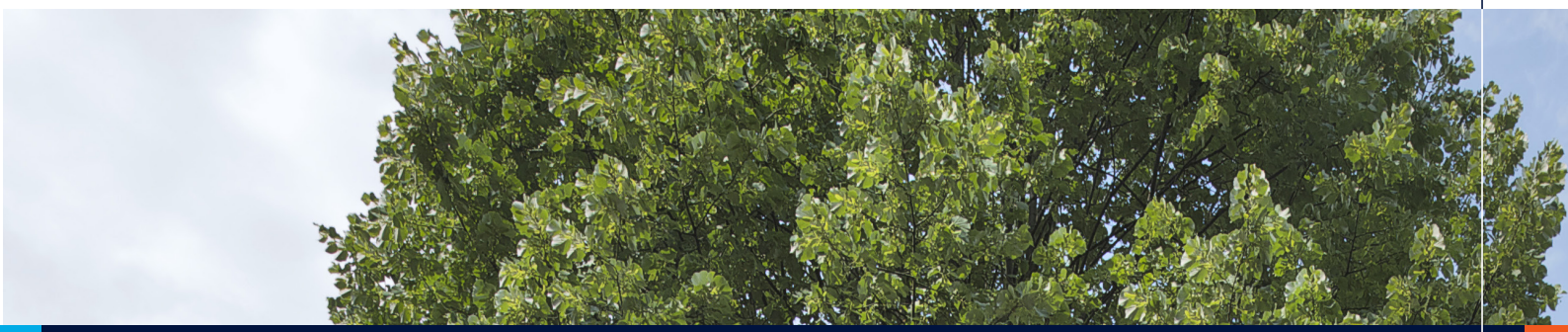
Maastricht University Leading in Learning!

Green Office



Sustainability Progress Report 2014

Educational institutions and governments should provide the institutional support, resources and legitimacy for youth-led change towards sustainability.

This requires a combination of bottom-up initiatives and top-down steering. Mechanisms should include dedicated funding, institutional integration, working space, mandates, recognition, and training for youth-led sustainability initiatives.

- UNESCO Education for Sustainable Development Youth Statement. Added as a result of a consultation process discussing the Maastricht Green Office Model.

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About Maastricht University Green Office

The Green Office is Maastricht University's student-driven sustainability department. As such, it coordinates and initiates ecological, social, and economic sustainability projects at Maastricht University, by empowering students and staff members. The Green Office promotes sustainability as a topic of active concern among students, staff and faculties, and advances a self-perpetuating process of organizational transition towards a greener campus.

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List of Abbreviations

<IR> – Integrated Reporting
CAR – Climate Action Report
DEFRA – Department for Environment Food & Rural Affairs (UK)
DVEP – De Vrije Energieproducent
ECTS – European Credit Transfer System
EEP – Energy Efficiency Plan
FASoS – Faculty of Arts and Social Sciences
FdR – Faculty of Law
FHML – Faculty of Health, Medicine and Life Sciences
FHS – Faculty of Humanities and Sciences
FPN – Faculty of Psychology and Neuroscience
FS – Facility Services
GHG – Greenhouse gas
GRI – Global Reporting Initiative
HR – Human Resources
ICIS – International Centre of Integrated Assessment and Sustainable Development
ICTS - Information and Communications Technology Service
IIRC – International Integrated Reporting Council
KPI – Key Performance Indicator
MJA3 – (Third) Multiple Year Agreement
MUJoSS – Maastricht University Journal of Sustainability Studies
PBL – Problem-Based Learning
Roadmap – Maastricht University Sustainability Roadmap 2030
RVO – Rijksdienst voor Ondernemend Nederland
SBE – School of Business and Economics
SPR – Sustainability Progress Report
SSC – Student Service Centre
UM – Maastricht University
UMGO – Maastricht University Green Office
Vision – Sustainability Vision 2030

1. Executive Summary

Education

- **Courses:** The total number of courses related to sustainability remained at 30 (163.5 ECTS credits; one more course than in 2010). The total number of courses focused on sustainability remained at 27 (168.5 ECTS credits; two more courses than in 2010). Major differences among faculties and programmes concerning the availability of courses related to sustainability remain.[1]
- **Student engagement:** Through the PBL system, the curriculum is comparatively of a very participatory nature.
- **Sustain+GO:** The student-run course of UMGO ran successfully for the first time in 2014. Students from five of UM's six faculties participated.
- **Conclusion:** Many positive steps have been taken. Even greater effort will be required for UM to reach its Vision goals. Decentralization and a lack of cooperation and interdisciplinary approaches resulting in limited availabilities of courses to students remains a major hurdle.

Research

- **Professorships:** The number of professorships focused on sustainability remains at four. The number of professorships related to sustainability rose by one to 41 (five more than in 2010).[2]
- Research Centres: There are two research centres with a focus on sustainability. Eight further research centres actively conduct research in the field of sustainability.
- **MUJoSS:** The second edition of the MUJoSS was successfully published in 2014. The MUJoSS is a peer-reviewed journal of student papers on sustainability.
- **The Living Lab:** The living lab continued to utilize in house research capacities of students to answer currently relevant sustainability questions by internal and external actors.
- **Knowledge Exchange and Internal Usage:** A knowledge exchange platform for academic staff was launched successfully in 2014. A project was initiated to use in house knowledge of academic and support staff to make improvements in the sustainability of UM's real estate.
- **PhD on Institutional Transformation:** The PhD research project launched in December 2013 on institutional transformations focused on getting an overview of the institutional status and building an analytical framework in 2014.
- **Conclusion:** UM is making progress at fostering more research in the field of sustainability. Initiatives by UMGO must be institutionalized in order to keep on growing beyond the capacities of UMGO.

Community and Public relations

- **Student groups:** Three new student groups active in the field of sustainability were founded in 2014. One of these groups advocates the concept of de-growth,

1 The inventory was updated resulting in changes compared to the UM Annual Report 2014.
2 The inventory was updated resulting in changes compared to the UM Annual Report 2014.

while the other two aim to promote pluralism in economic studies. The WE festival offered a one week programme on sustainability.[3]

- **Staff involvement:** The SSC launched an initiative to make their facilities more environmentally friendly in cooperation with FS and UMGO. Further staff involvement will be necessary in the future.
- **Communication:** UMGO and FS have taken several steps to communicate sustainability measures well. More effort by UMGO, FS and the marketing and communications department will be necessary in the future. Information screens have been prepared and should be launched in early 2015.
- **Conclusion:** Without more data an overall assessment is difficult to make. Greater communication of projects will be required, but many positive steps have been taken.

Operations

- **Electricity:** Electricity usage decreased by 1.0%. Usage per m^2 increased by 0.7%. Usage per student and staff member decreased by 0.1%. FdR made the greatest improvements and remains the most efficient faculty. FASoS was the only faculty with increased usage per capita. FHS remains the least efficient inner city faculty.
- **Gas:** The usage of natural gas fell by 27.6%. In terms of heating energy there has been a decrease of 23.9%. Heating energy[4] per m^2 fell by 4.4%. Heating energy per capita fell by 5.1%. FHS made the greatest improvements, but remains the least efficient faculty in this regard in the inner city. FHML saw the smallest improvement. SBE remains the most efficient inner city faculty.
- **Water:** Water usage increased by 14.5%. Consumption per capita increased by 15.8%. Although a major factor for this steep increase may have been two major water spills. Usage also increased in the inner city where no water spills occurred. While the FHS remains the least efficient in the inner city, the faculty made the greatest improvements in 2014. FPN experienced the greatest increase of usage per capita. FdR remains the most efficient in this respect.
- **Efficiency measures:** In 2014, UM continued to follow its EEP in accordance with the MJA3 agreement. Water saving devices and a PC power-management pilot were introduced.
- **Waste:** Total waste fell by 0.8%. Residual decreased by 8.1%. Hazardous waste decreased by 12.2%. Per capita there has been a decrease of 2.9% for total waste and of 10.2% of residual waste. Hazardous waste per capita[5] decreased by 15.9%. There has been an increase of 125.5% of centrally disposed E-waste. Seen as most E-waste was previously not disposed centrally, this is a positive development.
- **Nuclear waste in the electricity supply chain:** Nuclear waste in the electricity supply chain decreased by 19.6%.
- **Procurement:** RVO sustainability criteria was applied to all tenders where such criteria was available. The share of sustainable products[6] in offered at UM by the main caterer rose from 26.0% to 35.6% and the share of organic products from 5.4% to 14.8%. Banditos Espresso offered over 99% organic products on

3 The inventory was updated resulting in changes compared to the UM Annual Report 2014.
4 Natural gas usage adjusted for weather conditions.
5 Only taking into account FHML and FPN.
6 As defined by RVO criteria.

UM's campus. Coffelovers was unable to provide data for their branch on the UM campus. Significant measures concerning electricity, paper and ink usage as well as E-waste were introduced with the new printer tender in 2014.

- **Transportation:** The usage of cars for commuting by UM staff members fell from 40% in 2010 to 33% in 2013 and only 28% in 2014. Total GHG emission caused by staff commuting fell by 11% as compared to 2012. A comprehensive transportation policy is pending final approval.
- **Greenhouse Gas Emissions:** Scope 1 and 2 emissions decreased by 8%, but remain 4% higher than in 2009. Scope 3 emissions fell by 6%[7] and are 10.4% lower than in 2009.[8] Accounting for certificates of origin, scope 1 and 2 emissions fell by 24% as compared to 2013. Per capita scope 1 and 2 emissions fell by 7%, but remain higher than in 2011 and 2012.[9]
- **Conclusion:** Many positive steps have been taken. Nevertheless, core energy indicators are not improving significantly. Greater effort will be required in order for UM to reach its Vision goals.

7 Scope 3 D12 – see definition below.
8 Scope 3 D09 used for this comparison.
9 Due to newer data some changes were made compared to the UM Annual Report 2014.

2. Introduction

The Maastricht University Green Office (UMGO) was founded in 2010 as the first of its kind. UMGO is student-run. It serves as the official sustainability department of Maastricht University (UM), responsible for coordinating and initiating sustainability efforts. Actions taken towards greater sustainability are generally a result of consultations of different departments and stakeholders within the university. For UM to reach its sustainability goals, as set out in the Sustainability Vision 2030 (Vision), all departments must contribute. Shorter-term milestones can be found in the Maastricht University Sustainability Roadmap 2030 (Roadmap).

This report looks at progress made towards the Vision 2030 by the institution as a whole. It is part of larger sustainability reporting efforts of UMGO and UM which include the Climate Action Report (CAR) 2010 and the Sustainability Progress Reports (SPRs) of 2011-2013 and the Annual Reports of UM of 2013 and 2014. The CAR 2010 and SPRs were drafted by UMGO, while the Annual Reports of UM are coordinated by the finance department. A section on environmental matters is included since 2013. It is drafted by Facility Services (FS) together with UMGO. With every publication, UMGO aims at improving the coverage of indicators and analysis. A list of indicators used is included at the end of the document for reference.

