Foreword

Over the last five years I have grown increasingly more convinced that what I considered in 2007 as some trendy buzz word, ‘sustainability’, now should be a part of the core mission of every university. This conviction is also reflected in the new four year plan (2014–2017) for the university. Since my signature of the Charter of the International Sustainable Campus Network (ISCN) and my attendance of the ISCN Symposium organized in the Luxembourg Pavilion of the Shanghai Expo in June 2010, the University has seen some significant new initiatives to embed principles of sustainability in its core missions including higher education, research, and civic engagement, and in our campus planning and operations. Fostering critical thinking and development of competent, engaged citizens and reflective practitioners is at the heart of all of these endeavours. Whilst this report just bears witness to a selection of these activities, it also reflects the diversity of members of our university engaged with projects of our University’s Cell for Sustainable Development. It also presents evidence for steady progressive engagement of a growing part of our community in related projects. I wish continued success to all who choose to engage upon the existential challenges our societies face.

I hope that this report will be read with interest by all who consider they have stakes in our university and how it engages in local, national and regional development: students, staff, policy- and decision-makers, and citizens of Luxembourg alike.

This Report

This is the second report on sustainable development at the University of Luxembourg. Apart from drawing attention to our sustainability goals and progress, regular reporting also responds to our commitment as a signatory of the ISCN GULF Charter. This report was prepared by Anikó Knopp and Ariane König for the University Cell for Sustainable Development, with the support of the central administration, selected faculty and students (see acknowledgements).

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2011–2012: CONSOLIDATING SUSTAINABILITY AS A MISSION FOR THE UNIVERSITY

Biophysical limits to growth demand more resource-efficient approaches to production and new patterns of consumption, with attention to equity and environmental impacts across the globe. Whilst acceptable solutions often have to be crafted and implemented at the local level, a global effort to respond, new approaches to organising social life, infrastructures, research and technological innovation are urgently required. The quest for such new approaches is often framed by ‘sustainable development’, which seeks to reconcile economic activity with social progress and environmental protection. With their combined mission of research, education and civic engagement, universities have a central place in processes fostering social and technological transformation for sustainability, at the local, regional and global scales. This is the second report on efforts to anchor sustainability as a cross-cutting mission at the University of Luxembourg (UL) over the years 2011 to 2012.

Our profile

The UL was founded in 2003, and is the only university in Luxembourg. It is an international, multilingual and personable, research oriented university. The UL seeks to cap its growth to 7000 students in order to maintain its personable atmosphere. The three faculties are the Faculty of Science, Technology and Communication; the Faculty of Law, Economics and Finance; and the Faculty of Language and Literature, Humanities, Arts and Education. Together they offer forty-six Bologna study programmes at the Bachelor and Masters level. During the winter semester 2011/2012, 5686 students were enrolled at the UL, of whom 340 were conducting PhD-students and professionals. The programme is a study part-time programme open to Bachelor-, Master-, PhD-students and professionals. The programme is a Core members of the UL Cell for Sustainable Development 2011–2012

Sustainability at the UL

The UL’s first Strategic Action Plan on Sustainability (2010–2013) was developed in a participatory process with staff, students and external stakeholders. The main goal is ‘to engage students, staff and interested civil society in experiential learning about how to reduce environmental impacts and enhance social cohesion, and build capacity to develop and implement solutions by drawing on different disciplines’. The role of the Cell for Sustainable Development is to see to the implementation of the action plan, involving students and staff. We work towards this goal by fostering:

• Applicability to practice of research and learning centring on environmental and social issues
• Connections between disciplines to explore the complexity of societal challenges
• Greater integration of research, education, campus operation, design, management and planning, and civic engagement.

Pro-active exchange and research work in international networks such as the International Sustainable Campus Network (ISCN) continues to enable us to develop new development activities at the UL. Building on the establishment of the Cell in 2009, signature of the ISCN Charter in 2010, and concomitant implementation of First University-wide initiatives, the years 2011 and 2012 have been spent largely consolidating projects initiated in the previous two years. This second UL Sustainable Development Report was developed in compliance with our reporting commitment under the ISCN-GULF Charter. It is divided into three main sections corresponding to traditional activity fields of universities: ‘Facilities, operations and planning’, ‘Education and research’, and ‘Social cohesion and outreach’. Whilst most projects reported upon are anchored in one of these activity fields, they all aim at integration of approaches across these three traditionally separated activity fields. A progressed report based on indicators proposed by the ISCN is included in Annex I.

