

# **ENVIRONMENTAL MANAGEMENT FOR UNIVERSITIES**

## **– FROM POLICY TO PRACTICE**

A cooperation project between the University of Aveiro, Portugal; the University Institute of Lisbon, Portugal; the University of Gothenburg, Sweden; and the Columbus Association, France

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UNIVERSITY OF  
GOTHENBURG

# 1. ABOUT THIS REPORT

This report is a short guide to how an environmental management system can be implemented at a university and it is primarily aimed at universities that intend to work structured with environmental/sustainability issues.

Even if the team leaders from the University of Aveiro and the University Institute of Lisbon here share some of the experiences they gained during the process, this report cannot in any way give a fair picture of the dedication and the hard work the team leaders and their teams put into the project.

This report contains tables comparing the two participating universities in relation to the subject, with the intention of showing the possibilities and flexibility of the environmental management system depending on the uniqueness of the university. Quotations from the team leaders in the various parts of the report are intended to serve as lessons learned from the specific section. There are also fact boxes with examples of activities at the universities that have been particularly valuable during the process.

Throughout the report, the teams that worked with the implementation of the environmental management system at their institutions are called "the teams".

The exact wording or requirements of ISO 14001:2015 are not cited in this report. Instead, the requirements are interpreted by the project leader to fit the organizational context of a university.

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## 2. INTRODUCTION

*An environmental management system (EMS) provides guidance for a systematic and long-term environmental work where the key word is continuous improvement. An EMS can also provide a more structured and clearer organization of sustainability work.*

Environmental management systems have been used by industries and corporations in the private sector for more than two decades in order to improve companies' environmental performance and to certify their achievements. During the last decade, higher education institutions have begun to use this certification process as well. Universities aim to reduce their environmental impact by integrating environmental concerns systematically into research, education, outreach and operations. The systematic and long-term approach of an environmental management system applied in all the university's activities can also serve as a pathway for integrating social, cultural and economic aspects of sustainability.<sup>1</sup>

When the United Nations (UN) established the Sustainable Development Goals (SDGs) and the Agenda 2030 in 2015, universities gained yet another framework for these efforts. The goals include an emphasis on "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles."<sup>2</sup>

UNESCO established The Global Action Programme on Education for Sustainable Development in 2015, which should contribute to achieving the vision put forward by the United Nations Decade of Education for Sustainable Development: "a world where everybody has the opportunity to benefit from education and learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation".<sup>3</sup>

Since education has a key role for a sustainable future, universities are challenged to take a leadership role in sustainability issues. As universities educate the next generation of decision-ma-

kers and influencers, universities can have a vastly greater impact on sustainable development than any other single sector in society.<sup>4</sup> Universities therefore have an important role in striving to achieve the future SDGs.

Due to environmental management systems' requirements for target setting, action plans and follow-up through audits, management reviews and reporting, there is a structure and methodology for including the most important activities to address. This also creates opportunities for change, including better technical solutions as well as social learning processes. Thus an environmental management system can be a driving force for sustainability implementation at higher education institutions and can thereby achieve a transformative change for sustainable development.<sup>5</sup> However, the implementation of an EMS will in itself demand a change process including the entire university.

### 2.1 ORGANIZATIONAL CONTEXT

Universities can be defined as consisting of four dimensions (education, research, university operations and external community), and to be able to achieve transformative change it is necessary to understand the interdependence between these dimensions.<sup>6</sup> The university is a 'professional bureaucracy'<sup>7</sup>, a term that usually applies to organizations such as universities and other school systems. Characteristic of the professional bureaucracy is double hierarchies with employees who have a high level of education that gives them the ability to work without supervision. This can mean that changes may not be achieved easily, and when implementing new ideas and processes this must be taken into account and adaptation to the prevailing culture is necessary.

The Nordic Sustainable Campus Network initiated a study comparing the implementation of sustainable development at 52 Nordic higher education institutions in 2014.<sup>8</sup> One of the main conclusions was that to promote sustainability

and to overcome barriers, establishing an EMS could lead to a more structured and clearer organization of sustainability work. They also found that Nordic higher education institutions should strive for more collaboration and sharing of experiences to reach better levels of sustainability. Increasing the amount of student engagement and interdisciplinary and multidisciplinary projects would raise awareness and change behaviour throughout the institution. Finally, the visibility of sustainability and education for sustainable development could be promoted through better communications and educating staff.

### 2.2 PURPOSE OF THE PROJECT

Against this background of research and experience, the cooperation project, "Environmental Management for Universities", aimed to introduce and implement an environmental management system at two universities, which were different in size and academic orientation, with the purpose of reducing negative environmental impact from all operations and strengthening sustainability in research, education and outreach. The project sought answers to the following questions:

- What are the challenges of introducing an EMS in a higher education institution?
- What progress was made during the process?
- How does the EMS relate to sustainable development?

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1. Disterheft, A, Silva Caeiro, S, Rosario Ramos, M, Azeiteiro, M (2012) Environmental Management Systems (EMS) implementation process and practices in European higher education institutions - Top down versus participatory approaches, Journal of Cleaner Production 31 (2012) 80-90.  
2. <https://sustainabledevelopment.un.org/sdgs>  
3. <https://en.unesco.org/gap>  
4. Chambers, D. (2009), 'Assessing and planning for environmental sustainability – a framework for institutions of higher education' in W.L. Filho (ed.), Sustainability at Universities – Opportunities, Challenges and Trends, Frankfurt: Peter Lang, pp. 287-96.  
5. Omrcen, E. et al. (2013) 'Can an environmental management system be a driving force for sustainability in higher education?' Regenerative Sustainable Development of Universities and Cities (ed. König, A.), pp 88-106, UK and USA: Edward Elgar Publishing  
6. Cortese, A. D. (2003). The critical role of higher education in creating a sustainable future. Planning for Higher Education, 31(3), 15–22.  
7. Mintzberg, H., (1993) Structure in Fives, Designing Effective Organizations, Prentice Hall, Upper Saddle River, N.J.  
8. The implementation of sustainable development in the Nordic higher education institutions (HEIs) © Springer International Publishing AG 2017W. Leal Filho et al. (eds.), Handbook of Theory and Practice of Sustainable Development in Higher Education, World Sustainability Series, DOI

# 3. THE COOPERATION PROJECT

From March 2017 to October 2018, the University of Gothenburg (GU) guided the University Institute of Lisbon (ISCTE-IUL) and the University of Aveiro (UA) through the systematic implementation of an environmental management system at their own institutions, with the overall goal of reducing environmental impact and strengthening sustainable development at their own institution. (Read about the participants on pages 36-39.)

When starting this project, the key words were cooperation (both between universities and within the individual institution), participant approach, learning by doing, visibility and communication.

The universities were brought together by the Columbus Association, which supported the project through coordination and through its web platform, thus enabling distance meetings and shared documentation. In addition to using the international standard ISO 14001:2015 in the implementation, GU also used its experiences from its own implementation processes: the strength of a dedicated sustainability or environmental team, how to approach the management, different possibilities of communication, managing resistance and how to obtain legitimacy and manoeuvrability in a complex organization.<sup>9</sup>

# 4. WHAT IS AN ENVIRONMENTAL MANAGEMENT SYSTEM?

An environmental management system (EMS) is a system for a systematic, structured and goal-directed way to work with environmental issues. The most recognized EMS is the international standard ISO 14001.<sup>10</sup> ISO 14001 was developed in 1996 and initially focused mainly on production in industry. In the second revision of the standard in 2015, there was an obvious effort to adapt the standard's demands to fit other kinds of organizations as well, including smaller and mid-sized companies: "... to any organization regardless of size, type or nature...".<sup>11</sup> There was also a need to clarify how the standard could be a tool for environmental work as part of sustainable development: "...with the aim to manage its environmental responsibilities in a manner that contributes to the 'environmental pillar' of sustainability."<sup>12</sup>

In the revised version of the standard, the importance of leadership is emphasized as being essential for successful work together with the need to take into account stakeholders' possible demands on operations. There is also a demand for a life-cycle perspective in all operations that considers not only "risks" but also "opportunities", which involves the possibility of enhancing operations that could promote sustainable development. In a university context, for example "education".

These are all improvements to adjust the standard in line with changed external demands, and are a necessity in changing times. Nevertheless, the core of the standard has remained unchanged: to work systematically with improvements for the

environment, to work preventively, to be transparent and to communicate efforts made when implementing, sustaining and developing the EMS. (See figure 1)



Figure 1: The EMS in the P-D-C-A cycle<sup>13</sup>

There can of course be difficulties implementing all standard demands within university operations and core activities. However, it is important to try to adjust the demands to fit the university context and not the other way around. The EMS is best seen as a useful tool for systematics, for communication with management, faculty, staff and students, and for the opportunity to demonstrate continuous environmental improvements.