3. Education

Sustainability Vision 2030

"Educating green change agents through a holistic approach to sustainability education and research"

Educating change agents in the field of sustainability among students, staff and the general public is a core objective of the university. To this end, the sustainable university offers a wide range of courses and extra-curricular activities in the field of sustainability and is a leader in both sustainability education and research. Crucially, concepts of sustainability are integrated in university programs to promote sustainability as an integral part of everyday life.

Goals:

- Making sustainability an integral component of educational programs offered by the university
- Offering an internationally acclaimed and innovative sustainability curriculum
- Making the university a hub for research and expertise, as well as an accessible database for stakeholders outside the University
- Increasing wide-ranging and measurable awareness of sustainability issues at all levels of university staff member
- Contributing to a more sustainable future by mapping changing trends and generating practical solutions
- Promoting inter-disciplinary research in the area of sustainability

Course Inventory

Number of courses and split between faculties

While certain limitations to this methodology exist, the number of courses focused on and related to sustainability, as well as their relative weight by ECTS credits provide an important indicator of the progress UM is making to its Vision goals in the area of education. An inventory of such courses is maintained by UMGO since 2010. The newest inventory is provided below.[10]

Bachelor courses with a focus on sustainability

Course	Faculty/ Study program	Course Coordinator	ECTS
European Environments	FASOS/ Arts and Culture	Dr. J. Lachmund	9.0
Urban Development and Poverty in the 21. Century	FASOS/ Arts and Culture	Dr. W. Nauta	12.0
Globalisation and Inequality	FASOS/ European Studies	Dr. W. Nauta	12.0
One World. Europe and the non-European	FASOS/European Studies	Prof. dr. A. Labrie	9.0

10 The inventory may not yet be exhaustive. Please contact us if any courses are missing. Courses that are newly included or removed from the inventory do not impact net changes.

Food, Novel Food, Food Safety	FHML/ EPH	T. de Kok	9.0
Biobased Materials and Technology	FHS/ MSC	Dr. M. Knetsch	5.0
Ecology	FHS/ MSC	Dr. J. Sloggett	5.0
Evolutionary Biology	FHS/ MSC	Dr. R. Erkens	5.0
Science and Sustainable Development	FHS/ MSC	Dr. M. van Dijk	5.0
Development Economics	FHS/ UCM	Dr. T. Ziesemer	5.0
Globalization and Inequality	FHS/ UCM	Dr. K. Haagsman	5.0
Globalization, Environmental Change	FHS/ UCM	Dr. A. Offermans	5.0
Social and Environmental Entrepreneurship	FHS/ UCM	Dr. ing. W. Bodewes	5.0
Sustainable Development: An Introduction	FHS/ UCM	M. Huynen	5.0
Urban Development and Poverty in the 21. Centry	FHS/ UCM	Dr. K Haagsman	5.0
Development Economics	SBE/ EBE	Dr. T. Ziesemer	6.5
Social and Environmental Entrepreneurship	SBE/ ES	Drs. S. Akin	6.5
		Total	**114.0**

Bachelor courses related to sustainability

Course	Faculty/ Study program	Course Coordinator	ECTS
International Relations: Contemporary Issues and Actors	FASOS/ ES	Dr. P. Petrov	4.5
European Human Rights	FdR/ ELS	Prof. Dr. J. van der Velde	6.0
Introduction to International Human Right	FdR/ ELS	Dr. J. Willems	6.0
Public Health in International Context (newly incl. since 2012)	FHML/ HS	Dr. M. Commers	4.0
Science in Action (newly incl. since 2012)	FHS/ MSC	Dr. C. Douglas	5.0
International Relations: Themes and Theories (newly incl. since 2010)	FHS/ UCM	B. Erdogan	5.0
Philosophical Ethics	FHS/ UCM	Prof. Dr. M. Verkerk	5.0
Public Finance	FHS/ UCM	Dr. B. Can	5.0
Globalisation Debate	SBE/ EBE	Dr. K. Thomsson	6.5
International Economic Relations	SBE/ EBE	Dr. T. Treibich	6.5
Public Economics	SBE/ EBE	Dr. C. Seel	6.5
Public Management Reform and Public Entrepreneurship	SBE/ EBE	Prof. Dr. H. van Mierio	6.5
Ethics, Organisations and Society	SBE/ IB	Prof. Dr. G. Hummels	6.5
		Total	**73.0**

Master courses with a focus on sustainability

Course	Faculty/ Study program	Course Coordinator	ECTS
European environmental law	FdR/ ELS	Prof. Dr. M. Peeters	6.0
Corporate Social Responsibility	FdR/ G&L	Dr. M. Olaerts	6.0
International Law and Globalisation	FdR/ G&L	Dr. J. Vidmar	6.0
Fundamentals of Sustainable Development	ICIS/ MSc SSP	M. Huynen	5.0
Global Dynamics of Sustainable Development	ICIS/ MSc SSP	Drs. C. Beumer	5.0
Governance for Sustainable Development	ICIS/ MSc SSP	Dr. R. Corvers	5.0
Knowledge Production for Sustainable Development	ICIS/ MSc SSP	Prof. Dr. Ir. H. van Lente	5.0
Methods for Sustainability Assessment	ICIS/ MSc SSP	Dr. P. Valkering	5.0
Sustainability Assessment Project	ICIS/ MSc SSP	Dr. M. van Dijk	5.0
Business Innovation and Sustainable Development	SBE/ IB	Dr. M. van Wegberg	6.5
		Total	**54.5**

Master courses related to sustainability

Course	Faculty/ Study program	Course Coordinator	ECTS
Science and Public Policy	FASoS/ ESoSST	Dr. J. Lachmund	8.0
Science and Technology Dynamics	FASoS/ ESoSST	Dr. S. Parto	6.0
The Politics of Knowledge	FASOS/ ESoSST	Dr. J. Lachmund	6.0
Globalisation and Poverty: a connected world	FASoS/ G&D	N/A	6.0
Science and Technology Studies for Development in a Global Context	FASoS/ G&D	Dr. J. Quartz	6.0
Theories and Histories of Globalization and Development	FASoS/ G&D	Dr. E. Fourie	6.0
International Development Law	FdR/ G&L	Prof. Dr. A. Coomans	6.0
International Human Rights Law	FdR/ G&L	Prof. Dr. A. Coomans	6.0
International Trade Law	FdR/ G&L	Dr. D. Prevost	6.0
International Women's Human Rights Clinic	FdR/ NR	N/A	6.0
International trade, technology, and distribution	SBE/ IES	Dr. T. Ziesemer	6.5
Innovation and Development Patterns around the Globe	School of Governance/ PP&HD	Dr. L. Krebs	4.0
Innovation and the Global Income Distribution	School of Governance/ PP&HD	Dr. L. Krebs	4.0
Innovation Systems in the Global Economy	School of Governance/ PP&HD	Dr. L. Krebs	4.0
International Development Law	School of Governance/ PP&HD	Dr. L. Choukroune	6.0
The Global Challenge: Beyond Poverty & Inequality	School of Governance/ PP&HD	Dr. Z. Nimeh	4.0
		Total	**90.5**

Category	Number[11]	Net Change to 2013	Net Change to 2010
Bachelor Core	17	No change[12]	+2[13]
Bachelor Related	13	–1[14]	–2[15] (8 newly included)
Master Core	10	No change[16]	–1[17]
Master Related	16	+1	+4[18] (4 newly included)
Total	**56**	**No change**	**+3**

Category	ECTS[19]
Bachelor Core	114.0
Bachelor Related	73.0
Master Core	54.5
Master Related	90.5
Total	**332.0**

As can be observed from the tables above, there has not been no change with regard to the number of courses related to sustainability offered throughout the university. Relative to 2010, there has been a net increase of 3 courses dealing with issues of sustainability. Increases have thus been minimal over the last five years. Greater improvements in this area would be desirable.

11 Courses are included in the inventory if they were running in the academic year 2013-2014. This also includes scheduled courses for the spring semester 2014 and does not include courses running in the fall semester 2013. The inventory was updated resulting in changes compared to the UM Annual Report 2014.
12 Two were newly included in the inventory which were present before. These were not considered in the calculation of net change. UMGO aims at applying a consistent standard in its inventories, but occasional changes in judgement do occur.
13 Two were newly included in the inventory which were present before.
14 Three were newly included in the inventory which were present before.
15 Eight were newly included in the inventory which were present before.
16 One was newly included in the inventory which were present before. Two were removed that were already discontinued last year, but were included in the inventory.
17 See footnote above. The course that was newly included is new compared to 2010 and therefore did impact the net change.
18 Four were newly included in the inventory which were present before.
19 ECTS credits are reported on for the first time in this report. Due to a lack of information no net changes are tracked.

Quality assessment of courses

UMGO stays committed to conducting or initiating a quantitative assessment of sustainability courses. No data is available yet. Most faculties conduct surveys among students to assess their courses and make this information available to their students. A difficulty has been to access the evaluations of all courses included in the inventory and be permitted utilize it in any type of calculation that would then be made public.

Availabilities to students

The availability of courses to all students remains a systematic barrier in UM achieving greater coverage of a sustainability curriculum. While in principle students may take courses of other faculties and departments, recognition, the availability of information and the possibility to take electives in the first place differ greatly depending on the study program. There is furthermore a lack of promotion of sustainability related courses offered by other faculties or departments. However, progress towards a joint minor system has been made. An additional difficulty is the spread of courses in faculties. FHML and FPN are lagging behind significantly in their coverage of sustainability issues. Apart from the environmental impact of activities in the medical and psychological field, these areas of study are fundamentally connected to social sustainability issues. Health in itself is furthermore a core component of both environmental, social and economic sustainability.

Student engagement in education

Education in all of UM's programmes is achieved by means of a system of Problem-Based Learning (PBL), which has been a key element of the university from its very foundation. This represents a nearly ideal context for education in matters of sustainability, due to the active role that students play in what they learn and how they learn it. PBL entails a set-up of small tutorial groups, where students lead and partake in discussions, and formulate a series of learning goals. On the basis of these, students conduct individual research, only to come back to the group and share the accumulated knowledge. This process results in a firm grasp of theoretical concepts, but most importantly, their application to current real-life problems. It furthermore allows students to have a participatory role in determining parts of the content of their study and fosters a critical dialogue.

Sustain+GO

In 2014, UMGO offered its student-run sustainability course Sustain+GO for the first time. The course aims to empower students by giving them the ability to build their own curricula and construct their own course manual according to their interests. Furthermore, the course aims to synergize academic and practical educational elements by linking an experiential and skills-based learning activity to each task. This methodology aims to equip students with a broader and more proactive vision of sustainability. In 2014, the students decided to study climate change, globalization, agriculture and the active hope concept. A permaculture excursion took place and students did group projects which they presented at the last tutorial. The course did not yet provide ECTS credits. This remains a core objective of UMGO.

Conclusion

UM set itself the goal in the Vision to make sustainability an integral part of every study curriculum. While some progress has been made with an increase of courses offered, with greater cooperation between faculties and with the pilot of Sustain+GO, even greater efforts will be required to reach this goal. A good step would be a "course to educate the educators" which would ensure that tutors have a comprehensive understanding of sustainability issues. FHML and FPN still lag behind concerning education in sustainability and the immense decentralization of the university remains a significant hurdle. The implementation of an interdisciplinary minor in sustainability available to all students of UM would be a major step in the right direction.