The Cell’s approach to foster social and technological transformation for sustainability is at present probably best exemplified by the establishment of the Certificate in ‘Sustainability and Social Innovation’. This Certificate, approved as an official study programme by the Board of Governors in November 2012, is the university’s first study part-time programme open to Bachelor-, Master-, PhD-students and professionals. The programme is designed as a platform for societal debate, social learning and network development to analyse and act upon complex issues, including reducing energy use and waste generation and improving social cohesion and equity.

Figure 0.1 Organizational chart of the central administration, governance and management structures of the University of Luxembourg

Figure 0.2 Core members of the UL Cell for Sustainable Development 2011–2012

From left to right: Kahtan Watfa, Mencis Marcia Ciaramelli, Treviño Infante, Dr Ariane König, Danielle Schwirtz-Lejeune, Anikó Knopp, Franklin Bahfon Feyeh
1. FACILITIES, OPERATIONS AND PLANNING

Our goals

Reconciling sustainable energy use with growth

1.1 FACILITIES AND OPERATIONS

In spite of increasing student and staff numbers (Figure 1.1), in 2011, electricity use has barely increased and gas combustion has decreased on all three campuses (Figure 1.2). The per capita energy consumption on campus has been steadily decreasing since 2008, thanks to continued improvement to the building technologies and infrastructures implemented by the ‘Service d’Infrastructures et Logistique’ (SIL) (Figure 1.3).

Examples drawn from the wide range of successful measures adopted include the replacement of halogen with LED lamps, and improved isolation of heating system pipes (for a detailed list, see Table 1 in Annex I).

In 2012 there has been a significant increase in both electricity and gas use, in spite of continued progressive introduction of energy-saving measures. The inauguration of the new building in Belval for the Luxembourg Centre for Systems Biomedicine for energy-intensive laboratory use of measuring cups for optimal dosage are promoted amongst cleaning staff. Environmental standards for procurement of ICT equipment, including photocopy machines have been adopted. The UL uses exclusively recycled paper.

The goal is that all waste produced by the University is recycled or treated, waste sorting infrastructure is placed in public areas and offices. Success stories by our SIL include that on campus Walferdange organic waste is sorted and biogas is produced from it. Since 2011 chemical and biological waste is separated on all campuses (Figure 1.4). The university’s ‘Service Informatique’ has significantly reduced its paper waste generation and printing toner consumption by introducing in 2011 a new printing credit system for students, and by purchasing printers that can print on both sides without manual intervention. One main challenge is that the environmental foot print and the social quality of student residences. In the first year six teams competed, the winning team of five students had introduced waste sorting and lowered heating and electricity bills in the UL’s largest residence. The awards ceremony is held in June 2012 in the City Hall of Esch-sur-Alzette (see Figure 1.5). The winners are: first prize: Aravind Tallam, Dmitry Sidorov, Jean Huss, Marcela Trevino, Cyrielle Cassan; second prize: Mareike Kriening, Xavier Poos, Guillaume Perrodin; third prize: Estrella Lara, Jost van Daalen, Laurent Karthausen; fourth prize: Schwirtz-Lejeune, Xavier Poos, Guillaume Perrodin, Jean Huss. The students working for the Cell launched in 2012 the Recycling Design Award in collaboration with the SIL. The award engages students to improve correct waste sorting in public areas of campus by designing posters and a communication campaign. This awards was modelled on the Green Student Residences Award, which was launched in 2011 and run for a second time in 2012 in collaboration with the student accommodation office of the Service des Etudes et de la Vie Etudiante (SEVE). Teams of students are invited to develop measures for improving the environmental foot print and the social quality of student residences. In the first year six teams competed, the winning team of five students had introduced waste sorting and lowered heating and electricity bills in the UL’s largest residence. The awards ceremony is held in June 2012 in the City Hall of Esch-sur-Alzette (see Figure 1.5).

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Spawar winners included the City of Esch, InterRail, and the firm Property Partners. (Figure 1.6.)
1.2 PLANNING BELVAL

How sustainable is the new campus in Esch-Belval?