9. Omrcen, E. et al. (2013) 'Can an environmental management system be a driving force for sustainability in higher education?' Regenerative Sustainable Development of Universities and Cities (ed. König, A.), pp88-106, UK and USA: Edward Elgar Publishing  
10. <https://www.iso.org/standard/60857.html>  
11. <https://www.iso.org/standard/60857.html>  
12. <https://www.iso.org/standard/60857.html>  
13. Omrcen, E. et al. (2013) 'Can an environmental management system be a driving force for sustainability in higher education?' Regenerative Sustainable Development of Universities and Cities (ed. König, A.), pp88-106, UK and USA: Edward Elgar Publishing



## 5. METHODOLOGY

This project aimed to provide guidance to the University of Aveiro and the University Institute of Lisbon who wished to implement an environmental management system according to ISO 14001 and to prepare for the certification of the system. The project was divided into three phases following the P-D-C-A cycle (see p. 7):

- preparation, planning and documentation
- implementation, staff training and communication
- follow-up, audit, management review and reporting

The project was based on participation in face-to-face meetings and interactive webinars. The project required tasks to be performed between meetings, and the webinar plan followed a structure where some objectives must have been met before being able to continue. (For details, see p. 9) In order to identify the appropriate level for workshops and webinars, the participants were initially asked to answer questions about the current status of environmental/sustainability implementation at the university. This exploratory inventory also served as a basis for an introductory “friendly audit” at both universities that helped to fine tune the upcoming activities. In all, three face-to-face meetings and eleven webinars were conducted during the project. During webinars the project leader would go through the standard demands specific to that session and what those demands would entail for the organization. Sometimes examples of documentation were shared. There would also be sharing of experiences between the participants, as well as participants’ presentations of a specific task designed for that session. On one occasion the representative from Columbus held a session about organizational change. If necessary, the subject for the webinar was repeated, clari-

fied and exemplified at another webinar or at a workshop.

The face-to-face meeting at start and the two workshops, one early in the process and the second in the end of the implementation process, were used for specific parts of the EMS that demanded more time, requiring discussions in groups and involving the whole teams. During the second workshop the project leader from GU, the representative from Columbus, the team from ISCTE-IUL and the team from UA met and worked together at UA for a day. The workshops are presented in details in chapters 7 and 9.

[illegible]

Table 1: Webinars and workshops in the project 2017-2018.

# 6. PREPARATION, PLANNING AND DOCUMENTATION

## 6.1 RECTORS' INVOLVEMENT

Since introducing an EMS in the organization is a long-term investment, the management must understand the need for continuous resources for the sustainability team, to enable it to have the necessary manoeuvrability. But it is also important to highlight the benefits of working systematically with environmental issues, the opportunity to lower costs through resource efficiency, for example in the energy area, and the goodwill that a systematic environmental work entails. A vital starting point was to involve the rectors and to introduce the project to the management, with a focus on management responsibility within the EMS. At both ISCTE-IUL and UA, the project leader from GU held a seminar on this topic for the rectors.

## 6.2 “FRIENDLY AUDIT”

A “friendly audit” is recommended as a starting point in this kind of project. It means that the auditors will visit the organization, have short interviews with management, staff, teachers and students, and conduct a tour of the campus and facilities. There is no need for specific preparations.

The audits at ISCTE-IUL and UA were performed by trained internal auditors from the University of Gothenburg. The audit followed the demands of ISO 14001 and resulted in a short report in which the strengths and possible improvements of environmental management at the audited universities were clarified, and areas where actions were necessary according to the standard were highlighted. The audit did not take into consideration the national environmental legislation.

The following are examples of the findings from the audits:

- Organizational roles, responsibilities and authorities within the EMS should be formalized.
- Gather all sustainability activities under one system to make it easier to have an overview, to follow-up on results and activities and to communicate the work.
- Recommendation that the directory functions of technical and administrative services are made visible in the EMS's documentation of roles, responsibilities and authorities.
- Since there are so many nationalities represented at UA, a complimentary system of labelling waste bins with symbols would make things easier for the students.
- The EMS will demand further established documentation for praxis and routines. Specific demands in national legislation concerning chemical registers and safety data sheets should be identified.
- The auditors recommend that the knowledge of the researcher who teaches the EMS and is an accredited auditor should be used in the planning of the implementation of the EMS, for example as advisor and for training internal environmental auditors.
- Do not complicate the documentation of the environmental management system, but make use of the existing documentation in the quality management system where applicable.
- The university should consider the best channels to communicate the sustainability work. The well-established Welcome Week for students could be a channel for starting this.
- Activities that have high symbolic value should be prioritized and clearly communicated in order to envisage the sustainability ambitions at ISCTE-IUL.
- Since 77 nationalities are represented at ISCTE-IUL it is important that information is also offered in English.



Prof. Ana Simaens from ISCTE-IUL, auditor Marianne Dalbro, GU, Prof. Susana Fonseca from ISCTE-IUL and auditor Ullika Lundgren, GU preparing for “friendly audit” at ISCTE-IUL.

6.3 THE ENVIRONMENTAL ORGANIZATION

There are no specific requirements in ISO 14001 on environmental organization but top management shall ensure that the responsibilities and authorities for relevant roles are assigned and communicated within the organization. That is to ensure that the EMS conforms to the requirements of the standard and that responsible functions report on the performance of the EMS including environmental performance. With experience from the implementation of an EMS at University of Gothenburg the project leader emphasized the importance of an environmental/ sustainability organization for successful processes and outcomes and to anchor the project well within the university.<sup>14</sup>

Both universities established a clear and comprehensive organizational plan for the relevant functions at the university, where the roles and responsibilities for the environmental management work were clarified.

6.3.1 The team at UA

Before this project there was a Sustainable Development’s Mission Group created at UA. The group was composed by academic staff from different departments covering several aspects of sustainability. Its mission was to define a strategy and to propose actions promoting sustainability. There was also a number of projects initiated. When this EMS project started the group was supplemented to also include staff and student representatives.

During the project the composition of the team at UA changed somewhat, but the cooperation between the academy and the support organization remained. When writing this report there is also a consultation group with a representative from each organic unit of the university, coordinated by the pro-rector Ana Velosa.

6.3.2 The team at ISCTE-IUL

Before this project ISCTE-IUL had a Social Responsibility working group, which was the first initiative with the aim of addressing sustainability issues at ISCTE-IUL. In 2016 a new Green Cam-

pus ISCTE-IUL was formed. The work began with a workshop to identify actions for sustainability considering three timeframes, short, medium and long term proposals. The workgroup should be an umbrella for the multiple initiatives related to sustainability; campus management, researching, teaching, social support to students, link to public institutions and stakeholders.

The workgroup was supplemented and an interdisciplinary working team was formed for the start of the project.

During the project there were functions defined that somewhat changed the composition of the team at ISCTE-IUL. Most important was the recruitment of a full-time sustainability manager Carla Farelo. There were also 26 Sustainability Liaisons appointed, connecting the EMS to each school, affiliate, service, unit and office.

FAVOURABLE CONDITIONS FOR THE PARTICIPATING UNIVERSITIES

In spite of the different sizes and academic orientations of the participating universities, they shared several of the necessary conditions for a successful implementation of an EMS:

- They both had engaged rectors who provided the necessary resources.
- They both had committed team leaders who were researchers/teachers with high credibility and firmly established positions within their organizations and with a team that would be the node for the project.
- They both had in-house expertise on international standards management systems.
- They both had previously developed strategies for sustainable campuses with identified target areas, and were not unfamiliar with the wide range of subjects that could be included in the project.

Coordinator	Professor Ana Isabel Couto Neto da Silva Miranda, Department of Environment and Planning (DAO)
Administrator of the University	Dra. Cristina Maria Alves Moreira Veiga
Experience in environmental management systems	Professor Maria Helena Gomes de Almeida Gonçalves Nadais, Department of Environment and Planning (DAO)
Representative from teachers with sustainability interests	Professor Luís Nuno Coelho Dias, Department of Communication and Art (DECA)
Director of the Technical and Logistical Management Services	Eng. Celeste Maria Loureiro Pereira
Administrative support	Dra. Carla Oliveira
Representative of the students	Bruno Tomás
Student environmental science (not formal member)	Catarina Teixeira

Table 2: The team at UA at project start 2017.