4. Research

Professorship Inventory

Professorships with a focus on sustainability

Professorship	Name	Faculty
Philosophy of Sustainable Development from a Humanistic Perspective	Prof. Dr. H. van Lente	FASoS
Sustainable Development	Prof. Dr. P. Martens	FHS
Governance and Sustainable Development	Prof. Dr. R. Cörvers	FHS
Innovation and Sustainable Development	Prof. Dr. R. Kemp	FHS

Professorships related to sustainability

Professorship	Name	Faculty
History of Science and Technology	Prof. Dr. E. Homburg	FASoS
European Regulatory Governance	Prof. Dr. E. Versluis	FASoS
Cultural and Urban Development	Prof. Dr. G. Evans	FASoS
Risk Governance	Prof. Dr. M. van Asselt	FASoS
International Relations	Prof. Dr. T. Conzelmann	FASoS
Globalisation and Development	Prof. Dr. V. Mazzucato	FASoS
Technology and Society	Prof. Dr. W. Bijker	FASoS
UNESCO Chair in Human Rights and Peace	Prof. Dr. A. Coomans	FdR
Corporate Social Responsibility	Prof. Dr. J. Eijsbouts	FdR
Comparative and International Environmental Law	Prof. Dr. M. Faure	FdR
International Law	Prof. Dr. M. Kamminga	FdR
International Economic Law	Prof. Dr. P. van den Bossche	FdR
Corporate Social Responsibility	Prof. Dr. S. de Hoo	FdR
Environmental Policy and Law	Prof. Dr. M. Peeters	FdR/FHS
Environmental Health Science	Prof. Dr. J. Kleinjans	FHML
Development Economics	Prof. Dr. A. Szirmai	FHS
Environmental Sciences	Prof. Dr. J. de Kraker	FHS
Ocean Space and Human Activity	Prof. Dr. J. Stel	FHS
Environmental Studies, Policy and Management	Prof. Dr. P. Glasbergen	FHS
Innovation Systems and Sustainability Transition	Prof. Dr. P. Weaver	FHS
New Building Blocks	Prof. Dr. S. Wildemann	FHS
Organic Chemistry	Prof. Dr. T. Cleij	FHS
Climate Change Policy	Prof. Dr. Y. de Boer	FHS
Applied Psychology	Prof. Dr. G. Kok	FPN
Associate Professor of Economics	Dr. A. van Zon	SBE
Associate Professor of Finance	Dr. J. Bos	SBE
Associate Professor of Finance and Real Estate	Dr. N. Kok	SBE
Assistant Professor of Finance	Dr. P. Smeets	SBE
Associated professor of Econometrics	Dr. S. van der Loeff	SBE
Associate Professor of Economics	Dr. T. Ziesemer	SBE
International Economic Relations	Prof. Dr. B. Verspagen	SBE
Ethics, Organizations & Society	Prof. Dr. H. Hummels	SBE
Professor of Ethics, Organisations and Society	Prof. Dr. H. Hummels	SBE
Professor of Business and Economics, Marketing and Supply Chain Management	Prof. Dr. J. Semeijn	SBE
International Economic Relations	Prof. Dr. L. Soete	SBE
Intercultural Relations	Prof. Dr. M. Peterson	SBE
Real Estate Finance	Prof. Dr. P. Eichholtz	SBE

Institutional Investors	Prof. Dr. R. Bauer	SBE
Professor of Finance	Prof. Dr. R. Pownall	SBE
Economics of Health, the Life Sciences and Development	Prof. Dr. S. Ramani	SBE
Development Economics	Prof. Dr. T. Azomahou	SBE

Category	Number[20]	Net Change to 2014	Net Change to 2013	Net Change to 2010
Core	4	No change	No change	No change[21]
Related	41	+1[22]	No change	+5[23]
Total	**45**	**+ 1**	**No change**	**+5**

One new professorships related to sustainability has been created in 2014. A net increase of 5 professorships can be observed compared to 2010. While all faculties are represented, more professorships relating to sustainability from FHML and FPN would be desirable. Furthermore only FHS is hosting professorships focused on sustainability.

Research Centre Inventory

Research Centres with a focus on sustainability

Name	Acronym	Research Areas	Website
European Centre for Corporate Engagement	ECCE	• Sustainable finance and responsible investing • Impact of environmental, social, and governance (ESG) standards on the pricing of assets in financial markets	http://www.corporate-engagement.com/
International Centre for Integrated Assessment and Sustainable Development	ICIS	• Human Health • Water • Tourism • Mobility • Biodiversity	http://www.icis.unimaas.info/

Research Centres related to sustainability

Name	Acronym	Research Areas	Website
Institute for Corporate Law, Governance and Innovation Policies	ICGI	• The study of the impact that far-reaching social changes have on corporations, corporate law and governance including corporate social responsibility • Constructive assessment which enables the development of changes in corporate law and governance in aid of desired social developments	http://www.maastrichtuniversity.nl/web/Institutes/ICGI/Institutes1.html
Institute for Globalisation and International Regulation	IGIR	• International Trade • International Investment • Intellectual Property • Environmental Policy • International Institutions • Regional focus: Asia	http://www.maastrichtuniversity.nl/web/Institutes/IGIR.html

20 The inventory was updated resulting in changes compared to the UM Annual Report 2014.
21 One was newly included in the inventory which was present before. This was not considered in the calculation of the net change. UMGO aims at applying a consistent standard in its inventories, but occasional changes in judgement do occur.
22 Eleven were newly included in the inventory which were present before.
23 Sixteen were newly included in the inventory which were present before. One was removed from the inventory which is still present.

Institute for Transnational Legal Research	METRO	• Environmental law, liability law and the economic analysis of law • Cooperation with east-Asian institutes	www.maastrichtuniversity.nl/metro
Maastricht Centre for Human Rights	MCR	• Globalisation and Human Rights • Criminal Law and Criminology in an International Context	www.maastrichtuniversity.nl/humanrights
Maastricht Graduate School of Governance	MGSoG	• Governance (Coordination and Efficiency; Corruption and Accountability; Assessing Good Governance; Institutions, Governance and Long-term Growth) • Policy Analysis (Poverty, Social Protection and Fiscal Management; Child-, Human Capital- and Employment-Policy; Migration; Health)	http://mgsog.merit.unu.edu/
Netherlands Graduate School of Science, Technology and Modern Culture	WTMC	• Diagnosis of the Modern Research System: The history of and contemporary dynamics of national and international research systems, such as the organization of universities, research funding and industrial R&D. • Technological Development and Societal Regulation: The role of technology in society. Its key questions are how technological systems and artefacts emerge and develop, and how these technologies affect society in the process of their embedding. • Cultural Roles of Science, Technology and Rationality: The cultural and normative consequences of the intertwinement of science, technology and modern culture.	http://www.wtmc.eu/
The European Property Research Institute	EPRI	• Real estate investment performance, the economics of energy efficient and "green" building, and the effects of demography on real estate markets	http://epri.eu/
United Nations University - Maastricht Economic and Social Research Institute on Innovation and Technology	UNU-MERIT	• The economics of knowledge and innovation; • Poverty, Public policy and Inclusive Innovation • Economic Development, Innovation, Governance and Institutions; • Sustainable Development, Innovation and Societal Transitions; • Innovation Systems Indicators and Policy; Migration and Development; • Governance and Learning in ICT-enabled communities	http://www.merit.unu.edu/

Category	Number	Net change to 2013	Net change to 2010
Core	2	No change	No change[24]
Related	8	No change	No change[25]
Total	**10**	**No change**	**No change**

An inventory of research centres within UM related to sustainability was first made in 2010. The purpose of these institutions is to provide high-level research and education in this field, and thus, their number is revelatory for the involvement of the university as a whole with such issues. At present, there are 10 centres that carry out research on sustainability, the same as in 2010. ICIS and ECCE are fully focused on sustainability topics. All research centres, and especially ICIS, also play a crucial role in offering courses in the area of sustainability (see Course Inventory). It is essential that close cooperation is encouraged and maintained between these and the faculties, as well as UMGO, in order to pursue the aim of further development of sustainability research and education at Maastricht University.

Sustainability Journal

In 2014, the second edition of the Maastricht University Journal of Sustainability Studies (MUJoSS) was published.[26] The creation of the MUJoSS was an initiative of UMGO, intended to present a variety of approaches to and views of sustainability. The MUJoSS is a peer-reviewed journal that presents some of the best sustainability related research papers written by students of UM and recent alumni. The publication of the MUJoSS is followed by a corresponding symposium, during which the students present their papers and discuss them with both fellow students and academic staff. The main aim of the MUJoSS and its symposium is to promote excellence in student research on sustainability and enhance knowledge exchange.

The Living Lab

The Living Lab at UM brings together stakeholders with sustainability questions and courses dealing with related issues. This enables students to conduct research that directly answers sustainability questions stakeholders have. Clients in 2014 included the Gemeente Heerlen, UMGO, Relim, rootAbility and various departments at UM. The Living Lab was initiated by UMGO and is currently being managed by it. In order to further develop the project, its ownership will have to at least partially be transitioned to another department of UM.

Knowledge Exchange and Internal Usage

A knowledge exchange platform has been set up by UMGO. In 2014 the first two symposia of this platform were conducted. The symposia provided valuable insights for the academic staff involved. Furthermore an initiative was launched in 2014 for researchers, teaching staff and support staff to investigate sustainability improvements that could be made to UM's real estate, thus utilizing in-house knowledge and making use of previously untapped synergies. Similar practices have been used through the

24 One was newly included in the inventory which was present before. This was not considered in the calculation of the net change UMGO aims at applying a consistent standard in its inventories, but occasional changes in judgement do occur.
25 One was removed from the inventory which is still present.
26 All editions of the journal are available at http://greenofficemaastricht.nl/publications/ and (with university access) at http://openjournals.maastrichtuniversity.nl/SustainabilityStudies.

living lab with relations to students on a smaller scale. The intellectual capacities of academic staff has been largely untapped for the purposes of UM's sustainability transition so far. This is a major step to increasingly utilize existing knowledge.

PhD on institutional transformations

A PhD research project, created in collaboration with the Green Office and hosted by ICIS, started in December 2013, with an expected run-time of four years. The title of the project, "Organisational Transformation and Systemic Change: Modelling pathways towards Sustainability at the University", reflects the need of universities to take account of their efforts in manifesting sustainability across the portfolios of their activities: namely research, education, operations, governance, communications and outreach.

This project aims to take this brief as a starting point for case-study research on pioneering Higher Education Institutions including UM and UMGO itself, amongst leading examples from NGO's, Public-Private Partnerships and the business world. This, in symbiosis with an Action Research process that iteratively experiments and implements its findings here in Maastricht, builds towards a set of deliverables, aside from publications and a thesis, that will include policy recommendations on the sustainability governance framework and institutional 'machinery' of the university and UMGO. In 2014 the focus of the project was to get an overview of the institutional status quo and thus build an analytical framework.