The development of the new district Esch-Belval with a ‘Cité des Sciences’ is Luxembourg’s largest state-driven development project to diversify the economy in the South, where development over the last century largely depended on the steel industry. The stated objectives of this development project include setting new green standards and the promotion in a knowledge-driven economy. The University, who will become the largest single user of the site, adopted position statements setting targets for energy- and water-use (see first sustainability report) and on sustainability-certification of buildings and the district.

In September 2011 AGORA, the public-private society in charge of the development and sale of the 120 hectare large industrial area on the site of Esch-Belval was awarded the GOLD pre-certificate of a new international district sustainability certification scheme developed by the German Sustainable Building Council DGNB. The Master plan and site-development of the Esch-Belval area to date received the highest distinction in the category “mixed-use urban area” among 13 international projects which have been evaluated (see Figure 1.7). The first building for the UL on the new campus in the Cité des Sciences housing the Luxembourg Centre for Systems Biomedicine was inaugurated in the same month.

The Fonds Belval, the public agency in charge of the construction of all public infrastructures and buildings on the site of Esch-Belval instituted a participatory process with international experts and three members of the UL faculty to assess the Cité des Sciences project according to locally-adapted sustainability criteria. The process was run by the consulting firm Basler and Partner that also developed the energy concept Fonds Belval refers to in all architectural competition guidelines. Five fields for future activities to ensure sustainable site development identified in this process are summarized in Box 1.

![Figure 1.7 Masterplan of the Esch-Belval urban development district for which AGORA gained the DGNB gold pre-certificate](image)

Box 1 Five fields for future action highlighted in the official evaluation of the sustainability of the Cité des Sciences

- Ensure the quality of the further planning and development process by establishing a user-platform and a quality control committee in order to strengthen the political anchoring of the area development.
- Steer development of a range of different housing opportunities with a wide span of price categories and diverse forms of ownership to ensure affordability for students, researchers and the range of the local population; the Terrace of High Furnaces and the Square Mile should be considered together.
- Ensure research activities of the future users are leveraged for improved site development and demonstration projects.
- Promote a transport modal split target for the area that considers a higher use of low impact modes as cycling and walking than the national target, and work on implementation measures.
- Improve regional cross-border cooperation across the frontiers, especially towards a sustainable mobility strategy.

2. TEACHING, LEARNING AND RESEARCH

Our goals

Our goals are to build capacity within and beyond the campus community to better understand and act upon complex issues with interdependent environmental and social facets. This requires issue-centred research, teaching, and learning which draws on diverse disciplines, connects with practice, and relies on new participatory methods to find local solutions reconciling trade-offs and conflicts of interest.

2.1 TEACHING AND LEARNING

Open Courses for insights into multiple disciplines

The Cell together with the Vice President for academic affairs have worked with study directors to open open university courses of general interest from a wide range of disciplines to all students and the general public. At the end of 2012 over 160 courses were included in this diverse selection, numbers of enrolled students are also on the increase. The UL is also progressively extending the range of degree programmes in which students have the option to enroll in and gain ECTS points for Open Courses that count towards their degree. Over 200 guest auditors from the general public were registered in the winter semester 2012 alone.

Fostering critical interdisciplinarity: A new Certificate in ‘Sustainability and Social Innovation’

In autumn 2012 the board of governors of the UL approved of instituting the University’s first degree programme that is open to all students and citizens who wish to engage in further study. This programme is part time, designed to be compatible with full time employment or study. This Certificate features public and closed sessions that connect education with research and implementation of projects in practice.

Science and Citizens meet Challenges of Sustainability

Two core courses of the Certificate had been established in the preceding years as ‘cross-faculty courses’ to foster critical interdisciplinarity by mixing diverse experts from academia and practice cross-questions, each other’s assumptions underlying disciplinary theory, methods and models.

Social Enterprise and Social Innovation

National de la Recherche supported the public lecture series associated with the course allowing extending and fuelling the public discussions with wine and cheese.

Another peer group applied a design thinking process to develop a solution to eliminate plastic cups at campus water fountains. They recommend to work with ‘Join the pipe’ to install design water pumps in public areas on campus that invite filling individual bottles rather than plastic cups. Proceeds from design pumps go to improve water access in developing countries (Figure 2.3.). The system is proposed for the Belval Campus.