Director of Sustainability	Vasco Rato
Liaison to the Rectory	Susana Fonseca
Sustainability expert (faculty)	Ana Simaens and Catarina Roseta-Palma
Liaison to Quality Office	Raquel Velada
Liaison to the unit of facility management	Nádia Romano
Liaison to students	Lia Barbieri, then Mariana Pinto, then Daniela Marques
External consultant for quality and environment	Hermínio Henrique

Table 3: The team at ISCTE-IUL at project start 2017.

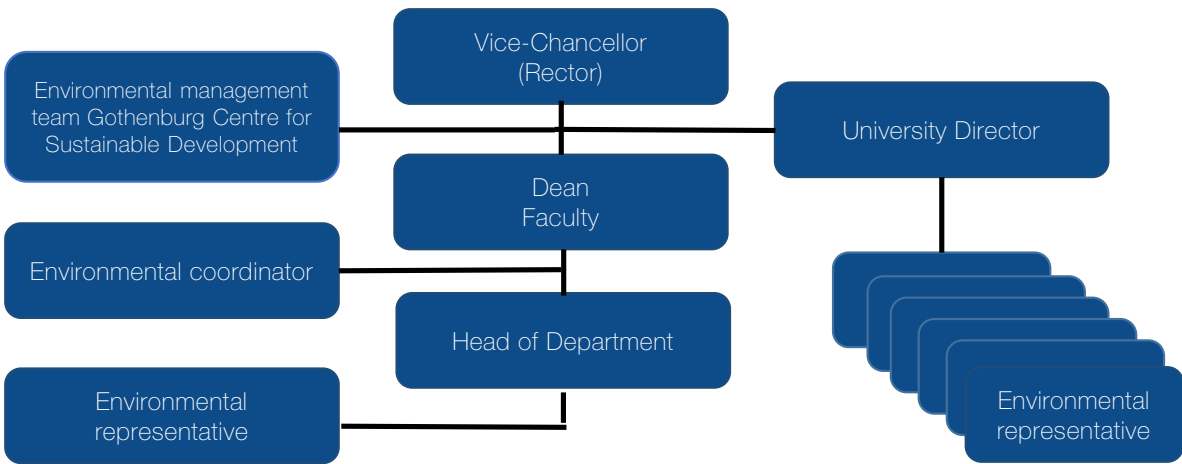


Figure 2: Environmental/sustainability organization at University of Gothenburg 2019 in relation to the university hierarchy. The environmental management team, responsible for the EMS, consists of a sustainability strategist, a sustainability controller and four sustainability coordinators. Like departments, every unit in the Central University Administration has its own environmental representative as well. (Source: University of Gothenburg).

14. Omrcen, E. et al. (2013) ‘Can an environmental management system be a driving force for sustainability in higher education?’ Regenerative Sustainable Development of Universities and Cities (ed. König, A.), pp88-106, UK and USA: Edward Elgar Publishing



6.4 THE UNIVERSITY AND ITS CONTEXT

In this phase of preparation and planning, there are some important questions that need answering:

- Where are we?
- Who cares about our actions?
- Where do we want to be?
- Who will be responsible?

Together with the management commitment, the results from the “friendly audits” and the forming of the teams, the answers to these questions set the agenda for starting the implementation of the EMS.

6.4.1 Where are we?

*Sustainability initiatives*  
At both universities there were many ongoing projects and initiatives within both environmental and social sustainability. These were performed by different groups, but were not coordinated or followed up systematically. All these projects and initiatives (see table 4) could be included in the EMS to facilitate follow-up and continuation and to get a good overview of the diversity of actions.

Legislation

The EMS includes demands for compliance with environmental law and other obligations, and a legislative inventory must be performed. This can be quite time-consuming, and both ISCTE-IUL and UA decided to have this inventory drawn up and a first legal audit performed by an external consultancy company. Compliance can be challenging when trying to comply with both national and European legislation.

Boundaries

The university must also consider the boundaries of the EMS. Organizational units, functions, physical boundaries, activities, products and services – should all these be included in the EMS? What about shared areas or interfaces with other units or departments located elsewhere? If any part of the university is excluded from the EMS, this must be explained.

6.4.2 Who cares about our actions?

*External and internal issues*  
The development of the society in which we work might have an effect on our environmental efforts and vice versa. The university must therefore determine the relevant external and internal issues that affect the ability to achieve intended outco-

- mes of the EMS. For example:
- Global challenges
  - National strategies and targets
  - City and regional planning
  - New buildings and renovations
  - Public transports
  - Internal organization
  - Students’ engagement and participation
  - Staff competence and ability

Stakeholders

Universities often work closely with many different stakeholders whose needs and expectations also must be considered: property owners, suppliers, subcontractors, entrepreneurs, partners, neighbours, the municipality. How do we reach these stakeholders? How do we communicate with them? And what demands can they place on the university’s activities?

UA had long before this project developed different lateral projects with stakeholders that conduct business at UA but who are not really part of the university. In this way, they already had several different channels open for collaboration.

The scope of the university’s EMS also depends on the university’s powers and its ability to control and influence.

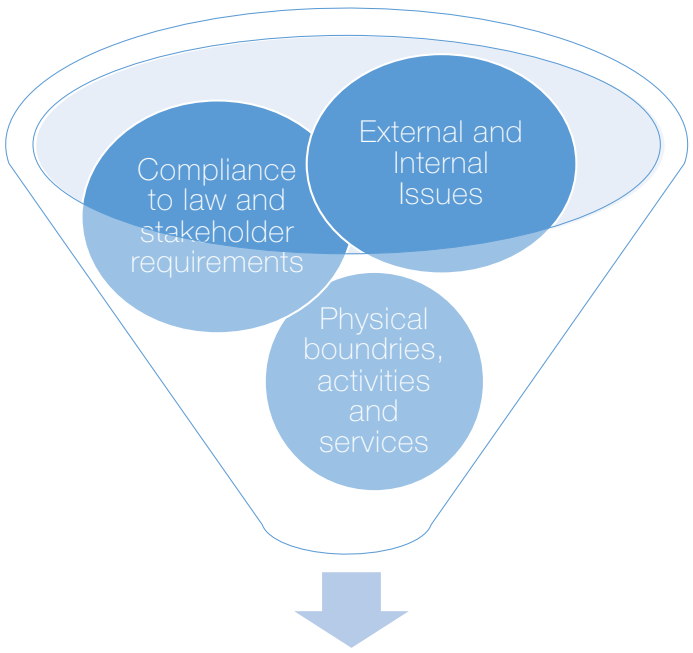


Figure 3: The necessary factors to determine the scope of the EMS.

ISCTE-IUL	UA
<b>Health and wellbeing</b> – Meat-free days – Veg IUL; strong social support for students	<b>Education</b> – many courses and some programmes address sustainability in different areas; welcoming activities for incoming students – “sustainable UA”; best practice guides
<b>Nature and ecosystems</b> – students volunteering to support neighbouring schools with gardening and tree planting	<b>Campus management</b> – waste management; lighting project; water and fuel conservation including an online dashboard system to monitor energy and water consumption in all buildings, made available to the Director of the department occupying each building; biodiversity observatory.
<b>Resources and waste</b> – improvements in energy consumption; completed energy performance audit; started process to install renewable energy (photovoltaics); water management	<b>Community enrolment</b> – workshops on sustainable development; community suggestionsform
<b>Campus operations</b> – bike sharing; waste for art project	<b>Research</b> – participation in research projects
<b>Culture and learning</b> – many courses that address sustainability in different areas; participation in research projects	<b>Resources</b> – open platform for reusing equipment and materials within the university

Table 4: Examples of areas of ongoing sustainability initiatives and projects at start.

SCOPE OF THE EMS AT UNIVERSITY OF AVEIRO

The Environmental Management System of the University of Aveiro comprises all its activities, namely teaching, research, administrative and technical services, interface units and cooperation with the community. The EMS includes all UA’s campi, namely Santiago campus, Crasto campus, ESTGA campus, ESAN campus and ECOMARE.

SCOPE OF THE EMS AT UNIVERSITY INSTITUTE OF LISBON

The ISCTE-IUL Environmental Management System (EMS) was developed within the mission of public higher education institutions and applies to teaching and learning (graduate and postgraduate), to research, to interaction with society, and to internationalization in the fields of Management, Finan-

ce, Accounting, Economics, Quantitative Methods, Anthropology, Social Psychology, Sociology, History, Political Science and Public Policy, Information Technology and Architecture.