Conclusion

UM is making progress towards fostering more research in the area of sustainability. Seen as the creation of research facilities and professorships tend to be rather long term, it is more difficult to assess progress as compared to 2010 for research compared to education. However, major positive steps are the successful implementation of the knowledge exchange platform and the first major attempt of using in-house knowledge of staff members to further the sustainability transition of UM. To allow these to grow beyond the capacities of UMGO, the long term aim must be an institutionalization and hand-over of the MUJoSS, knowledge exchange platform and the living lab.

5. University Community and Public Relations

Sustainability Vision 2030

"Living a culture of sustainability and participatory policy making"

Sustainability efforts are driven by a culture of sustainability. Students and staff strive for a sustainable future and come to identify with the university's sustainability goals through the participatory approach of the sustainability process. The university embraces its role as a change agent within its local context and leads in global dialogues in sustainable development.

Goals:

- Making all students & staff aware of the university's sustainability goals.
- Using bottom-up initiatives to encourage student and staff participation and support of sustainability.
- Becoming an active participant in its local environment, adapting university policies to other contexts.
- Establishing, maintaining, and deepening strategic partnerships for sustainability with the public and private sector as well as between the university and local communities as well as other educational institutions.
- Making sustainability an important part of University Public Relations.

The Student Community

Inventory of Student Organizations active for sustainability

Organization[27]	Field of Action	Website
AISEC Maastricht	Leadership development	http://www.aiesec.nl/
Amnesty International Maastricht Students	Human rights	http://aims.amnesty.nl/
Books4Life	Book exchange	http://www.books4life.nl/
Enactus Maastricht	Empowerment through entrepreneurship	http://www.enactusmaastricht.nl/
FASoS Town House Garden	Urban gardening	https://www.facebook.com/TownHouseGarden?fref=ts
GECCO	Ecological sustainability at UCM	https://www.facebook.com/GECCO.UCM?fref=ts
International Federation of Medical Students' Association (IFMSA Maastricht)	Global health	http://www.fmsa.nl/maastricht.html/
Love Foundation	Using revenues from social events to support sustainability	www.love-foundation.org/
Mandril Cultural and Political Centre	Community, culture and politics	http://www.mandril-maastricht.nl/
MSC-Gaia	Ecological sustainability at MSC	https://www.facebook.com/groups/588380314509487/?fref=ts
NovUM	Political representation of students	http://www.novum-maastricht.nl/
Oikos Maastricht	Awareness of sustainability	http://www.maastricht.oikos-international.org
PINE SBE (new)	Pluralism in Economics	https://www.facebook.com/pinesbe
PINE UCM (new)	Pluralism in Economics	https://www.facebook.com/pineucm
The WE Festival	Various (see below)	http://www.we-festival.org/
Transition Action Group Maastricht (new)	Degrowth	http://www.tagmaastricht.nl/
United Nations Study Association (UNSA)	Diplomacy and cooperation	http://www.unsamaastricht.org/
Voko Food Cooperative	Socially and environmentally responsible foodstuff production	https://www.facebook.com/vokomaastricht?ref=ts

The involvement of the student community of Maastricht University also plays a significant role in promoting the sustainability transformation of the institution. The present inventory, which has been updated regularly since its initial publication in the CAR 2010, serves as a good indicator of such involvement on the side of the general student body. Although the list is not exhaustive and the number does not represent a fully reliable KPI of the level of student engagement in matters of sustainability, the list as such does give an accurate image of the broader involvement of the community.

An issue that student organizations are frequently faced with when engaging in projects for the improvement of sustainability is poor internal organization or lack of continuity between successive boards. A positive step in this regard is a manual for the boards of student organizations currently being prepared by the Student Project Team.

27 The inventory was updated resulting in changes compared to the UM Annual Report 2014.

The WE festival

The WE festival is organized every year by a number of student organizations. The festival aims at fostering sustainability and creativity. There are workshops offered in the area of sustainability, community, activities, cooking and creativity. This is additional to creative performances. The WE festival is organized entirely by volunteers. Since its initiation in 2010,[28] the festival has grown significantly in size and importance and is now a major player in Maastricht's and UM's transition towards greater sustainability.

Staff involvement in sustainability

Academic and support staff is frequently involved with sustainability concerning specific projects. Furthermore initiatives are taken by staff members to make the institution more sustainable. In 2014, staff members of the Student Service Centre (SSC), in cooperation with UMGO and FS, took initiative to make their building more energy efficient. First initial steps were taken which decreased the energy usage already in 2014 as compared to 2013 for the building. An issue that remains is that often staff initiatives occur unnoticed and uncoordinated and therefore lose out on synergies. An important goal for the future should therefore be the greater involvement of the staff community by UMGO and FS in order to coordinate such efforts better.

Communication of sustainability

The success of projects towards greater sustainability also depends on their perception and the awareness of sustainability issues by the community. While UMGO and FS have taken numerous steps to raise awareness for certain measures and about sustainability in general, more effort will be required in the future. UMGO is working towards quantitative measures to assess awareness of sustainability issues in general and of UM's response to these. One indicator has been a survey conducted by SBE students among academic staff, support staff and students of SBE. Only about half could name a single measure that SBE had taken towards greater sustainability.[29] While this study may have a large error of margin and only concerns SBE, it gives an indication of the fact that greater efforts by UMGO, FS and the marketing and communications department will be necessary in the future to communicate sustainability measures and issues in the future.

The Display

One method of raising awareness identified by UMGO is to utilize information screens already present at various facilities to inform students and staff about the energy usage of their faculty compared to the other faculties of UM. Such information will be shown on these screens from early 2015 onwards.

28 http://www.we-festival.org/.
29 Dirat et al "Investigating the idea of a reporting-driving sustainability transition for Maastricht University" 2015

Conclusion

UM has a very active student community creating awareness and working towards greater sustainability. Also from the staff side it appears that there are many trying to work towards greater sustainability. However, a lack of quantitative information and coordination between initiatives makes it difficult to support these initiatives or to assess their involvement. Greater communication of projects is also required. However, many positive steps, such as The Display project, have been taken.

6. Operations

Sustainability Vision 2030

"Making a positive environmental impact"

The sustainable university generates a positive environmental impact by reducing its environmental footprint in the following ways:

Energy: The sustainable university has zero net energy consumption and is independent from the electricity grid. Through renewable on-campus energy production the energy that powers research, education and daily life at the sustainable university is emission free. At the same time the university strives to increase energy efficiency, avoiding energy waste. Virtualization and adhering to the highest standards for building and renovation also improve the efficiency of the university's ICT infrastructure.

Waste: In a sustainable university waste is no longer seen as an undesirable yet inevitable end product of consumption. Instead, waste becomes a new resource. The sustainable university reuses, recycles or composts, engaging in Cradle-to-Cradle approaches and aiming to reduce the amount of residual waste to the minimum. Paperless learning and teaching, for example, contribute to lower waste production.

Procurement & Catering: The sustainable university considers its ecological and social responsibility and takes it seriously. Strict ecological and social criteria are therefore implemented and closely monitored in all its procurement activities including Catering.

Water: Addressing the increasing global significance of available clean water, the sustainable university reuses rain water wherever possible and continues to develop innovative ways of reducing its total water consumption.

Transportation: Reducing its contribution to global climate change is one of the sustainable university´s central goals. When possible the university seeks to reduce university related travel and to find alternatives or compensation for unavoidable carbon-emitting transportation.

ICT: The university prioritizes the fostering of a holistic and systematic approach to address the challenges of ICT infrastructure energy efficiency. As ICT infrastructures are rapidly growing due to digitalization and technological advancements the role of ICT becomes increasingly important to achieve a sustainable university.

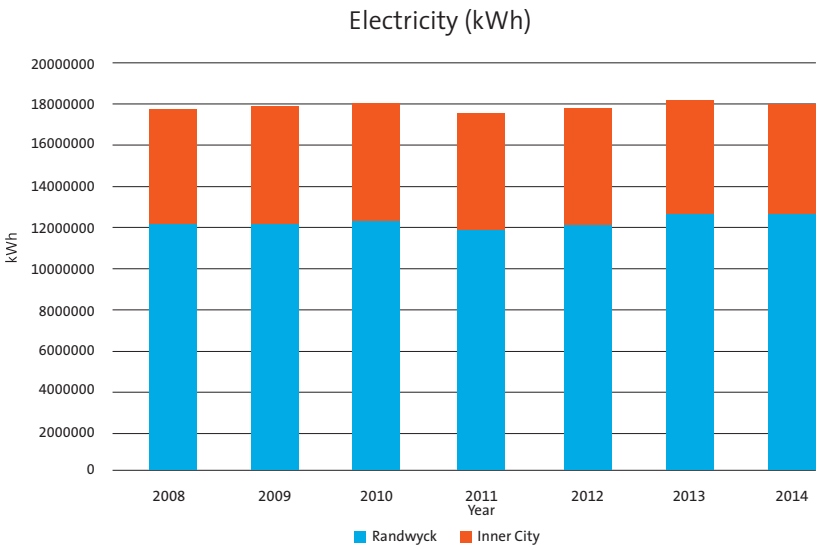
Goals:

- Reducing net energy consumption for all facilities to zero.
- Using 100% renewable and self-generated energy.
- Increasing energy efficiency.
- Using a Cradle-to-Cradle approach to reuse, reduce and recycle waste.
- Decreasing the use of paper and packaging.
- Implementing strict ecological and social criteria for 100% of the university's contractors, including Catering.
- Using fresh water wisely and rain water where possible.
- Reducing travel-related greenhouse gases through different modes of travel, reduction and compensation.
- Implementing maximum energy efficiency in ICT.

Energy

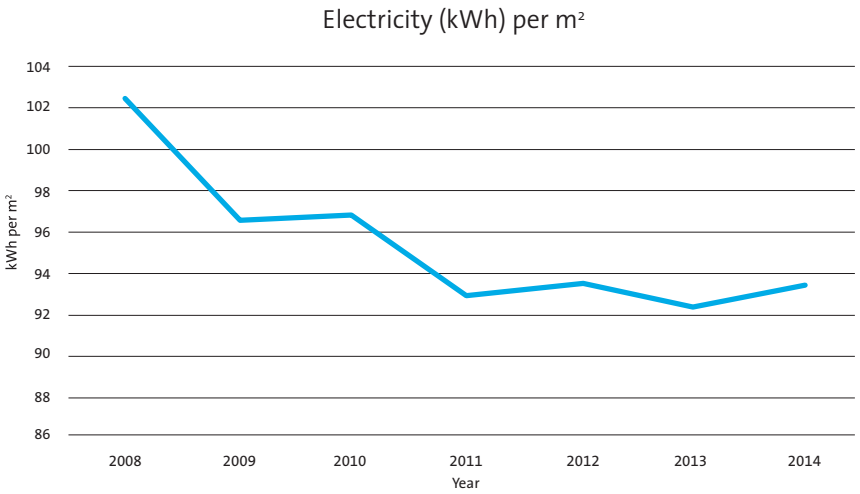
Electricity

After the 2% increase in electricity consumption in 2013, there has in 2014 been a 1% decrease (see graph 1). Both the Randwyck and the inner city faculties have seen decreases. In the inner city there was a decrease of 2.5%, while Randwyck saw a decrease of 0.5%. A factor may be the much higher electricity usage by research facilities in Randwyck. As a result the same electricity savings make up a smaller percentage of the total electricity usage in Randwyck than they do in the inner city.