In 2012 the Cell has established two further courses that can be taken optionally to replace one peer group project. One course is on sustainability reporting according to the One course is on sustainability reporting according to the Global Reporting Initiative’ run by a certified BeNeLux expert. The second auxiliary course on ‘Global environmental change in the anthropocene’ scrutinizes science and uncertainties on changes in land-use, climate, sea levels and environmental health assessment approaches, was organised as part of the Master in Geography and spatial planning, together with CRP Henri Tudor.

To further strengthen the Cell for Sustainable Development’s connection to link with education and research at the faculties, the Head of the Cell was appointed with 50% of her time as Senior Researcher in the Research Unit ‘Identités, Politiques, Sociétés, Espaces’ (IPSE) Institute of Geography and Spatial Planning.

In 2012 the course ‘Science and Citizens meet Challenges of Sustainability’ started in February 2011. 22 participants completed the voluntary course in 2012 (Figure 2.1.). An alumni network is forming. In 2012, the Fonds against the 50% of her time as Senior Researcher in the Research Unit ‘Identités, Politiques, Sociétés, Espaces’ (IPSE) Institute of Geography and Spatial Planning.

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2.2 RESEARCH

Sustainable transport
Work towards a U.S. strategy and action plan for sustainable transport started in 2009 (see also first sustainability report). The overarching goal is to improve the availability of affordable, effective and ecological transport options with equitable access. Means include to conduct surveys on staff and students to understand modal choices and foster awareness, subsidize public transport and low-impact modes; improve connections between campuses; introduce more equitable and effective allocation of parking and a parking fee; and stop-up communication and engagement. In 2012 the LGBT for Sustainable Development implemented the transport survey on all staff (Figure 2.5), the survey data was analysed by Prof. Francesco Viti and Master student Christian Bestendorf in the Research Unit for Engineering. The relocation to Belval presents important opportunities for behavioural change in our community.

Sustainable ICT
Alexandru and Emilia Tantar, both researchers in the Computer Science and Communication research unit engaged students from the Masters in ICT to model efficient self-adaptive ICT energy-use management systems, in view of reducing the University ICT Facilities’ energy use (Figure 2.7). Different components needed for such a system have been identified and modeled through two different master projects. Research on “Dynamic sustainability procedures” directed attention at load switching and use of a reduced number of servers at full capacity.

Towards indicators for local transition to a low carbon society
In February 2012 the OECD LEED Programme engaged the Head of the Cell to conduct research for a case study on developing indicators for local transition to a low carbon economy in the Belval-Belval area.

Spaces for knowledge co-creation
The most innovative and time-intensive research strand in 2011 and 2012 focused on the development of living laboratories for local sustainable social and technological change by universities in four continents. This research involved compiling twelve case studies across four continents of how Universities engage in fostering transition to more sustainable societies together with teams of local authors. An analytic framework was developed to allow drawing synthetic insights on commonalities and differences of the twelve approaches embedded in such diverse social economic, political and legal contexts, and written up by author teams from diverse disciplinary perspectives. This research in progress draws attention to the design of four complementary types of spaces for knowledge co-creation for sustainable change (physical, institutional, virtual and mental), and pays attention to the interaction of global and locally salient knowledge in such spaces. It will be published in the form of an edited book in 2013.

The project included the organisation of a workshop with local stakeholders hosted by the Municipality of Echternach. The case study benefited from financial support from the Belgian secretariat.

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Figure 2.4 Results of the staff transport survey

![Figure 2.4 Results of the staff transport survey](image)

Authors: Prof. Francesco Viti and Christian Bestendorf, Research Unit for Engineering

Figure 2.5 Sustainable ICT at the University of Luxembourg: Pastor with research results presented at CHIST-ERA consortium meeting, Ireland (2011).

![Figure 2.5 Sustainable ICT at the University of Luxembourg: Pastor with research results presented at CHIST-ERA consortium meeting, Ireland (2011).](image)

Authors: Alexandru and Emilia Tantar, Computer Science and Communication Research Unit.
Our goals include to develop participatory workshops and projects on local environmental and social issues with engagement from local government, industry and social enterprise proposals, developing an expert and mentor network, creating a physical and digital platform for networking and visibility, and founding a course on social enterprise at the University.

Building on the high levels of engagement at the workshop, the Cell organized a study visit with key actors to Wiesbaden to study social business in action in collaboration with the Grameen Creative Lab (Figure 3.2) and to Lille, a city with special programmes to foster the solidarity economy, in collaboration with the Institute Européen pour l’Economie Solidaire. Participants included the HRH Crown Prince Guillaume of Luxembourg, the mayors of Esch-sur-Alzette, Wiltz, and the deputy mayor of the city of Luxembourg, as well as the delegate Minister for Solidarity Economy.