ISCTE-IULs’ activities depend on a set of external and internal factors, and must be framed considering the needs and expectations of stakeholders and physical boundaries of the university campus.

The physical boundaries associated with the EMS are the ISCTE-IUL campus at Av. das Forças Armadas, Lisbon, including buildings Sedas Nunes, Ala Autónoma, and II, as well as the external space and green areas.

The EMS is based on the management, operational and support processes required to carry out ISCTE-IUL activities, defined in the scope of ISCTE-IUL Internal Quality Management System (SIGQ-IUL), also including the operational control of the environmental domain throughout the university campus.

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*Some contractors (gardening and cleaning) deserve a special reference for the way they were interested in collaborating.*

*Vasco Moreira Rato, team leader ISCTE-IUL*

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#### **6.4.3 Where do we want to be?**

A policy should show the direction for all the university's employees and students and all the activities planned and implemented in the organization. The overall purpose of an EMS and the activities associated with the system is that the policy must be fulfilled.

According to ISO 14001, top management shall ensure that an environmental policy is developed. The policy shall be compatible with the strategic direction and the context of the university, and must be disseminated and communicated within the organization and made available to interested parties. The university can choose to develop a sustainability policy instead as long as it responds to the set requirements in the standard.

*When establishing the policy, there are a number of important considerations:*

- Should it be an environmental policy or a sustainability policy?
- What are the directives and the focus of the management?
- Environmental objectives and actions at the university should have the target of fulfilling the policy.
- Win backing for the draft policy within the organization.
- Who will sign off the policy? The vice-chancellor or the university board?
- Make a plan for how the policy will be disseminated and publicized within the university.
- Does it need to be translated?

#### **6.4.4 Who will be responsible?**

When implementing an EMS, the team will have the responsibility and the mandate to develop the system and communicate the proceedings, but the actual implementation must be the work of many people. Since there are many different tasks to perform within the EMS, the challenge is to identify in-house expertise within the various departments. If managers from different departments are already part of the team, it will be easier to identify this expertise.

- Who knows the best communication channels to the students?
- Who can deliver energy data?
- Who knows everything about waste management?
- Who gives sustainability courses?
- Who knows everything about the handling of chemicals?
- Who is responsible for the university's annual report?

## **UNIVERSITY OF AVEIRO ENVIRONMENTAL POLICY**

*The University of Aveiro is a major player aiming at creating the foundations for research, education and good practices inspired by a development model centered on the basis of sustainability, scientific and technological innovation and cooperation with the community. The activity of the University of Aveiro is focused on a culture for the creation of knowledge and the enhancement of the access to knowledge for the benefit of people and the community. In all its activities the University of Aveiro is committed with:*

1. Preserving Human Life, Environment and its Heritage;
2. Protecting the environment through pollution and prevention principles and the sustainable use of resources, including all its relations with suppliers and partners;
3. A Health and Safety culture based both on prevention and on protection principles;
4. Engaging and bringing awareness to the whole academic community and partners in continuously improving its environmental performance and internal safety;
5. Fulfilling all its compliance obligations and all other obligations emerging from the dialogue with the interested parties in what concerns the environment and the health and safety of the academic community members

## ISCTE-IUL ENVIRONMENTAL AND SUSTAINABILITY POLICY

*The Instituto Universitário de Lisboa (ISCTE-IUL) recognizes its institutional responsibility in promoting sustainability in its environmental, social and economic dimensions. Within the scope of the mission defined in the Internal Quality Management System (SIGQ-IUL), in the context of its teaching and learning activities, research and interaction with Society, respecting the limits and opportunities intrinsic to natural and human ecosystems, ISCTE-IUL aims to:*

1. Involve, in an inclusive and participative way, the ISCTE-IUL community and other stakeholders in the definition, implementation and evaluation of actions for the improvement of its environmental and social performance;
2. Create, transmit and share scientific knowledge related to the Environment and Sustainability among several scientific areas such as Management, Finance, Accounting, Economics, Quantitative Methods, Anthropology, Social Psychology, Sociology, History, Political Science and Public Policy, Information Technology and Architecture. This will allow highly qualified professionals to better understand their responsibilities and create opportunities for improvement thereby providing a positive impact on the environment, society and the economy;
3. Take into account environmental protection practices during the strategic planning and annual activity plans, including pollution prevention measures within all activities, from a local and to a global level;
4. Improve environmental impact by adjusting the management systems, processes and campus operations to reduce consumption (e.g., office supplies, energy and water) and the generation of waste and emissions, while enhancing the living environment on campus;
5. Comply with all legal requirements and other regulations endorsed in the areas of environment, sustainability and social responsibility;
6. Assess and continuously improve environmental and sustainable performance by implementing measurable performance indicators and conducting regular audits;
7. Continuously improve the Environmental Management System (EMS) for the improvement of its environmental performance

## 6.5 DOCUMENTATION

The extent of documentation for the EMS is determined by each university. There should be documented information to ensure the effectiveness of the EMS, and documents should be available and suitable for use. One rule states that there should be a routine, if the lack of such a routine would mean a risk of negative impact on the environment. All documentation should be traceable, with responsibility attached to a function, not a person. Each university should decide which type of document should be available for which categories of staff and students. ISCTE-IUL chose to combine its EMS documentation with its quality management system while UA decided to draw up an EMS handbook with all relevant documentation.

### GOOD PRACTICE

- Gather all projects under one roof.
- Consider early in the process how to ensure compliance with legislation and other demands.
- The team should represent the entire university and have sufficient resources and mandate.
- When defining the scope of the EMS, consider the university as an important part of a wider context
- Share the responsibility for parts of the EMS with several different functions.
- Don't complicate documentation, and reuse if applicable.

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*An interesting development that came as a surprise to us was the interest and willingness to cooperate showed by our staff, but mostly by our students. When we started to present some work we immediately had people wanting to join our work and asking us if they could be part of the project we were developing*

*Ana Miranda, team leader UA*

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# 7. THE FIRST WORKSHOP: SIGNIFICANT ENVIRONMENTAL ASPECTS

*There were workshops arranged at two occasions during the project. The workshops were used for specific parts of the EMS that demanded more time, requiring discussions in groups and involving the whole teams.*

One of the main pillars of the EMS process is to determine the organization's activities that could have an environmental impact. These activities should be targeted, measured, controlled and followed up. A one-day workshop was arranged at each university involving the whole team, with team leaders Ana and Vasco participating at both universities, learning from each other's teams and sharing experiences.

There are plenty of different models for the evaluation of environmental aspects and their significance. The different models can mostly be divided into quantitative or qualitative models. Some models are quite complicated and some are very

simple. GU used several different models when its significant environmental aspects were re-evaluated, and has found that whichever model is used, they tend to give the same results. In this project, the ISCTE-IUL and UA teams choose two different models but the important factors to consider were the same:

- What is the activity?
- What is the extent of the activity?
- What is the environmental aspect connected to this activity?
- Is there a risk of negative environmental impact? Or a possibility of enhanced sustainability?
- Activities shall be reviewed from a life-cycle perspective.
- Activities with legal requirements shall be evaluated as significant.

The teams at each university were divided into two groups. These groups worked with the full

list of activities, evaluating the environmental aspects. When the two groups later came together they had many discussions before they could agree on a final list. These discussions are valuable and are as important as the final list to be documented, in order to ensure transparency and visibility throughout the arguments and the logic.

The activities related to significant environmental aspects determined at ISCTE-IUL and UA are listed in table 5. These activities form the basis for environmental goals and action plans, and set the agenda for the environmental work during the coming years. The already initiated sustainability projects at both universities was well fit in in these priority areas.

## GOOD PRACTICE

- Choose an easy model for evaluation of environmental aspects.
- Document discussions, arguments and conclusions.
- Activities that have high symbolic value but that are not evaluated to be of high significance should be targeted anyway.

ISCTE-IUL	UA
Energy consumption	University private cars
Procurement	Long-distance travelling
Travel and accommodation	Travel to and from the university
New construction and renovation	Material consumption
ISCTE-IUL and third party events	Waste generation
Waste management	Energy consumption
Research	Laboratory activities
Teaching and learning	Wastewater generation
Outreach	Use of fuels and chemical substances (technical services)
Training/dissemination/communication	University staff develops environmental research
Travel to and from campus	

Table 5: Activities with significant environmental aspects at ISCTE-IUL and UA.