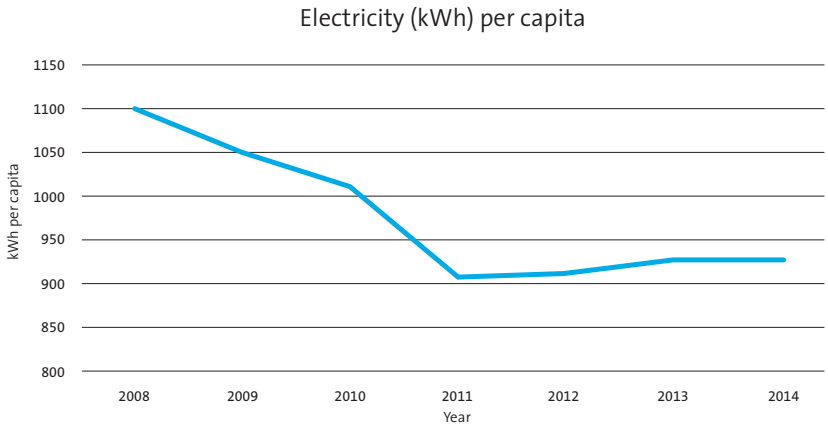
Graph 1

The electricity consumption per m2 has increased by 0.7% (see graph 2). This increase essentially cancelled out the improvements made in 2013 and brought UM back to the energy efficiency level of 2012. Major improvements have not occurred since 2011.



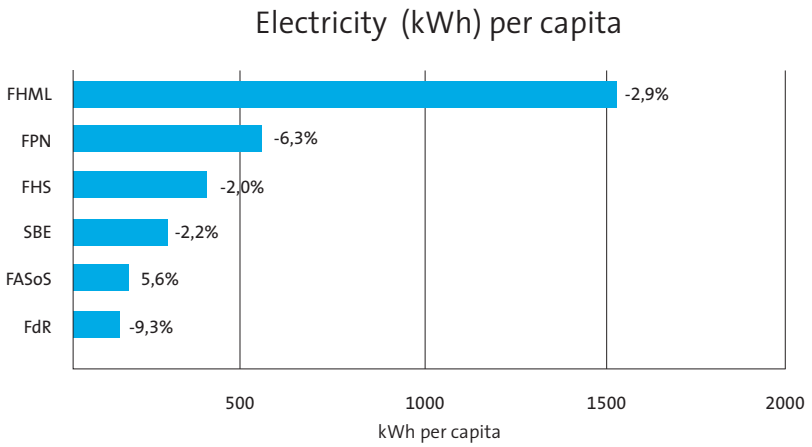
Graph 2

Also the electricity consumption per student and staff member has remained stagnant (see graph 3). With a decrease of 0.1%, the value is virtually unchanged compared to last year. Major improvements have only been made up until 2011. Since then there has been an overall increase of usage per capita.



Graph 3

Nearly all faculties managed to decrease their electricity consumption per capita in 2014 (see graph 4). Only FASoS still saw an increase of 5.6%. However, FASoS had managed to decrease their per capita usage last year, when the per capita usage of UM as a whole had increased. The ranking of the faculties remains unchanged since at least 2012.



Graph 4

PC power management

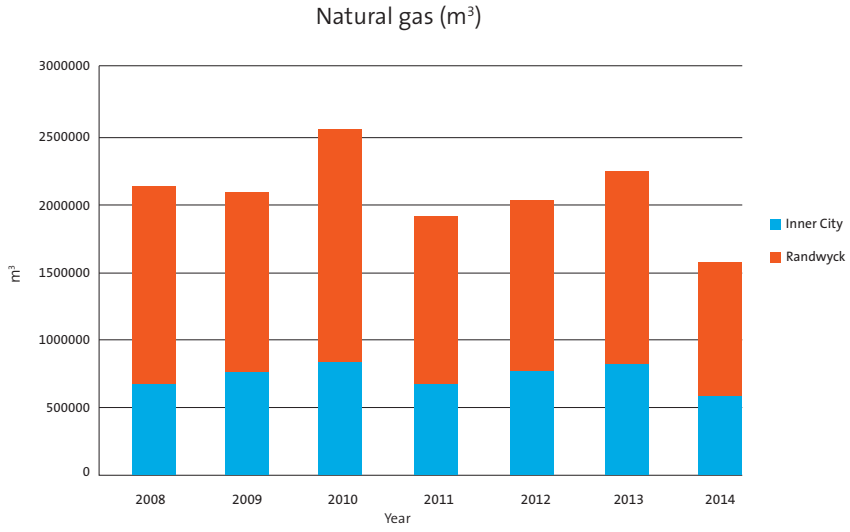
In 2014 a pilot of PC power management was introduced at SBE. This led to electricity savings of 7%. Certain difficulties remain, which is why the pilot is being evaluated carefully. A roll-out to other facilities will be considered by ICTS in coordination with UMGO based on this evaluation.

Server virtualization and a sustainable data centre

The ICT service centre (ICTS) of Maastricht University is working towards greater server virtualization and sustainability in its data centres.[30] After a baseline analysis via the BlueICT Scan in 2012, virtualization and a potential outsourcing of all UM servers is investigated by ICTS also in cooperation with the UMGO. If implemented, these efforts could have very large positive effects on UM's energy efficiency.[31]

Gas

The total gas consumption has decreased in 2014 (graph 5). The decrease was, with 27.6% quite significant. Total consumption has reached its lowest value since at least 2007

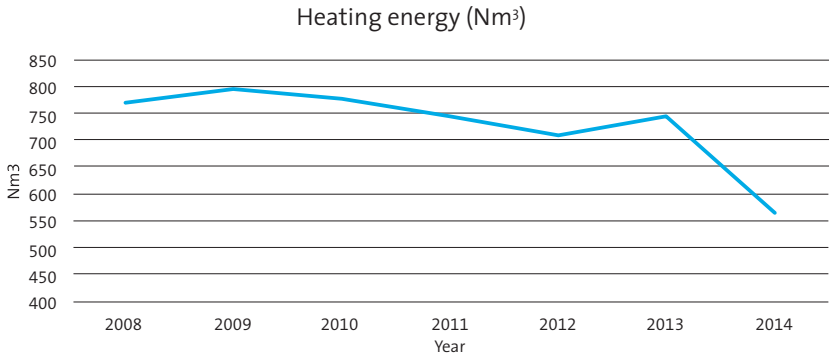


Graph 5

30 Server virtualization is a technique that involves partitioning physical servers into a number of small, virtual servers with the help of virtualization software. In this way, the capacity of physical servers can be used to a larger extent which increases energy efficiency substantially.

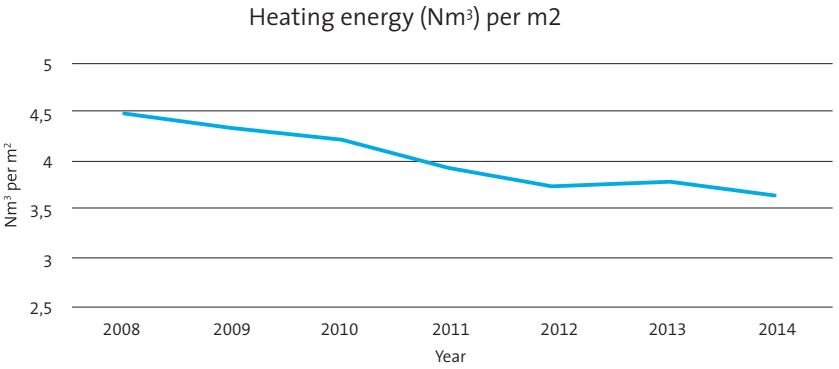
31 UM will still be responsible for the energy usage at the data centre when it is outsourced. Increased efficiency for UM occurs because such a data centre is more efficient than the current placement of servers.

In order to account for varying weather conditions one must account for heating degree days. Where this is done there is still a significant decrease of 23.9% (see graph 6). Since 2009 the gas usage accounting for heating degree days has decreased. However, one must consider that there is a very high error of margin when accounting for heating degree days, which is why changes are often amplified.[32] Nevertheless this steep decrease is a positive trend that, if it continues in the following years, suggest that UM is making much headway in terms of heating efficiency.



Graph 6

Also heating efficiency per m2 has improved in 2014 (see graph 7). This year's 4.4% decrease put UM back on track after last year's increase. Since 2008, steady improvements can be observed. Since these numbers account for heating degree days there is a high margin of error.

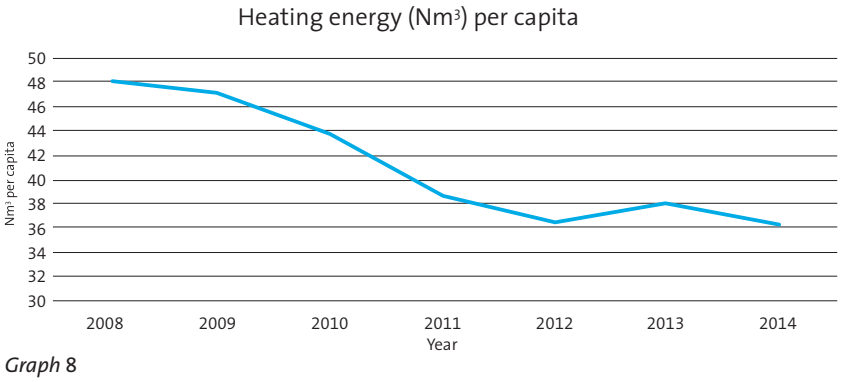


Graph 7

A similar trend can be observed in heating efficiency in terms of staff members and students (see graph 8). This year's 5.1% decrease is in line with the general trends that can be observed from 2008 onwards. However, these improvements have slowed since 2011. As these numbers account for heating degree days there is a high margin of error.[33]

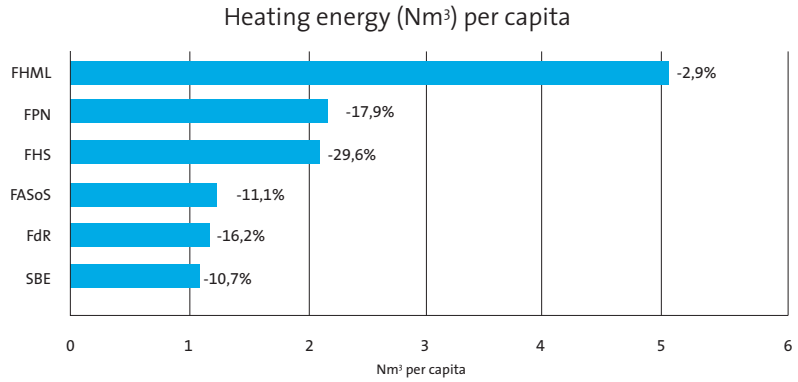
32 Heating degree days is a value calculated on the basis of average weather conditions during a year thus accounting for the need to heat during any given year. There is a high error of margin in such a calculation in itself. This error of margin is amplified by the required division formula when applying it to gas consumption and by the impact of buildings not being heated when not used.

