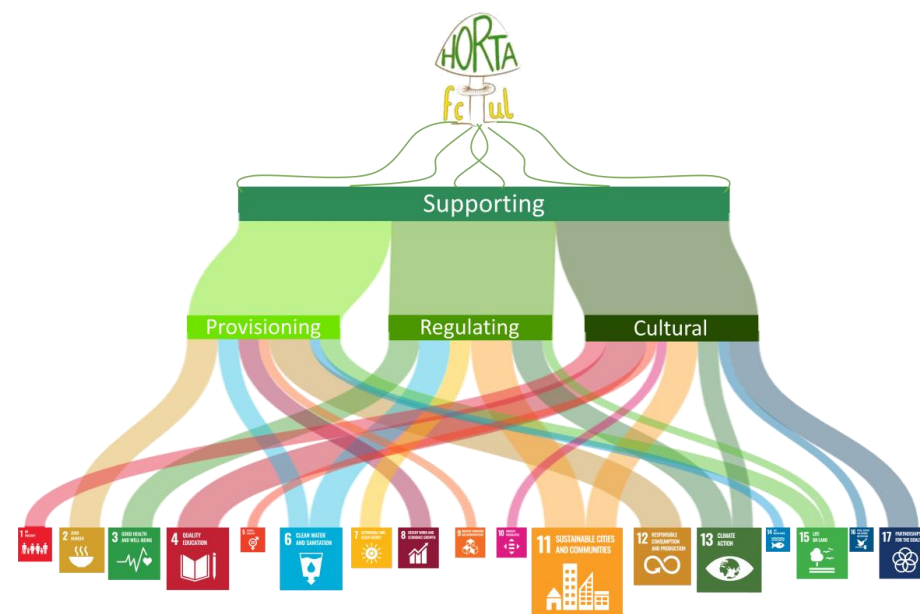
stock C $\approx 52000 \text{ ton}$
(média de 250 ton ha^{-1} (Mexia et al., 2018))





Energy
Water
Gas
Waste
Greenhouse gases

Green Infrastructure



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

~30% are green areas



Energy
Water
Waste

Greenhouse gases

Green Infrastructure

transforming
lawns into new habitats

- Planting with native species
- Planting next to solar panels
- Community engagement

Sustainability on
campus

Sustainability
Projects & Good
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Training Offer



Living Laboratory for Sustainability

Created in 2015, the **Living Laboratory for Sustainability @ CIÊNCIAS ULisboa** seeks to give coherence and visibility to a diverse set of initiatives already underway, boosting the engagement of the academic community and society in the great challenge of sustainable development.

As an innovation ecosystem for sustainability, the Living Laboratory hosts experimentation and action-research projects that cover the three fundamental dimensions — social, environmental and economic. Its intervention is organised along four main lines: boosting innovation and knowledge transfer; raising awareness and training the community in the principles of sustainability; promoting inclusive participation; and continuously evaluating and improving the environmental performance of the campus, reducing resource consumption and the production of waste and emissions.

15 active projects
(2024)

+100 people
actively involved in projects

13 SDGs
covered



The following are currently active projects associated with the Living Laboratory



Autonomia 21

Integration of young people with Trisomy 21 (T21) in the workforce



+Biodiversidade @CIÊNCIAS

Characterising and monitoring biodiversity



Bioilhas

Biodiverse classrooms



Campus solar

Characterising, testing and experimenting with solar energy systems

Caravana AgroEcológica

Participatory project involving farmers, consumers and researchers



Chicken Tractor

Sustainable agricultural practices with chicken tractors



Cicloficina

Help with repairs, tuning and queries on everything related to bicycles



Dilena Fungi

Mushrooms in CIÊNCIAS



The following are currently active projects associated with the Living Laboratory



DOMUS

Harbouring and getting to know the biodiversity of CIÊNCIAS up close



FCULresta

Tiny forest in an urban centre



HortaFCUL

Permanent food garden



Horta Solar

Agro-voltaic system exploring the combined and synergistic production of solar electricity and agricultural products