Students and staff plogging at ISCTE-IUL "Week of the Sea".  
Photograph by Hugo Alexandre Cruz



## 8. IMPLEMENTATION, STAFF TRAINING AND COMMUNICATION

*After the preparation phase and the identification of significant environmental aspects it is time to establish environmental objectives and make a plan of action involving important actors within the organization.*

The plan is the node of the system and the most important document for steering towards the implementation of the policy. The plan of action should contain objectives and activities to achieve the objectives. The plan may run for one or several years and who, or what function, is responsible for the activities should be clear. There should also be instructions on how to follow up the plan. However, if the plan is just a paper product, its intentions will not be fulfilled. Therefore, a number of measures are needed to make the plan known and to persuade employees and students to contribute to the work.

### 8.1 ASSIGNMENTS IN THE PLAN OF ACTION

Giving assignments in the plan to specific functions within the organization does not simply guarantee that the right people are doing the job – it is also a way of ensuring wide support for the environmental work within the organization. If

the objective is to lower energy consumption, we assume that staff and students will contribute to the objective through their behaviour. However, cooperation might also be needed with the property owner, the facility manager, caretakers and communication services. If all these functions agree to be assigned with one small task to perform, they will most likely participate and might even feel that they are contributing to the greater environmental objective.

### 8.2 ROLES AND RESPONSIBILITIES

The roles and responsibilities within the EMS must be documented. This is preferably done in connection with the setting of the environmental organization. Each participant in the organization should have a clear description of the role, responsibility and mandate for the tasks to be performed. Both UA and ISCTE-IUL developed good descriptions of the organization and responsibility within the environmental management system.

*We were really pleased to know that people actually care about the environment. With the cooperation of the whole community, our work will be so much easier and we are certain that it will enhance better indicators and results.* Ana Miranda, team leader UA

*There is growing enthusiasm as a result of more visible actions (communications, waste separation bins). We had a meeting with quality and sustainability representatives including a hands-on ideation activity. We believe that this meeting was an important milestone in the motivation process.*

Vasco Moreira Rato, team leader ISCTE-IUL

### 8.3 COMPETENCE

One way of addressing legislative and other demands is to turn them into operational routines. The best way of doing this is to let the operators write their own routines. For example, laboratory engineers should write their own procedures for the laboratory, be responsible for instructions to students and also respond when legislative compliance is followed up. If there is need for training, the laboratory engineer probably knows where to get this and the university should provide it within reasonable limits.

According to the EMS standard, every employee should be aware of the potential negative impact of not following the procedures and their own ability to act in the best possible way. ISCTE-IUL set up a training plan for different categories of staff depending on duties. Managers and directors were given training depending on their responsibility in the EMS. For example, all environmental liaison officers at different departments were trained in the EMS at a workshop on environmental aspects, targets, assignments and indicators.

UA also organized training workshops with the department's representatives where staff was involved in the discussion of environmental aspects, indicators and actions.

### 8.4 AWARENESS

Every year, UA and ISCTE-IUL hold a Welcome Week to welcome the new students for the year. Both universities have seen this event as a good opportunity to talk about their environmental work and the opportunities for involvement. UA has also planned workshops on the theme with the local community, and ISCTE-IUL has held rewarding meetings with affiliates on its environmental work.

### ENSURING SUPPORT FOR THE STRATEGY AT UA

The UA team worked closely with all the department directors from the start, and held special meetings with this group. The Director of Communication Services later also joined the team. The team introduced the environmental management system, the policy and the significant environmental aspects to this group and asked for input concerning special legal requirements or significant aspects that would have an impact on the EMS. It was very well received. The management and technical operatives at central services have been particularly involved in the work.



## 8.5 COMMUNICATION

Communication is considered by many to be the most difficult part of the implementation process. Department managers, students, teachers and non-academic staff all need to be informed about and have the possibility to take part in the process of implementing the EMS. Many universities use many different channels for communication and information, so finding the right channel for a specific group may take some time. The EMS standard demands that the university decides what should be communicated, when to do it, with whom and how, both internally and externally. The best way of complying with these demands is to draw up a communication plan and to do so with help from the communication professionals at the university. Communication officers might also have assignments within the action plan related to the environmental objectives.

From the beginning, both UA and ISCTE-IUL had several different communication channels for the students: Instagram, YouTube, Facebook and an internal TV channel. ISCTE-IUL combined training and awareness with communication later on when developing four films on best practice for energy, water, waste and mobility.

UA produced four short videos about solid waste management and best practices in the campi, which are available on the website of the sustainability groups.

### GOOD PRACTICE

- Ensure that the action plan has the backing of the organization; find the experts, make more friends.
- The action plan can be disseminated in many different ways. Combine it with information, education and events.
- Give assignments from the action plan to several different functions.
- Provide training/information about the EMS for different functions.
- Make a communication plan. Use in-house expertise.
- If possible in your organization, try to find a way to combine the requirements for responsibility, competence, awareness and communication.

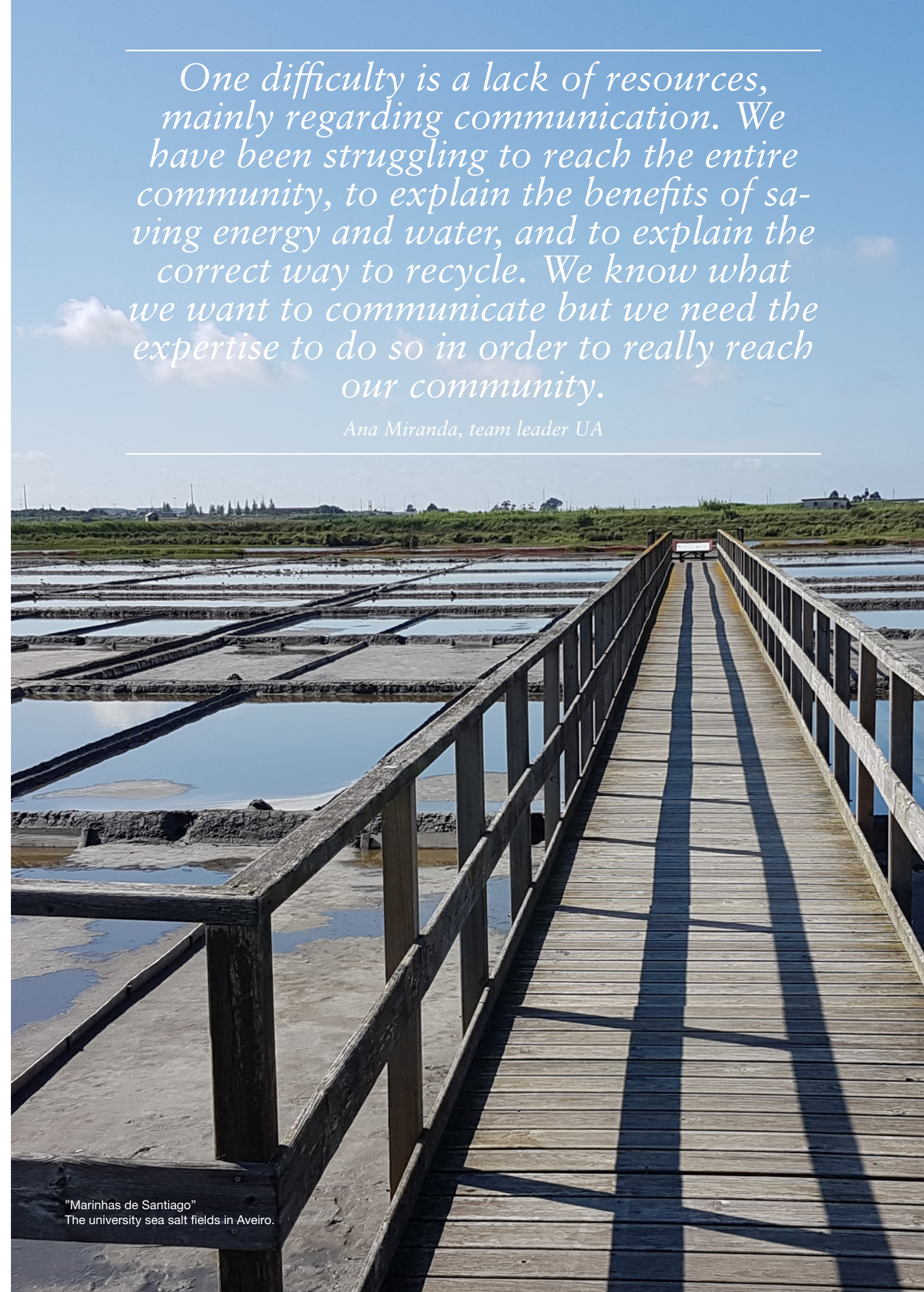
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*One difficulty is a lack of resources, mainly regarding communication. We have been struggling to reach the entire community, to explain the benefits of saving energy and water, and to explain the correct way to recycle. We know what we want to communicate but we need the expertise to do so in order to really reach our community.*

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*Ana Miranda, team leader UA*

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"Marinhas de Santiago"  
The university sea salt fields in Aveiro.