Two students from the Cell completed internships with Property Partners, a real estate consultant, developing user guides for reducing energy use and waste generation in the built environment.

The Head of the Cell was invited expert on a Swiss campus development project in Winterthur in 2011. We also attended meetings of Towards the EU project U-Multirank, which developed a new multidimensional, user-driven approach to international ranking of higher education institutions, we proposed a set of indicators to assess a university’s progress in instituting multi- and interdisciplinarity in education and research, and promoting sustainable development. At the International Sustainable Campus Network (ISCN) the Cell’s Head

assumed the role of co-chair of a new working group on Charter Principle 3 on the ‘Integration of research, education, facilities, and outreach’. The bulk of the work involved research on the role of living laboratories, which builds to a large extent on presentations and discussions at the ISCN Symposium organized in the Luxembourg Pavilion at the Shanghai Expo jointly with Tongji University in June 2010. We also contributed to an OECD project on indicators of local transition to a low carbon economy (see also Section 2.2 of this report).

The UL’s sustainability strategy was presented at Agora’s celebration of the GOLD pre-certificate of the German Sustainable Building Council-DGNB.

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The UL’s sustainability strategy was presented at Agora’s celebration of the GOLD pre-certificate of the German Sustainable Building Council-DGNB.
4. OUTLOOK AND PRIORITIES

Empowering students to act as change agents
A fundamental priority key to effecting change at the UL remains seeking better ways for empowering students to take action. The Cell is closely working with a group of students planning to found a student association dedicated to sustainable development. The established award schemes are one important strand of work in this area, allowing to recruit engaged teams of students.

Teaching and learning
The launch of the newly approved Certificate in ‘Sustainability and Social Innovation’ is a second strategic priority. The courses, associated public lectures and peer group projects have been co-designed as meeting places for students, researchers and practitioners to develop a social network and practical implementation projects promoting local technological and social change.

Connecting to research and practice
With the move to Belval becoming ever more imminent, the Cell’s efforts to develop projects that integrate research, education, campus operations, planning and facilities will in the coming year continue to focus on commuting and transport issues. Once we are occupying buildings in Belval we will also expand research efforts to staging knowledge co-creation processes to reduce energy-use in the built environment. At the same time we will continue research at a more conceptual level on the co-design of spaces and indicators for knowledge co-creation for social and technical transition towards sustainable communities, on campus and in municipalities.

Last but not least, we aim to step up efforts to make UL teaching, research and operations projects with sustainability goals more visible, internally to facilitate new cross-disciplinary collaborations, and externally to attract highly motivated students and professionals to engage with us. Building on our own research on campus as living laboratory, we will be more strategic in designing institutional, virtual, physical and mental spaces at our university as meeting places for all who consider joining us in our endeavour to make our university and the way it engages in society more sustainable.

ACKNOWLEDGEMENTS

First and foremost I would like to thank my team working for the Cell: Aniko Knopp, Marcella Tiveno Infante, Franklin Feyeh Bahfon, who all have chosen to work under student contracts for sustainability at the university. Furthermore, without the close and fruitful collaboration with Pierre Fagot, Head of the Service Infrastructure et Logistique any strategy, recommended actions or efforts to connect research, education and facilities would remain theoretical. Together with Pierre and his team, they always are implemented, and iteratively improved over time in practice. Work with dear colleagues in our teaching teams for courses in the Certificate is inspirational and a constant source of new ideas, courses of action, and positive energy to persevere on the more tricky issues. I am also grateful for the open and constructive work environment at the University of Luxembourg ensured by Rolf Tarrach, President of the University of Luxembourg and Christian Schulz, Head of the Research Unit ‘Identités, Politiques, Sociétés, Espaces’, who always gave their full support for my very active engagement at the university, in Luxembourg, and internationally. Without Danielle Schwartz-Lepage who acts as social hub for all who work for the University of Luxembourg Cell for Sustainable Development and who also provided invaluable practical and moral support at all times, only a fraction of the achievements reported here might have been realized.
Table A, Principle 1: Sustainability performance of buildings on campus

Principle 1: To demonstrate respect for nature and society, sustainability considerations should be an integral part of planning, construction, renovation, and operation of buildings on campus.