33 Ibid.



Graph 8

In line with the overall improvements made, each individual faculty managed to decrease its heating energy usage per capita in 2014 (see graph 9). The most significant decreases have been accomplished by FHS with nearly 30%, while FHML has only accomplished a minor reduction of 2.9%. Due to these changes FHS has managed move down one place below FPN. Since these numbers account for heating degree days there is a high margin of error.[34]

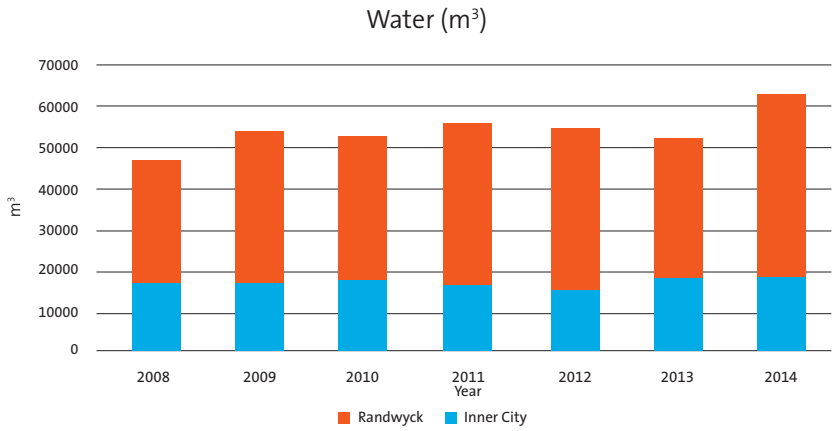


Graph 9

Water

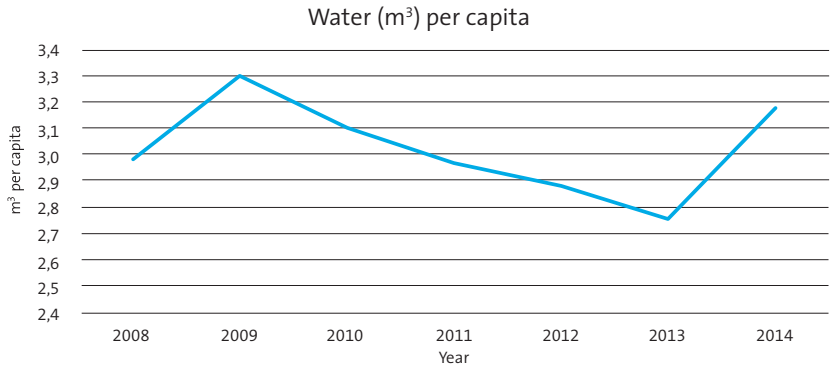
Water consumption at UM has increased by a 14.7% in 2014 (see graph 10). In both the inner city (3.4%) and in Randwyck (14.7%) water consumption increased. This extremely high increase in Randwyck was probably largely due to two water spills that occurred out of sight and were therefore only noticed after a significant quantity of water had spilled. Nevertheless, the further increase observable in the inner city this year should act as a wakeup call to take more measures aimed at decreasing water consumption. While in the last years improvements have been made in Randwyck, the inner city water consumption has generally increased consistently since 2008.

34 Ibid.



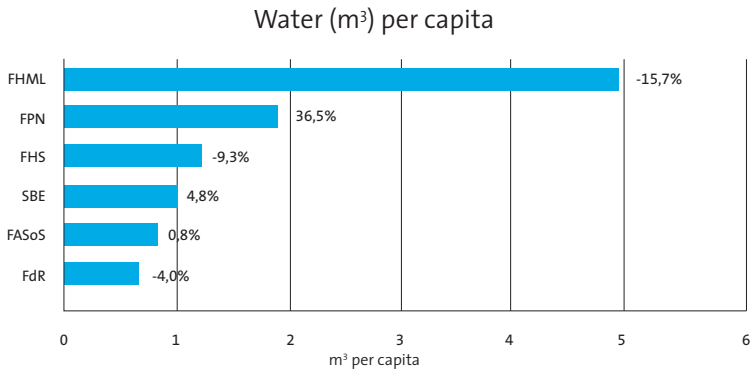
Graph 10

Also the consumption per student and staff member has significantly increased (graph 11). The increase of 15.8% breaks the decreasing trend present from 2009 up to this year. In order to assess real improvements in water consumption it will be necessary to wait until next year and evaluate water consumption.



Graph 11

Concerning water consumption per capita, faculties have performed very differently in 2014 (see graph 12). While the Randwyck faculties' (FHML and FPN) consumption per capita increased significantly, probably largely due to two unnoticed water spills, FdR and FHS managed to reduce their per capita consumption. However, also the per capita consumption of SBE and FASoS increased. For both faculties this is the second annual increase in a row. In terms of ranking, FHS has overtaken FPN due to its 9.3% decrease and FPN's 36.5% increase. It remains to be seen whether this rank can be kept without water spills.



Graph 12

Water saving devices

in 2014, water saving devices were placed in several facilities across the university. These add air pressure to water taps while reducing the water used. This has the same cleaning effect for washing hands, but reduces the water consumption.

Energy Commitment

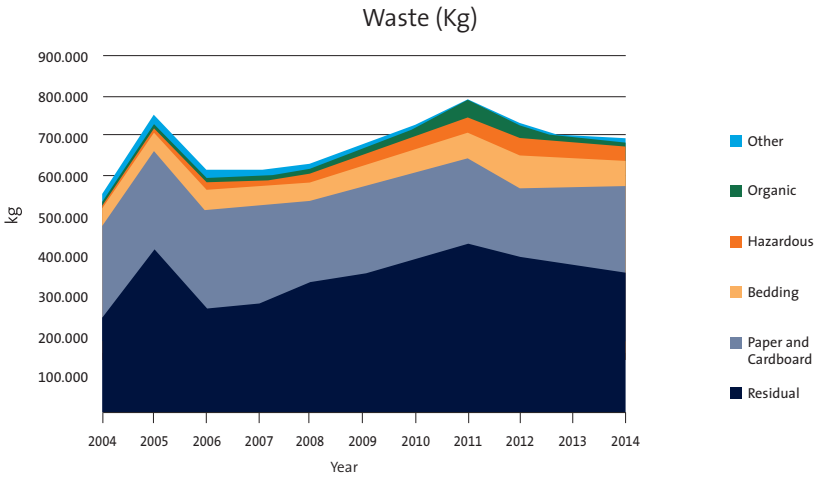
Maastricht University has, in 2008, joined the Multiple Year Agreement (MJA3). This agreement, set up by RVO, obliges institutions that are part to it, to increase energy efficiency by 2% every year until 2020. UM's energy efficiency plan (EEP) for the years 2013-2016 has been approved by RVO and the municipality of Maastricht. The plan foresees improvements of 11.76-15.61%, therefore exceeding the required 8%. However, these savings are calculated savings and do not account for decreased efficiency over time. Nevertheless, the EEP causes UM to take significant energy efficiency measures.

At this point UM is on track with the EEP commitments. In fact UM has now taken most of the possible smaller measures. This is a great success and UM now has to take on larger and more innovative projects to keep up its energy efficiency goals.

Waste

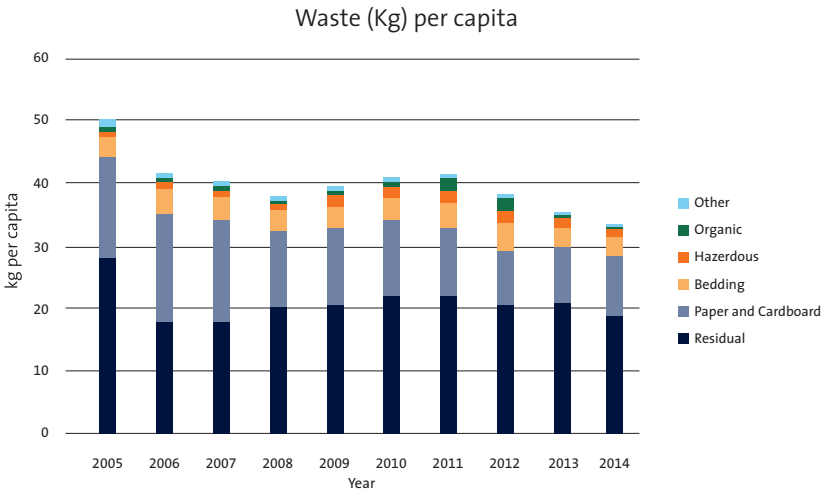
In 2012 a pilot of waste separation into three waste streams was introduced at the inner city university library. This was an initiative of UMGO and FS. Plans are already being made within FS to expand this initiative to other facilities in 2015. Paper waste is already separated from paper and cardboard waste at all facilities. Some additional waste streams are collected at facilities where such waste often occurs. Residual waste still makes up more than half of all waste (graph 13). The quantity of residual waste has decreased by 8.1% while paper and cardboard waste has increased by 11.2% though. This may have, at least in part, been the result of the waste separation initiative at the library and greater separation of paper and cardboard at all facilities. The overall effect of the pilot cannot be measured fully, as the quantities of the plastic waste stream are not currently available. Bedding waste has increased by 6.7%, organic by 62.9% and other waste[35] by 41.5%.[36] Total waste fell by 0.8%. Steady decreases can be observed since 2011. However, the large share of residual waste is worrying. Effective waste separation at all facilities must be implemented to significantly reduce residual waste. All separated non-residual waste is recycled.

35 2011-2014: glass and e-waste (see below); 2008-2010: also wood and metals; 2004-2009: also construction and autoclaved.
36 Categories with small overall quantities typically show extreme changes in terms of percentages. Actual changes were not as significant.



Graph 13

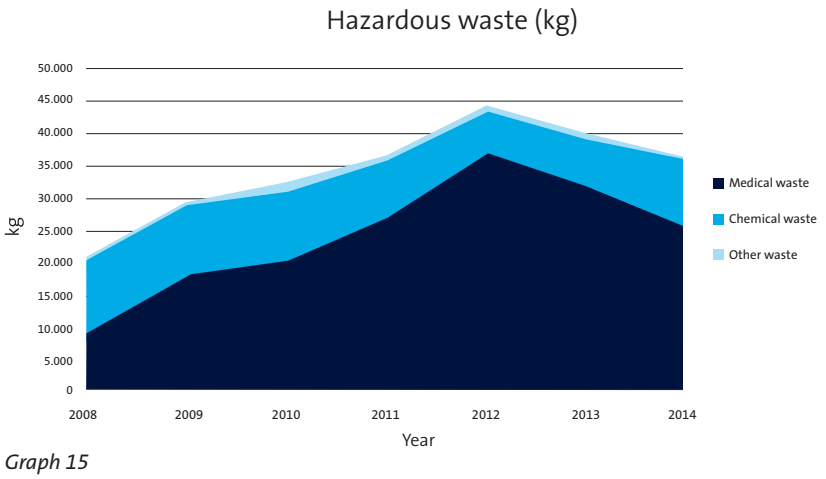
Also per capita decreases can be observed (see graph 14). Residual waste decreased by 10.2% while paper and cardboard waste increased by 8.7%. Overall there has been a reduction of 2.9%. Steady decreases have occurred since 2011.