# 9. THE SECOND WORKSHOP: EXPERIENCES AND CHALLENGES WITH THE IMPLEMENTATION PROCESS

The content of the second workshop was determined based on the team's wishes and needs in the end of the implementation phase.

The first day was spent with the team at ISCTE-IUL in Lisbon, the second day both teams met and worked together in Aveiro for the exchange of experiences and the third day was spent with the UA team in Aveiro. Main themes were:

- Documentation; including EMS procedures; what, where and for whom?
- Opportunities with procurement
- Communication; what, to whom and in what channels?
- Involvement and communication with stakeholders
- Risks and opportunities – how to perform and manage risk assessments, how to profit from opportunities/possibilities
- Internal and external issues that might affect the universities ability to achieve the intended outcomes of the EMS. How do we affect the surrounding world? In what way might the surrounding world affect us?

### Documentation of procedures

Both universities developed and implemented good systems for the documentation required in the environmental management system (see chapter 6.5)

Some uncertainty about routines and documentation of these remained though. There are needs for routines for certain activities that can have a negative environmental impact and these needs to be documented. The project manager showed in this workshop examples of how legal requirements can be transformed into procedures (see table 6).

Compliance to legislation should be checked at least once a year and head of departments should be responsible for this check. The vice-chancellor will however always be the ultimately responsible.

### Procurement and purchasing

Procurement and purchasing entail large costs for universities every year and the environmental impact of the products can be large, depending on the demands placed on, for example, the products' content, transport and waste management of packaging. Depending on legislation, the opportunities to impose environmental requirements on procurement and purchasing may vary between countries. More and more universities today have guidelines for both environmental and social requirements in procurement. You evaluate the content of the products from an environmental perspective, but can also choose to impose decent working conditions on production as well as logistics for transport. Often, the tendering function at the university may need support and education about what requirements should be set and why.

### Communication

Both UA and ISCTE-IUL developed ambitious and comprehensive communications plans

including what, to whom and in what channels to communicate. These plans also show who or what function is responsible and when the communication is to take place. In this workshop we mostly focused on the possibility to combine the standard requirements on communication with requirements on competence, awareness and training. This is a good strategy if it is appropriate and fits the university's organization.

### Stakeholders, risks and opportunities, internal and external issues

During the workshop we worked in groups trying to define the different risks and opportunities for the university. We used the model for risks and opportunities assessment (see figure 4) and linked the different external and internal factors to university activities and procedures. This can be a great help, especially when it comes to defining necessary preventative measures including training and different ways of communication.

LEGISLATION/PROCEDURES	RESPONSIBLE
Waste management legislation	Government, EU
Waste management plan at university	Facility manager at the university
Procedures and waste-handling guidelines at every department.	Head of department

Table 6: Example of legislation turned to procedures at a department at University of Gothenburg. (Source: University of Gothenburg).



Figure 4: Model for risks and opportunities assessment.

# 10. FOLLOW-UP, AUDIT, MANAGEMENT REVIEW AND REPORTING

## 10.1 FOLLOW UP

One of the main advantages of an EMS is the follow-up requirement. This often involves a lot of work, but also offers an opportunity for retrospective and to follow the progress of activities.

It is not only the targets and indicators but also the non-targeted significant environmental aspects that must be monitored, as well as compliance with legislation and other demands, the number of staff training occasions, the number of student and outreach events and non-conformities identified during environmental audits and their correction.

## 10.2 ENVIRONMENTAL AUDITS

Audits are learning opportunities for both the auditors and the object of the audit. A university that has a certified EMS should have both internal and external environmental audits at appropriate intervals. Departments that are identified as having a potentially greater risk of negative environmental impact should be audited more frequently than offices.

Environmental audits usually start with a meeting with the management and the environmental team responsible for the implementation of the EMS. Resources, responsibilities and mandate are on the agenda. The auditors visit departments, laboratories and offices, and talk to faculty and staff about activities and their procedures. The audit ends with a closing meeting where the auditor reports on his or her findings. It is also possible to discuss any action that needs to be taken. (See example of audit results from GU in table 7.)

Year	Major non-conformities	Minor non-conformities	Notes
2003	62	115	261
2004	57	57	126
2005	86	240	226
2006	11	105	144
2007	9	83	148
2008	3	87	132
2009	1	87	84
2010	5	51	66
2011	7	101	89
2012	3	94	121
2013	6	94	66
2014	3	91	58
2015	1	118	102
2016	10	86	97
2017	1	63	44
2018	3	96	87
TOTAL	268	1568	1851

Table 7: The number of non-conformities and notes from internal and external environmental audits at the University of Gothenburg 2003-2018. All non-conformities have been corrected.

### 10.2.1 Environmental audit at ISCTE-IUL

ISCTE-IUL planned for a first external environmental audit in May 2018. The audit was preceded by two other audits: an audit of compliance with legislation conducted by an external reviewer and an internal environmental audit conducted by a consultant closely associated with ISCTE-IUL through the certified quality management system (QMS) (ISO 9001) that has been implemented for many years at ISCTE-IUL.

*The audit of compliance with legislation resulted in few non-conformities, for example:*

- monitoring emissions from gas boilers
- mandatory reports to the Portuguese Environment Agency
- packaging waste management

*The internal environmental audit resulted in two non-conformities:*

- communications
- waste management

*In preparation for the external environmental audit, ISCTE-IUL*

- set up an action plan for corrective measures for non-conformities and integrated this plan into the quality management system
- corrected the non-conformities and documented the actions taken
- handed the following documents to the auditor:
  - Policy
  - Scope
  - Organization & responsibilities
  - Documentation control
  - Environmental aspects and their significance
  - List of legal requirements
  - List of critical external suppliers

*The ISCTE-IUL team leader mention some specific findings in relation to the external audit:*

- The audit as a good opportunity for sharing, discussing and getting the auditor's views
- The strengths of the many projects being implemented
- Discussions on why activities that have a positive impact are considered significant environmental aspects
- Discussions on how a life-cycle perspective is considered at a university
- That the EMS clearly benefits from the QMS

## INTERNAL ENVIRONMENTAL AUDITORS

According to the EMS, the university should have an internal audit team that performs annual audits of departments and faculties. Auditors were later trained at ISCTE-IUL and UA using their own management systems expertise. The universities were encouraged to use each other's internal auditors when performing forthcoming audits, both for the learning experience and to reduce costs. This is a method GU has applied for several years, and GU exchanges audits with other universities as well as with other organizations in Gothenburg.

In November 2018, ISCTE-IUL received its certificate and now has a certified environmental management system according to ISO 14001. When writing this report UA is performing internal audits at each department and school of the university and corrective measures are under development. Thereafter, UA will proceed to the external environmental audit.

## 10.3 MANAGEMENT REVIEW

Data from follow-up and audits and results from legislation compliance reviews are relevant information for the university management at the "management review". This is a meeting between the sustainability/environmental officer responsible for the implementation of the EMS and the management, and should be held once or twice a year. According to the ISO 14001 standard, the management should decide whether the EMS is suitable, adequate and effective. If the management finds that this is not the case, it should suggest changes. This is a good opportunity to bring up subjects of improvement or change in the environmental organization, objectives or assignments, or the need for resources for special projects or activities. The outcome of the meeting should be clearly documented.

## 10.4 REPORTING

There are no public environmental reporting requirements in ISO 14001. However, a report is an excellent way to communicate the university's environmental work. When deciding whether or not to issue an environmental report, there are a number of considerations:

- What's in it for us?
- Who will produce it?
- Who will read it?
- How extensive should it be?
- How will it be published, disseminated and communicated?
- Should it be included in other types of reporting?
- Are there any legal requirements to report aspects of our environmental work?

## GOOD PRACTICE

- Decide early on in the process who will collect the data for follow-up.
- As far as possible, request data and statistics from suppliers of energy, travel, food, etc.
- Make friends with people at central administration.
- Use audits as learning opportunities.
- Non-conformities should be seen as opportunities for improvement and not as failures.
- Come well prepared to the management review. This is an important opportunity to inform the management and to get their views on the development of the EMS. Don't hide bad figures.
- Consider what to report, how and to whom.