A sustainable campus infrastructure is governed by respect for natural resources and social responsibility, and embraces the principle of a low carbon economy. Concrete goals embedded in individual buildings can include minimizing environmental impacts (such as energy and water consumption or waste), furthering equal access and optimizing the integration of built and natural environment. To ensure buildings on campus can meet these goals in the long term, and in a flexible manner, useful processes include participatory planning (integrating end-users such as faculty, staff, and students) and life-cycle costing (taking into account future cost-savings from sustainable construction).

<table>
<thead>
<tr>
<th>Topics</th>
<th>Goals and Initiatives</th>
<th>Results</th>
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<tbody>
<tr>
<td>Priority topics (both units of measurement)</td>
<td>Objectives and targets for the following year, and/or beyond</td>
<td>Key initiatives for reporting year, and/or planned for the following and beyond</td>
</tr>
<tr>
<td>Facilities</td>
<td>Improving the environmental footprint and the quality of student residences</td>
<td>Organizing awareness raising award programs</td>
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<td>Student residences</td>
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<td>Resource use</td>
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<td>Direct &amp; indirect energy use</td>
<td>Reducing annual prints by both students and staff members</td>
<td>Reducing paper and toner use by 20% in 2010</td>
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<tr>
<td>Green energy use</td>
<td>Purchasing green energy</td>
<td>The electricity purchased at campus Belval comes 100% from renewable resources (90% hydro-electric – 10% wind power)</td>
</tr>
<tr>
<td>Waste</td>
<td>Sorting chemical and biological waste separately</td>
<td>At campus Walferdange sorting organic waste and producing biogas from it</td>
</tr>
<tr>
<td>Printing</td>
<td>Introducing a printing credit system for students – 250 pages per semester can be printed/photocopied/scanned for free (additional credit can be purchased)</td>
<td>Cost of toner sank by 17% compared to 2009</td>
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<tr>
<td>Procurement</td>
<td>Use of eco-labeled daily cleaning products</td>
<td>In compliance</td>
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The three tables below summaries UL sustainable development goals, initiatives and results in the years 2011 and 2012 for each of the three principles of the ISCN-BULF CHARTER, respectively.
### Table A2, Principle 2: Master planning and target setting

**Topics**
- Sustainable campus development
- Low-impact mode user (with units of measurement)

**Goals and Initiatives**
- Development and implementation of a pilot travel survey
- Start participatory process to set priorities for implementation of measures and adapt targets.
- Development of three packages in the framework of the Sustainable Transport Strategy
  - Structural engagement
  - Communication, promotion
  - Implementation, support tools
- Development of a travel survey

**Results**
- 4.7 t CO₂
- 4.47 t CO₂
- 5.43 t CO₂

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### Table A3, Principle 3: Social integration

**Topics**
- Training of staff / students
- Research projects on sustainable facilities and operations

**Goals and Initiatives**
- Plan on Sustainable Transport
- The planning of the first interdisciplinary Cross-Faculty-Course entitled 'Science and Citizens meet Challenges: Science and Citizenship' to open to all students from the UL and civil society.

**Results**
- The second round of the SCSC course held during the summer semester 2010/2011. Three new courses launched in the domain of sustainable development: 'Social enterprise and social innovation', 'Global environmental change: the anthropocene' and 'Global Reporting Initiative'.

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### Table A4, Principle 3: Sustainable Transport

**Topics**
- ICT operations
- Building operations

**Goals and Initiatives**
- Commitments and resources for campus sustainability
- The UL Strategic Action Plan on Sustainable Development (2010-2013) implementing activities.

**Results**
- The Cell is a dedicated organizational structure attached to the University President as seen in the Organizational chart. The UL is a signatory to the ECN Charter.
- The Cell’s budget: 75,000 Euro
- 50 % head
- 50 % secretary
- On average 3 students working each under a contract of time 10 hours per week.

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### Table A5, Principle 3: Commitments and resources for campus sustainability

**Topics**
- University-wide carbon targets and related achievements

**Goals and Initiatives**
- Improvement of the environmental footprint and the quality of student residences.
- Beginning of the construction of the data processing centre and of the "House of innovation" Inauguration of the Start-up-Centre

**Results**
- Construction of the "Maison des Sciences Humaines" started.
- Construction of the "House of Biomechanics" has been accomplished.