Graph 14

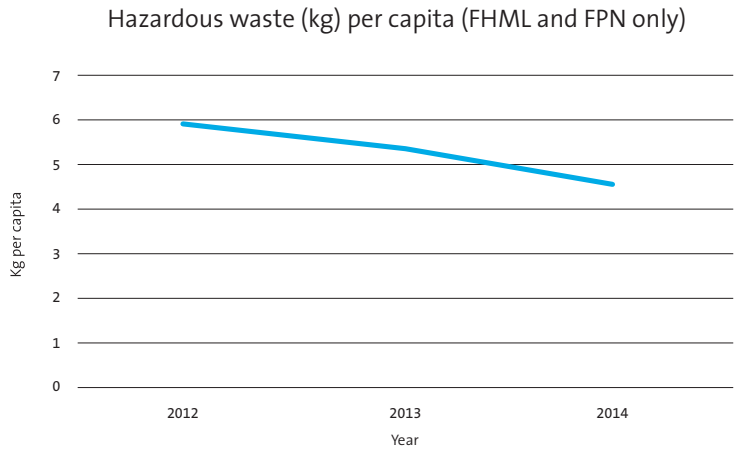
Hazardous Waste

Hazardous waste has, for a second time since 2008, decreased. This year it fell by 12.2% (graph 15). Reductions occurred in all categories. Large reductions occurred in medical waste (18.9%) while chemical waste increased by 26.6%. The quantity of other hazardous waste fell by 54.4%. Such significant changes partially occur due to low overall quantities. The continued downward trend is a very positive development. Despite increased research activities, UM is producing less hazardous waste.



Graph 15

Also hazardous waste per capita has significantly decreased by 15.9% (see graph 16). This is the second annual decrease in a row.

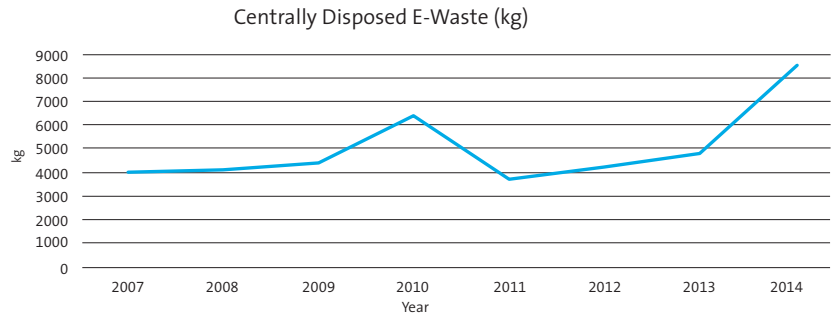


Graph 16[37]

E-Waste

In 2014 there has been an increase of 125.5% of centrally disposed e-waste (see graph 17). However, in the past only a minority of e-waste has in fact been disposed centrally. Most e-waste produced by UM has been disposed of by faculties and departments individually. Any e-waste not centrally disposed is not included in graph 17. In many cases it may have been disposed of responsibly, in others it may not have. UMGO worked with FS in 2014 to develop an e-waste policy that was approved and started to be implemented within 2014. This was probably the largest factor leading to an increase in centrally disposed e-waste. This must therefore be seen as a success, due to the guarantee that centrally disposed e-waste is now recycled and ultimately disposed in a socially and environmentally responsible manner. In 2015 UMGO and FS will continue to implement the e-waste policy of 2014 fully in order to ensure that all e-waste is disposed of centrally.

37 Only students and staff members of FHML and FPN are considered as only these faculties produce hazardous waste.

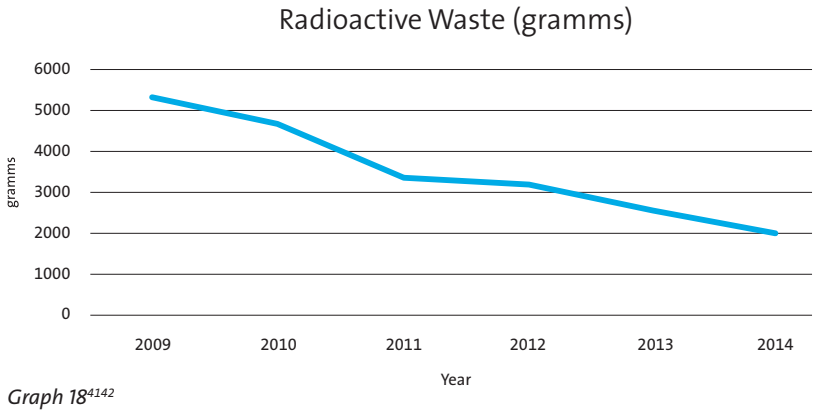


Graph 17

Nuclear waste in the electricity supply chain

Maastricht University is not only responsible for waste produced by its members or waste disposed in its facilities. One must also consider the nuclear waste occurring in UM's supply chain of electricity. Nuclear waste is at this point stored in places that are deemed save for the next couple of years. There currently is no solution on how to handle this waste that will continue to pose a danger to any living being up to hundreds of thousands of years. Nuclear waste resulting from electricity consumption is reported on in this report for this reason as well as due to general dangers of nuclear energy and its negative impacts on public health. While nuclear waste resulting from energy consumption is generally not yet reported on by the institutions consuming energy,[38] it is standard in environmental reporting of electricity providers.[39]

Since 2009 there has been a steady decrease of radio-active waste in the electricity supply chain (see graph 18).[40] In 2014 there has been a decrease of 19.6% compared to 2013. While this is certainly a positive development, UM should in the long term consider eliminating nuclear power from its energy mix.



Graph 18[41][42]

38 It is for example not included in the GRI standard. See Annex I.
39 Energy providers will generally report greenhouse gas emissions and nuclear waste per kWh, as did UM's provider upon request of their GHG emissions.
40 There was a systematic error in the calculation used for the SPR 2013. While it was correctly noted that UM's new electricity provider produced significantly more radio-active waste than the previous tender, the academic hospital, whose facilities UM utilizes as well, switched to a provider producing significantly less radio-active waste in the same year.
41 For 2009-2012: conversion factor taken from http://www.wisenederland.nl/groene-stroom/leverancier/eneco.
42 For 2013: Information received upon request from the provider (DVEP). Conversion factor: 0,000177g per kWh.

Procurement

In the Netherlands, public sector institutions have the obligation to conduct 50% of their procurement, in accordance with the sustainability criteria imposed by RVO.[43] However, UM has taken up a more ambitious goal of reaching 100%. This was achieved in 2011, but failed to be reached in 2012.[44] However, in 2013, the university returned to 100%, and successfully maintained this in 2014.[45]

	2011	2012	2013	2014
Share in compliance with RVO[45]	100%	86%	100%	100%

Nevertheless, it must be noted that the criteria employed are only applicable to purchases on the central level and not to those made by faculties or other departments which are not processed by the purchasing office. Moreover, there are criteria available for only approximately 20% of purchases. Therefore, despite the 100% achieved, only a limited share of purchases is covered by the criteria. Furthermore, only a certain percentage of the purchases is generally required to be sustainable (see Catering below), as opposed to the entire sum of products. Finally, the criteria themselves primarily touch upon environmental issues and only deal with social sustainability to a limited extent. Furthermore, these only make limited demands. In order for UM to reach the goals set out in Vision 2030 as regards procurement, greater weight must be set upon sustainability criteria in tenders, and constructive dialogue with existing tenders must be encouraged towards improving the university's sustainability performance in matters of procurement.

Catering

Albron is UM's primary provider of catering services. Contractually Albron is required to supply 40% of its product range in sustainable products as defined by the RVO. From 2012 to 2013 Albron was far from meeting this requirement. While there is no contractual requirement for organic products, reaching only around 5% was also far from desirable. In 2013 Albron took a first positive step, in cooperation with UMGO and FS, by introducing a sustainable vending machine. In 2014 UMGO initiated a long-term dialogue with FS and Albron to further improve the share of sustainable products in catering. Albron took many positive steps as a result. The share of both sustainable and organic products rose by 10 percentage points. The contractual requirement of 40% was still not met. However, most measures were only introduced in mid-2014. Therefore the first half of 2014 still lowered the overall share for the year. Furthermore Albron could have probably achieved 40% sustainable products with the same effort and financial commitment if it had not raised the share of organic products as well. This would have been less desirable. Furthermore this is a significant increase. Lastly, Albron has also changed, at the request of UMGO and FS, all but one of its packaging materials to be mono-stream so they could be recycled. Further improvements can be made if Albron, FS and UMGO maintain this constructive dialogue in the future and stay committed to raising the level of sustainability in catering.

43 http://www.inkoopportal.com/inkoopportal/download/common/convenantduurzaaminkopen1.pdf.
44 Inkoopsbeleidplan Universiteit Maastricht 2012-2015.
45 I financial terms

Albron Catering (94.3% of total[46])	2011	2012	2013	2014
Share in compliance with RVO[47]	15.0%	23.5%	26.0%	35.6%
Share organic[48]	--	4.6%	5.4%	14.8%

Apart from Albron, there are two more catering services on UM's campus. Coffeelovers has one branch at the student service centre. Coffeelovers was unable to provide any data on its sustainability performance upon request. Banditos Espresso has one branch at FASoS and another at FPN. Their total value of purchasing is 1:20 as compared to that of Albron. Banditos Espresso estimates that at least 99% of its products are organic. The only products that are not organic are raising agents and their hazelnut essence which only make up around 0.1% of their purchasing. Banditos Espresso manages to keep lower prices than most competitors despite providing nearly 100% organic products. This should serve as an example to other catering services and proves that it is well possible to provide socially and environmentally friendly catering services at competitive prices.

Banditos Espresso (5,7% of total[50])	2014
Share organic[51]	99%

Printer optimization and efficiency

In 2014 a new printer tender was concluded. As a result printers will be replaced with more energy efficient models. Double-sided printing will be introduced as the standard everywhere (was already the standard setting for most machines). The weight of paper will be reduced from 80g/m^2 to 70g/m^2. The location of printers will optimized and as a result reduced by up to 40%. These changes should be viewed as a significant positive step. UMGO is working with ICTS and the printer supplier to further reduce the number of decentralized printers[46] and to investigate draft printing as a default setting.

Transportation

Staff commuting

		2010	2013	2014
Bike		49%	46%	43%
Car		40%	33%	28%
Public Transport	Train	11%	18%	16%
	Bus		2%	2%
E-bike		0%	2%	2%
Other[52]		---	---	9%

46 Printers purchased and operated by individuals or departments.
47 Excluding Coffeelovers.
48 Share of purchases in financial terms.
49 Share of purchases in financial terms.
50 Excluding Coffeelovers
51 Share of purchases in financial terms.
52 Includes inter alia walking and motorcycles.

Staff commuting behaviour was first investigated by Maastricht Bereikbaar in 2010. The results showed that the majority of UM staff members preferred the bike as a means of transport. In 2013, the use of bikes decreased by 3%. They were replaced by a greater use of e-bikes and an increased employment of public transport. Commuting by car has decreased quite significantly. The most recent data from 2014 shows that the use of bikes by staff members has remained relatively stable, while cars are used even less. UM staff members appear to opt more and more for public transport, e-bikes and other means of commuting.