# 11. SUMMARY

*When starting this project the key words were set to be "cooperation"; both between universities and within the own institution, "participant approach", "learning by doing", "visibility" and "communication".*

We paid special attention to these areas because the research and experiences we took part of and shared, told us that these were key factors for successful implementation. We also worked particularly with some of these key factors during the second workshop, when we placed focus on sharing experiences on successful strategies in the areas.

The essential idea with this project was that cooperation between universities would serve as an extra drive for the implementation process and the exchange of experience between the participating universities was indeed very valuable for all parties. Also cooperation between faculty and the support organization within each university was very important even if it was proved sometimes to be challenging. It became obvious that the composition of the teams served several purposes, it led to better understanding of the organizations prerequisites through its participant approach and when gathering expertise from different areas to collaborate on a new and partly unknown area, learning by doing. The composition of the teams also made the implementation of the EMS visible in the whole organization and challenged the teams to find the suitable communication channels.

## 11.1 MAIN CHALLENGES IDENTIFIED BY THE PARTICIPATING UNIVERSITIES

### Communication

As said repeatedly in this report, one of the main challenges in introducing an EMS at a university is considered to be communication. The EMS in itself is introduced once but the different parts in the system must be repeated over and over

again. Getting the EMS certified is not the end of the process but really the start of it. Unlike many other projects that are initiated in higher education institutions, an EMS must be seen as a long-term investment that demands the necessary resources, mainly human resources, for a long time.

Staff and students come and go and this requires a strategy of communication to continuously be able to provide adequate information and education about the environmental work and sustainable development at the university. There is a multiple choice of possible communication channels at a university and the participating universities in this project used different channels for different target groups. There is a need for different information for different groups and within the EMS information, awareness and training about environmental issues can be closely linked in a communication plan.

*One difficulty is the lack of communication between organic/research units and services. Our university has so many different realities, so many areas of expertise and most of the time we don't know who is doing what.*

*Ana Miranda, team leader UA*



Celebration wall at ISCTE-IUL.



### New requirements

Some new requirements in ISO 14001: 2015 can be a challenge to translate into university operations. For example, external factors that can influence the university's ability to work with environmental issues should be identified and stakeholders' expectations and possible requirements for the operations must be mapped. Environmental aspects must be evaluated, not only from a risk perspective but opportunities for positive impact should also be taken into account. All activities must be considered in a life-cycle perspective, while the university does not always control all parts of the operations, but is dependent on close collaboration with property owners and various contractors. These requirements should be adapted to be applicable in the university's activities and assignments as a higher educational institution and should preferably be included in existing control processes. These new demands for a broader perspective may also include work environment, health and safety, social aspects and our role in society.

## 11.2 UNEXPECTED PROGRESS EXPERIENCED BY THE PARTICIPATING UNIVERSITIES

Sometimes cooperation between departments or between faculty and support organization can be difficult, mainly because in large and complex organizations it is sometimes difficult to know who to turn to. The term "professional bureaucracy"

often applied to universities means that there is double hierarchies with employees with high level of education that gives them the ability to work without supervision. These hierarchies are both independent in their profession at the same time as they are dependent on each other to enable the university's activities.

In this project the team leaders stated that cooperation with teachers, researchers and students was rather easy from the start, they were cooperative and engaged and willing to take part in different projects, but there were some questions how to engage staff from the support organization.

The solution to that question lay in how the project teams were structured. The teams were broadly composed of representatives from research, education, support organization and students. The composition of the teams enabled the team members to participate in the project based on their own knowledge and experience and at the same time contribute to the larger goal. The project was made visible in relevant and adequate ways depending on target groups and each member's profession became an important part of the implementation of the environmental management system.

The composition of the project teams is thus vital to get acceptance and legitimacy for the project and maneuverability in the implementation process. If the project and the different processes it will entail are clear and well backed of the organization from the beginning there will be very little resistance.

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*A development we didn't really foresee was certification as a tool to motivate people (dealing with some skepticism in a few cases) and speed up some (especially administrative) processes.*

*Vasco Moreira Rato, team leader ISCTE-IUL*

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*The team is now a respected group, with established work processes and complementary skills and expertise, that have been built along the process. The full-time function of a Sustainability Manager has been absolutely crucial.*

*Vasco Moreira Rato, team leader ISCTE-IUL*

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## 4 SESSIONS OF WORKSHOPS

At UA we have organized four sessions of workshops with elements from every organic/research units, services and even from students union. The main goals of these sessions were: to present the work we have been developing, as well as a short explanation of the ISO 14001; to gather useful particular information from their activities (such as environmental aspects, specific legislation, specific interested parties, ...); and to do a kind of brainstorming concerning problems and improvement actions, to be aware on how our community is affected and to have their perception on what we can to improve. We were very pleased with the outcomes of these sessions. People were very interested in the project and very cooperative. Definitely these sessions were a very important step in the process.

11.3 HOW DOES THE EMS  
RELATE TO SUSTAINABLE  
DEVELOPMENT?

An EMS is sometimes considered only to be a bureaucratic system, a paper product, and explaining the benefits of the system can be a challenge. It is therefore important to translate the standard requirements into processes that are understandable for everyone and that encourage engagement.

There is also a challenge to implement an EMS considering that it demands strategies of implementation on three different levels. To develop the system with its documentation and procedures, to establish objectives and plans and then turn them into concrete and visible actions, and to integrate university core activities into the EMS (see figure 5).

When the UN Sustainable Development Goals (SDGs) were established in 2015 they had no visible connection to the systematic environmental work of an EMS. But the SDGs provides a wide map of possible areas of action that universities can address, both environmental and social aspects.

Before this project started, there were many established research projects in sustainable development at both UA and ISCTE-IUL and

courses were also given related to sustainable development at both universities. Since core activities as research and teaching are considered as significant environmental aspects in the EMS, aspects with the possibility to enhance sustainable development, research and teaching are important areas to address within the EMS. In order to disseminate information on how research and education at ISCTE-IUL relate to SDGs, authors to publications within sustainable development are encouraged to SDG-label their publications. Students who write their master's thesis can also do this after the supervisor has given their approval.

As the EMS according to ISO 14001 also requires the organization to have a broad perspective on its operations and to consider both risks and opportunities, the opportunity to work broadly and also include social issues should be seized. Welfare, climate change, consumption, food, health, ethics are issues that touch all areas of sustainable development and that often engage students.

In addition to the obvious benefits of reducing the negative environmental impact at higher education institutions, there is another important reason why universities should work structured with environmental and sustainability issues; students who have education and knowledge about sustainable development will probably have a greater impact on a future sustainable society than many other factors related to environmental concern.

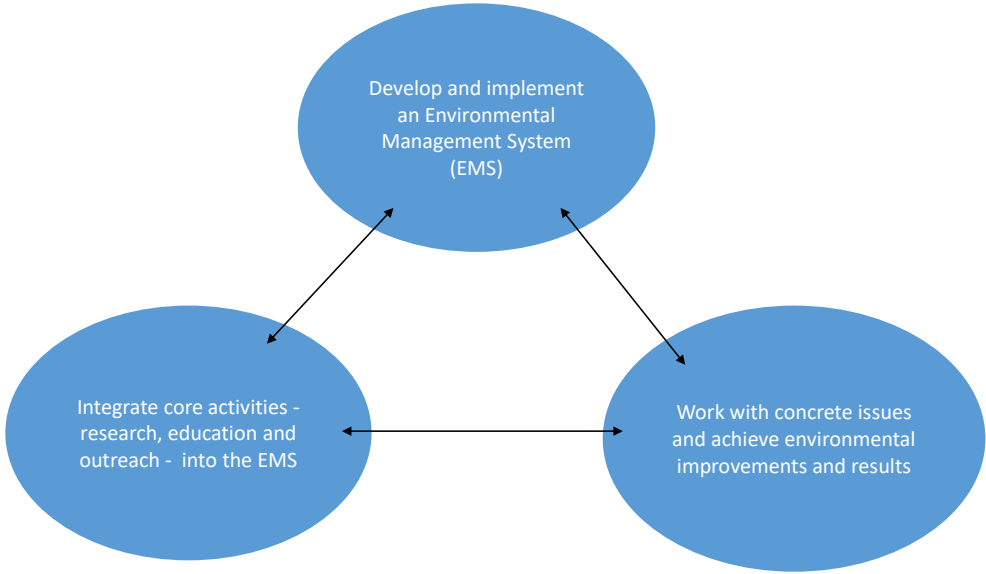


Figure 5: Challenges with the implementation of an EMS at a university (developed by E. Omrcen, GU).