Núcleo EcoSocial

Pro-sustainability student community



Oficina das Energias

Uncomplicating renewable energies



Permalab

Innovative solutions proposed by permaculture



Telhado verde

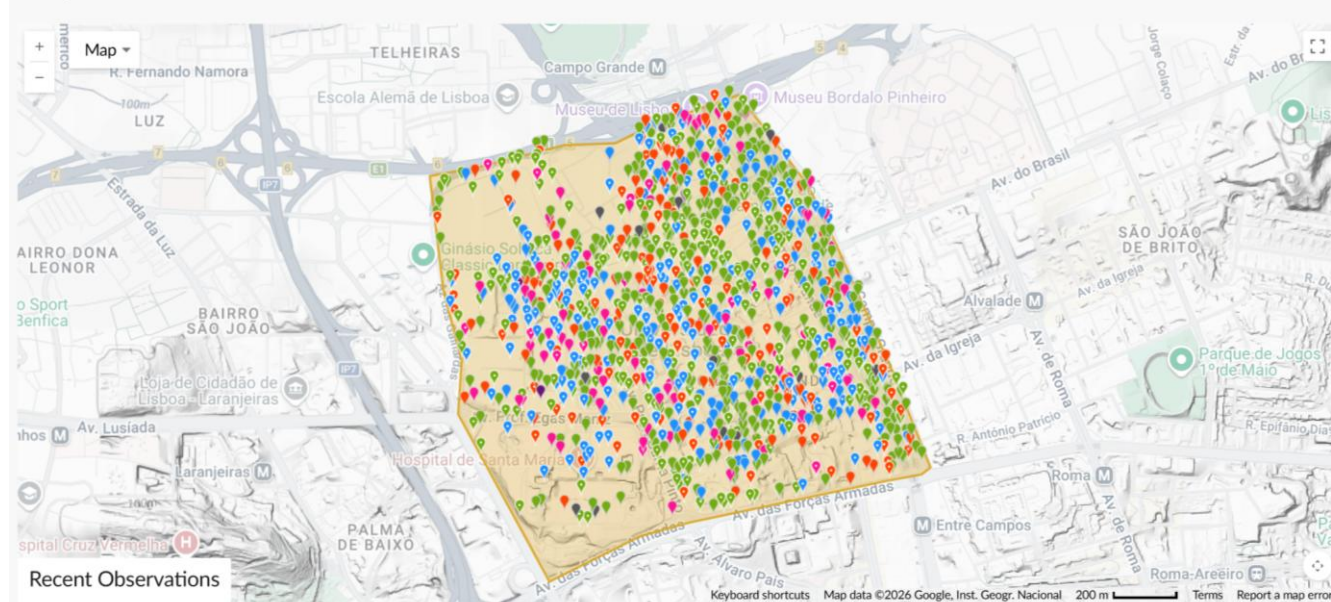
Ecological roofing with native species





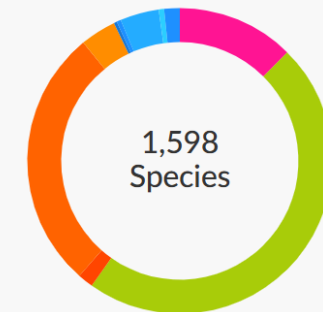
+Biodiversity@CIÊNCIAS

Map of Observations



○ 15 744 observations

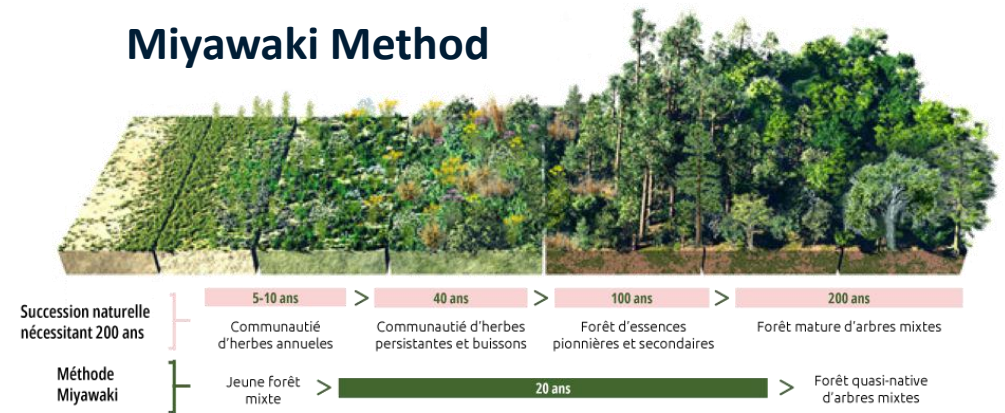
○ 969 observers



- | | |
|------------|-----------------|
| Unknown | Arachnids |
| Protozoans | Ray-Finned F... |
| Fungi | Amphibians |
| Plants | Reptiles |
| Chromista | Birds |
| Molluscs | Mammals |
| Insects | Other Animals |