*One thing we didn't foresee was how we could use the Sustainable Development Goals as a reference to link, relate and measure teaching and research to sustainability.*

*Vasco Moreira Rato, team leader ISCTE-IUL*



The Sustainable Development Goals (SDGs).

*This is an on-going process that requires resources, resilience and passion.*

*Vasco Moreira Rato, team leader ISCTE-IUL*

# THE PARTICIPANTS IN THIS COOPERATION PROJECT

## ISCTE – UNIVERSITY INSTITUTE OF LISBON

The mission of ISCTE - Instituto Universitário de Lisboa (ISCTE-IUL) is to create and convey scientific knowledge according to the best international standards, training highly skilled professionals, mainly at the postgraduate level, in the areas of management, information technology, architecture, social sciences and public policy, for the progress of society. There are 4 schools, 16 departments and 8 research units offering a total of 109 study programs.

ISCTE-IUL is a public university established in 1972 with a community of 10,000 students enrolled in undergraduate (46%) and post-graduate (54%) programs, 450 faculty and researchers, and 220 non-teaching staff. Proud to be one of the most dynamic and innovative Portuguese universities, ISCTE-IUL was the first higher-education institution in the country to implement an Environmental Management System certified according to ISO 14001. In 2018, ISCTE-IUL also celebrated the 10th consecutive year of Quality Management certification (ISO 9001).

ISCTE-IUL recognizes its institutional responsibility in promoting sustainability in its environmental, social and economic dimensions. Through teaching and learning, scientific research, interaction with Society and campus operations, ISCTE-IUL aims at continuously improving its environmental and social performance, involving all stakeholders in inclusive and participative actions.

[www.iscte-iul.pt](http://www.iscte-iul.pt)



### Vasco Moreira Rato

Vasco Moreira Rato is Associate Professor at ISCTE- Instituto Universitário de Lisboa, teaching sustainability in the Department of Architecture and Urbanism. Vasco's research interests are performance-based design, materials environmental impact and multi-criteria selection of materials for a sustainable architecture, being a researcher at ISTAR-IUL and VitruviusFabLab-IUL. Vasco is an architect with a MSc. in Construction and a PhD in Civil Engineering and has executive training in Business Sustainability Management from the University of Cambridge Institute for Sustainability Leadership. Vasco was Director of Sustainability at ISCTE-IUL (Mar.2017-Oct.2018) and is now a member of ISCTE-IUL's Sustainability Executive Group.

Vasco was the team leader for the University Institute of Lisbon in this cooperation project.

**ISCTE IUL**  
Instituto Universitário de Lisboa



### Ana Miranda

Ana Isabel Miranda is full professor at the Department of Environment and Planning at the University of Aveiro, Portugal. She is a member of the Associated Laboratory CESAM (Centre for Environmental and Marine Studies) and coordinates the Thematic Line "Integrated Environmental Systems". She is the coordinator of the University of Aveiro's Group for Sustainability. Her working areas include: air quality modelling, urban air quality, health effects of air pollution, climate change, and environmental impact assessment. She participated in 30 Portuguese and 25 European research projects. She was a reviewer of FP7-ENV-2010 and 2011, and of H2020-EO-1-2014 and 2016, project applications. Her research work includes over 600 scientific and technical publications, 120 published in peer-reviewed international journals.

Ana was the team leader for the University of Aveiro in this cooperation project.

 **universidade  
de aveiro**

## UNIVERSITY OF AVEIRO

The University of Aveiro (UA) was founded in 1973 and paved the way in the creation of teaching offers in several knowledge fields. Today, UA is widely recognized as one of the most innovative universities in Portugal, the quality of its teaching and research and for its cooperation with regional and national business. 13 000 students and 1800 faculty and staff are active at the university with its 20 departments and schools and 22 research units.

Its organization and matrix structure, encompassing University and Polytechnic subsystems, stimulates knowledge exchange and cross-contamination between knowledge fields, promoting a useful proximity between teaching and research, which results in a very appealing message for national and international students.

With a modern and prestigious architecture, UA occupies top positions in the most important international rankings that assess Higher Education institutions.

[www.ua.pt](http://www.ua.pt)



# COLUMBUS ASSOCIATION

Columbus is an association of European and Latin American universities. Its main goal is to foster international cooperation and institutional development of its member universities by enhancing management processes and structures. The activities carried out by Columbus have been designed to support participating universities in developing strategies, implementing policies and organizing their structures. Columbus develops training-action programs in person and online aimed at providing practical application tools on priority issues for university management. Columbus is administered by a Governing Board designated by the General Assembly. This body is composed of eight members that equally represent European and Latin American member universities. This consolidated network of higher education institutions is composed of 53 universities in 15 different countries; the management of this network and activities are supported by staff working from Paris and Bogotá.

[www.columbus-web.org](http://www.columbus-web.org)



## Daniel Samoilovich

Daniel Samoilovich is a sociologist with post-graduate studies in Political Science in Heidelberg, Germany. Since 1995 Director of the Columbus Association, a multilateral Euro-Latin American network pioneering university cooperation among university leaders. He was founding Director of the Istituto Superiore Mario Boella for information and communication technologies, Director of Networking and Internationalization at the Fondazione Torino Wireless and Director of the Euro-Latin American Forum for innovation based regional development.

Since November 2011, he is lecturer at the International MBA and the Executive Education program at HEC, Paris, working with senior management teams on strategy and organizational development, as well as on decision-making in complex situations. He is also a member of the Advisory Board of the Knowledge and Development Foundation, Barcelona. Daniel has written books and articles on university governance and management and been co-editor of several reports on the subject.

Daniel was the Columbus representative in this cooperation project.



## Ullika Lundgren

Ullika Lundgren is Sustainability Controller at the University of Gothenburg, Sweden. She works mainly with strategic and overall environmental management and sustainability issues and is responsible for national and international interaction on environmental management. She has more than 15 years of experience in turning policy into practice and led the marine field station Tjärnö Marine Laboratory to ISO 14001 certification as the first unit within the University of Gothenburg.

Ullika holds a Bachelor of Science in Marine Biology at the University of Gothenburg, Sweden and studied Environmental Management and Audit at University West, Sweden. She teaches environmental management and environmental audit for other Swedish agencies and in cooperation with Nordic and European universities.

Ullika was the project leader in this cooperation project.



UNIVERSITY OF  
GOTHENBURG

# UNIVERSITY OF GOTHENBURG

The University of Gothenburg meets societal challenges with diverse knowledge. 47 000 students and 6 400 employees make the University a large and inspiring place to work and study, with a continuous flow of new knowledge and ideas. There are 8 faculties with 39 departments in all, offering 190 study programs and 1 400 courses. The broad-ranging research at the University of Gothenburg is innovative, characterised by multidisciplinary cooperation, closely linked to education and stands in close contact with society. 3000 researchers, teachers and doctoral students span from developmental biology and gender studies to logistics and marine mammals. The University of Gothenburg has worked systematically with environmental issues and sustainable development, and has since 2006 a certified environmental management system (EMS) according to the international standard ISO 14001 and to the European equivalent EMAS (Environmental Management and Audit Scheme). The EMS comprises activities in campus and facilities as well as in the core activities research, education and outreach.

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Parts of the ISCTE-IUL team with representatives from Columbus and GU leaving Lisbon for workshop in Aveiro.



Discovering the sustainable campus at University of Aveiro. Green students welcoming new students to the campus.  
*Photograph by Green students*



Facade at UA Campus.





## ABOUT THIS COOPERATION PROJECT

This report is a short guide to how an environmental management system can be implemented at a university. From March 2017 to October 2018, the University of Gothenburg, Sweden guided the University Institute of Lisbon, Portugal and the University of Aveiro, Portugal, through the systematic implementation of an environmental management system at their own institutions. The overall goal was to reduce negative environmental impact from operations and strengthening sustainable development in their core activities. The University of Gothenburg used the experience of its own implementation of an environmental management system in addition to the requirements of ISO 14001. The project was coordinated by the Columbus Association, which supported the project through its web platform, thus enabling distance meetings and shared documentation.

### The project sought answers to the following questions

- What are the challenges of introducing an environmental management system in a higher education institution?
- What progress was made during the process?
- How does the environmental management system relate to sustainable development?

When the project was completed the University Institute of Lisbon achieved its ISO 14001 certificate. The University of Aveiro has performed internal audits at all schools and is planning for the certification audit.