Miyawaki Method



300 m²
662 trees & shrubs
44 species
150 volunteers

2 years after:

60,000 visits (Google Maps)

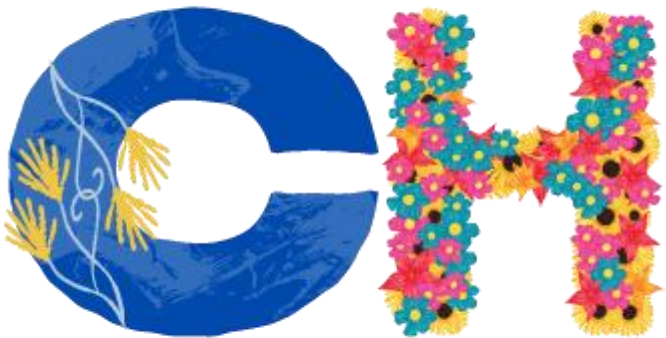
Creation of the MiniForests Guide for MegaLearnings

Solar Garden



BENEFITS:

- **plants** – increased shade; reduced water stress
- **solar panels** – less dust; increased plant evapotranspiration; greater ground clearance



CIÊNCIAS EM HARMONIA



CIÊNCIAS in Harmony Life beyond classroom and laboratories

Aimed at the entire academic community

Includes psychologists, teachers/researchers, and students

Promotes spaces for meeting, sharing, and developing individual and social skills.



Sustainability on
campus

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Practices

Training Offer



New Curricular Units since 2022

Undergraduate | Sustainability

MSc | Topics in Sustainability

PhD | Advanced Studies in Sustainability

TRAINING OFFER



Equipas compostas por:

- Students
- Professors/Researchers
- Non-teaching staff

Possible themes

- ⚡ Utilização eficiente de energia e/ou água no campus de Ciências ULisboa
- 💡 Geração e/ou utilização de energia
- ♻️ Redução da produção de resíduos
- ♻️ Redução da pegada ecológica de processos
- 🏠 Utilização de produtos locais
- 👥 Criação de medidas que visem um maior bem-estar das comunidades
- 🏢 Redução do impacto de Ciências ULisboa na cidade de Lisboa, etc.

Ideas Contest for
Sustainability
@CIÊNCIAS ULisboa

since **2019**
supports projects
that promote
sustainability on
campus



Table of Contents

Acknowledgement
 CIÊNCIAS' mission for sustainability
 Message from the Faculty Dean
 Message from the student body representative
 CIÊNCIAS on the map
 CIÊNCIAS Community

01. Executive Summary

Monitoring the SDGs in CIÊNCIAS
 CIÊNCIAS progress towards the SDGs
 CIÊNCIAS' practices for the SDGs
 Research in CIÊNCIAS for the SDGs
 CIÊNCIAS recommendations for 2030

02. Introduction

What are the Sustainable Development Goals?
 Living Laboratory for Sustainability
 Methodological approach to the report
 SDGs in theses, dissertations and research projects

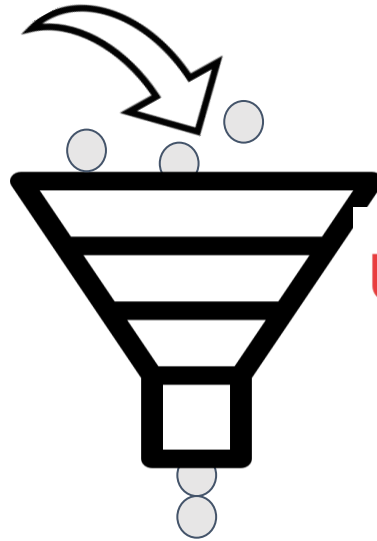
03. SDG Chapters

SDG 1 – No Poverty	24
SDG 2 – Zero Hunger	28
SDG 3 – Good Health and Well-Being	33
SDG 4 – Quality Education	40
SDG 5 – Gender Equality	48
SDG 6 – Clean Water and Sanitation	55
SDG 7 – Affordable and Clean Energy	59
SDG 8 – Decent Work and Economic Growth	65
SDG 9 – Industry, Innovation and Infrastructure	71
SDG 10 – Reduced Inequalities	78
SDG 11 – Sustainable Cities and Communities	84
SDG 12 – Responsible Consumption and Production	91
SDG 13 – Climate Action	96
SDG 14 – Life Below Water	103
SDG 15 – Life on Land	109
SDG 16 – Peace, Justice and Strong Institutions	117
SDG 17 – Partnerships for the Goals	123

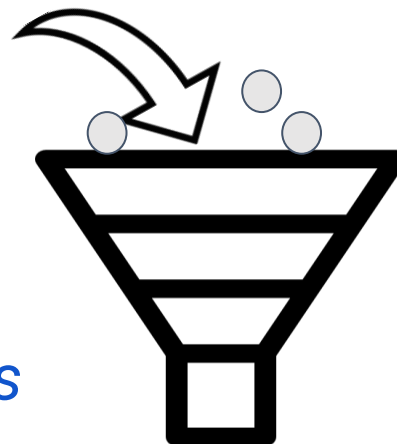
04. Methodologies and Supporting Tables

Methodology	131
Summary table of the scope of SDGs in higher education	133
Supporting tables and Methodologies	134

Methodological approach



+ Indicators
+ Good practices
+ Recommendations



115

Global indicators (+35%)

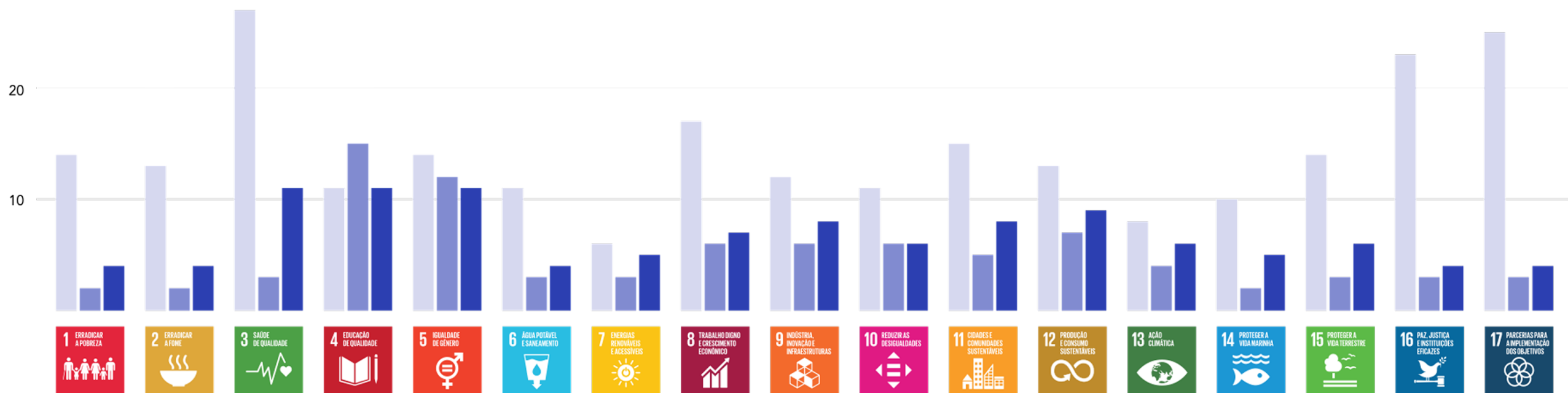
43

Global goals (25%)

13

ODS with more indicators

The ODS at CIÊNCIAS



ONU



ORGANIZAÇÃO DAS
NACÕES UNIDAS



UPO



Ciências
ULisboa

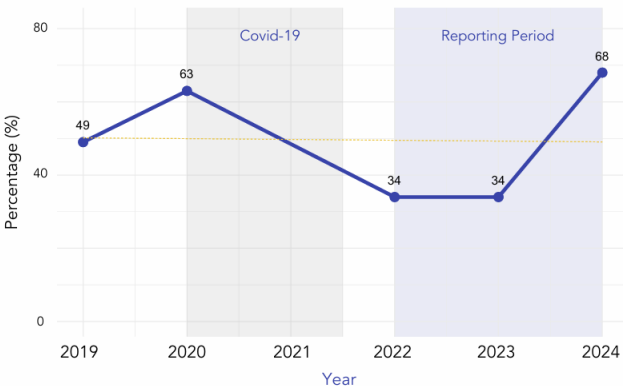
CIÊNCIAS progress to the SDG's

Target 7.2

By 2030, substantially increase the share of renewable energy in the global energy mix

Indicator 702

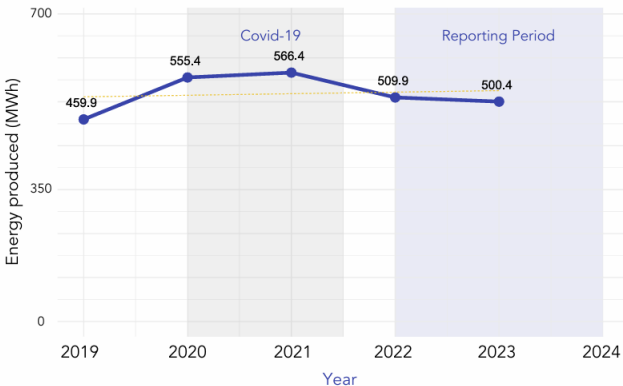
Percentage of electricity consumed that comes from renewable sources compared to total electricity consumption per year



Electricity suppliers to the Campo Grande campus have varied over the last 6 years, resulting in changes in the energy mix of the electricity supplied to CIÊNCIAS. However, **the current supplier's results in 2024 suggest a significant improvement in the coming years**, in line with the general positive trend in the share of renewables in the country's energy mix.

Indicator 703

Energy injected into the grid by the CIÊNCIAS Solar Campus per year



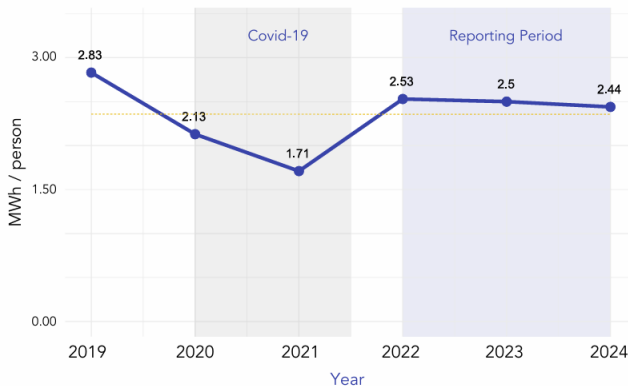
The installed capacity of the Solar Campus, whose energy is injected into the grid for external consumption, has remained relatively stable in recent years, around 450-550 MWh. **Compared to the 'normal' consumption of CIÊNCIAS (excluding the pandemic period), the production corresponds to around 7.5-8.5% of the electricity consumed on campus.** In 2024, only 236 MWh were produced, which was probably due to a prolonged breakdown in the grid connection system. The fault has since been identified and rectified, so it has not been included this year in the indicator's trend calculation.

Target 7.3

By 2030, double the global rate of improvement in energy efficiency

Indicator 704

Primary energy consumption per capita, per year (MWh)



Primary energy consumption suffered an expected decline during the pandemic. However, the resulting increase in consumption in the reporting period did not reach the figures for 2019 (pre-pandemic), which is a positive sign.

CIÊNCIAS progress to the SDG's



SDG 7 Good Practice Highlight

Horta Solar

Created in 2023, the *Horta Solar* (Solar Vegetable Garden) is a multidisciplinary research and demonstration project for an agro-voltaic system to exploit the combined and synergistic production of solar electricity and agricultural products. The garden was intentionally designed to exploit the shading effect of the solar modules on the productivity and irrigation needs of the crops. The study of these synergies is one of the main focuses of ongoing research, and several benefits have already been noted, both in improving the growth of species that benefit from shading and in cooling the panels.

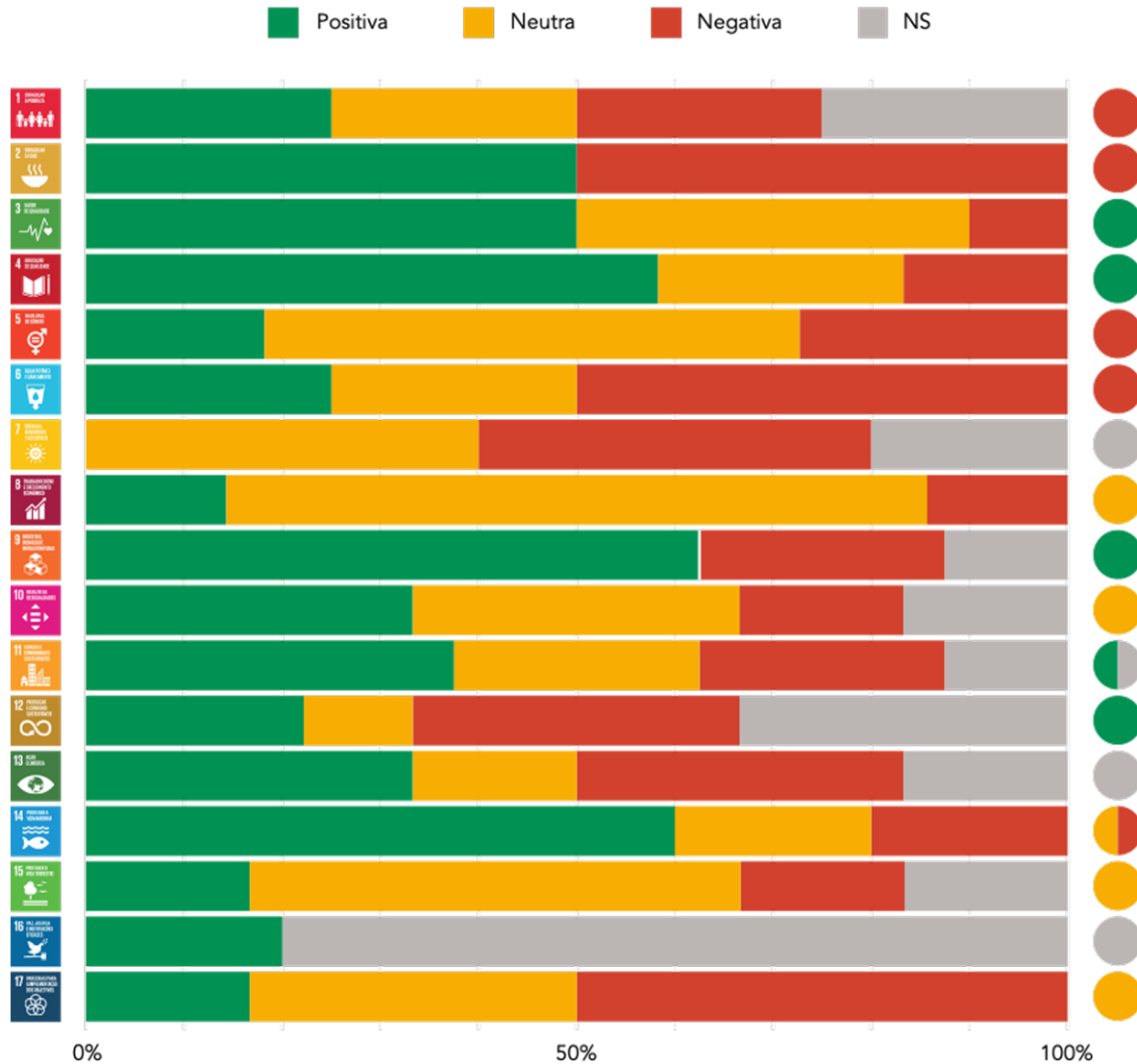
+1000 visitors
mainly secondary school
students

**8,000
kWh/year**
generated from solar
electricity

Increased yield of beans,
pepper and carob, but
reduced yield of maize
and lavender



CIÊNCIAS progress to the SDG's



Recommendations for 2030



O reforço da integração dos ODS na estratégia e planos de gestão institucionais



A criação de mecanismos regulares de monitorização e atualização de indicadores



A promoção de políticas internas de inclusão, equidade e acessibilidade



A valorização de projetos interdisciplinares no âmbito do Laboratório Vivo para a Sustentabilidade



O fortalecimento da comunicação e envolvimento da comunidade académica



A manutenção e renovação da Comissão de Sustentabilidade de CIÊNCIAS como órgão facilitador, integrador e promotor de políticas e práticas sustentáveis em e por CIÊNCIAS

A comprehensive analysis that is methodologically sound and supported by longitudinal data—characteristics that we hope will make it a useful reference in the context of national higher education institutions.

Thursday · 12 March, 2026

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Sustainable CIÊNCIAS

Do you have any questions? ↑

Announcements On March 13th, discover our commitment to a more sustainable future. Don't miss the CIÊNCIAS ULisboa 2030 event.



<https://ciencias.ulisboa.pt/en/society/sustainability>

ON-LINE



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