Transportation policy

In 2014, UMGO, FS and HR developed a transportation policy that is pending final approval. Core measures introduced by the transportation policy will include communication and awareness initiatives, providing bikes to employees, promoting carpooling, promoting the use of public transport and park and ride schemes, implementing charging stations for electric cars as well as compensation schemes and a reduction of flights. Approving and implementing this policy will be vital in the next couple of years in order to further reduce the travel related carbon footprint of UM.

Greenhous Gas Emissions

This report has presented large quantities of data on many different aspects. All information provided is important in reporting on UM's state of progress concerning sustainability. There is no one number that can show where the university currently is or where it needs to go.

An attempt to consider UM's impact on climate change is made with a greenhouse gas (GHG) emissions calculation. The values given are calculated in CO2 equivalents.[53] The footprint is divided into three scopes. Scope 1 constitutes direct GHG emissions produced by UM (natural gas combustion). Scope 2 constitutes emissions directly consequential to UM's activities (electricity purchased). Scope 3 constitutes further indirect emissions. For scope 3 infinite additional factors could be considered. A selection was made here.[54] The emissions considered are as follows:

Scope 1

Source	Emissions	Change to 2013
Natural Gas combustion	2998	–28%

53 Quantity of CO_2 that would have the same effect as the actually emitted Greenhouse gasses.
54 The selection is termed "Scope 3 D12". It is used for the footprint from 2012 until present. In older reports and the annual report of UM a less inclusive different selection "Scope 3 D09" was used.

Scope 2

Source	Emissions[55]	Change to 2013
Electricity purchased directly[56]	3727	–5%
Electricity purchased through azM[57]	3401	+16%

Scope 3 D12

Source	Emissions	Change to 2013
Staff commuting	4247	–11%[58]
Lifecycle of waste[59]	1091	–4%
Water usage[60]	63	+15%

In 2014 UM managed to reduce its GHG footprint compared to 2013 due to a lower consumption of energy. Since electricity providers did not change, this was not a factor. This is certainly a positive development. However, the footprint of UM is still significant. Using a conversion factor identified by researchers at Harvard University in a recent study, the scope 1&2 emissions of UM in 2014 still caused social damages of around 2 million Euros.

Scopes considered	2014	Global social damage[61]	Change to 2013	Change to 2009
Scopes 1&2	10,125 t CO_2	2,044,620	–8%	+4%
Scopes 1&2 and Scope 3 D12	13,897 t CO_2	2,806,329	–6%	––

It is UM policy to compensate scope 2 emissions by purchasing certificates of origin. These are purchased based on a prediction of consumption. Due to this method, the actually compensated emissions may not always be identical to the emission caused. UM only compensates the electricity supplied by UM's provider. Emissions arising out of UM's usage of azM facilities are not compensated by UM.[62] Scope 1 emissions were compensated as well, though not entirely. For large buildings 100% of emissions were compensated, while for smaller buildings only 25% were compensated. Unfortunately no data on which buildings specifically were compensated how is available, thus not allowing for this factor to be included in the calculation. UM should aim at compensating all of its scope 1 and 2 emissions in the near future.

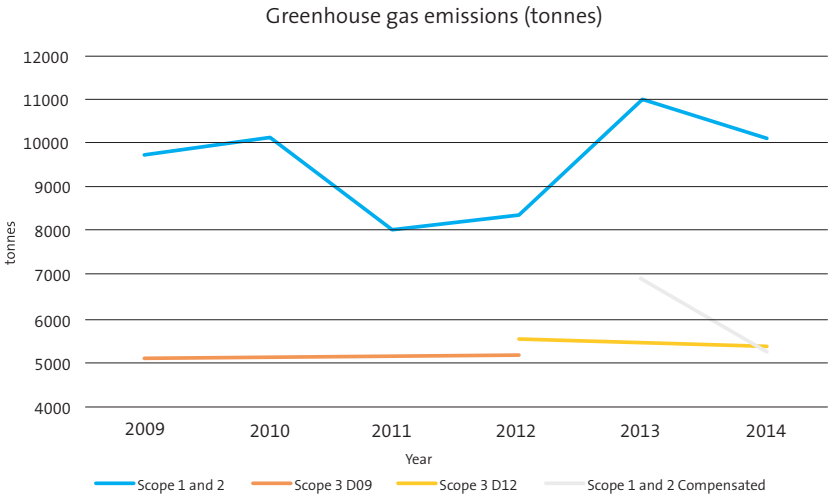
In 2013 UM compensated 104% of emissions caused by its own provider, but only 60% of total emissions caused by UM's electricity usage and 44% of total scope 1&2 emissions. In 2014 more certificates were purchased, now covering 131% of UM's provider, 69% of total electricity emissions and 48% of total scope 1&2 emissions.

55 These numbers differ from those reported in the annual report. Some conversion factors were not yet updated. The annual report is available at: http://www.maastrichtuniversity.nl/web/main/aboutum/ourorganisation/factsfigures1/umannualreport2013.htm
56 The conversion factor (0.398 kg/ kWh) was provided by UM's electricity supplier DVEP upon request.
57 The electricity purchased through azM was provided by GDF Suez. Source for the conversion factor: http://www.wisenederland.nl/groene-stroom/leverancier/gdf-suez.
58 Comparison to 2012.
59 The lifecycle of waste was considered from production to disposal at UM. Since data on purchases is difficult to obtain this method was used to account for purchases was well. UK conversion factors of DEFRA were used. See http://www.ukconversionfactorscarbonsmart.co.uk/.
60 UK conversion factors of DEFRA were used. See http://www.ukconversionfactorscarbonsmart.co.uk/.
61 Factor of $220. Source: Moore and Diaz "Temperature impacts on economic growth warrant stringent mitigation policy". Derived from: http://www.eenews.net/assets/2015/01/13/document_cw_01.pdf.
62 These are partially compensated by azM.

In the last couple of years major improvements have been made to how UM purchases certificates of origin. In 2011 only 10% of certificates purchases came from Dutch wind power, while a large share of certificates came from Norwegian Hydropower. Such a practice has a limited market impact. In 2012 this share was raised to 40% and to 100% in 2013 and 2014. These improvements in terms of from where the certificates of origin are bought were significant steps into the right direction. To make more headway, UM should purchase certificates to cover all scope 1&2 emissions in the short-run and should consider purchasing renewable energy straight away in the long-run by including such criteria in the next tender offer.

	kWh	GHG emissions	Global social damage	Change to 2013
Total electricity	17,951,726	7,127 t CO_2	1,440,069	+4%
Certificates purchased	12,300,000	4,883 t CO_2[63]	986,650	+20%
Scopes 1&2 minus compensated emissions	---	**5,242 t CO_2**	**1,059,189**	**-24%**
Scopes 1&2 and Scope 3 D12 minus compensated emissions	---	**10,643 t CO_2**	**2,150,506**	**-14%**

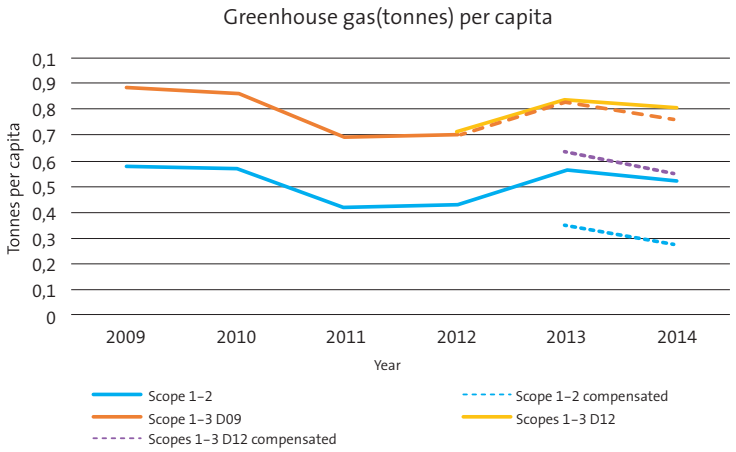
Looking at the overall trends since 2009, it can be observed that scope 1&2 emissions are heavily dependent on the electricity providers (see graph 19). In 2011 and 2012, the electricity provider of UM managed to significantly reduce their GHG emissions. In 2013 UM switched providers, leading to a significant increase in emissions. However, in 2014 emissions fell again, also largely due to improvements made by UM's current provider. UM also compensated more of its emission, leading to scope 1&2 emissions accounting for certificates of origin to drop by 24%. Scope 3 emissions have been quite stable since 2009.[63]



Graph 19[64 65 66 67]

63 Since the electricity purchased by UM directly and that bought through azM from a different provider must be considered, the total emissions were divided by the total kWh to get the UM specific conversion factor. For sources see footnotes above.
64 The source for the factors for natural gas: www.broeikasgassen.nl/docs/Vreuls%202011%20(EN)%20Netherlands%20fuel%20list%20January%202011.pdf; Conversion factor: 63.1kg per GJ.
65 The source for the factors for electricity bought provided by ENECO (2009-2012): http://www.wisenederland.nl/groene-stroom/leverancier/eneco.
The conversion factor of DVEP for 2013 (0.403 kg/ kWh) was provided by DVEP upon request.
66 The source for the factors for electricity brought provided by GDF Suez (2009-2014): http://www.wisenederland.nl/groene-stroom/leverancier/gdf-suez.
67 For the scope 3 D09 calculation methodology see SPR 2013. The scope 3 D12 for 2012 and 2013 was calculated using the same methodology as for 2014 above.

Very similar trends can be observed when considering GHG emissions per capita (see graph 20). However, it can be observed that between 2009 and 2011 there have been far more significant reductions per capita than in absolute terms. Also the scope 3 emissions per capita decreased in that time frame, leading to a decrease of the overall emissions per capita. UM at that time saw a significant increase in the number of students. Its GHG footprint did not seem to be significantly impacted by its growth. If UM was able to keep its emissions level during a major growth period, it should be able to reduce its emissions more significantly while student numbers are, as currently, more stable.



Graph 20

Conclusion

The numbers on sustainability in UM's operational activities send a mixed message. Major improvements have been made in catering, the printing environment and E-waste. Also in transportation improvements have been made and steps have been taken towards major milestones that should be reached in the next years. GHG emissions have been reduced, though they are still significantly higher than in 2011 and 2012. Also nuclear waste in UM's supply chain is at its lowest point since measurements started in 2009. While waste separation is implemented slower than it should, there has also been a reduction of total and residual waste. However, only minor to no improvements can be seen with the core energy indicators. UM's electricity consumption merely decreased by 1%, not even making up for last year's increase. Electricity usage per m^2 rose and usage per capita essentially remained unchanged. Heating energy fell considerably, but due to the nature of heating calculations, individual years differ significantly. Looking at the long-term trend a small decrease can be observed. Water usage however, even when not considering 2014 due to water spills, has not seen major improvements either. It can be observed that between 2009 and 2011 UM managed to keep its electricity and with it its GHG footprint stable despite an increase of more than 2000 students and nearly 6000 m^2 of space. Since 2011 growth has been much slower and yet improvements have been slow. Increased research activities are difficult to account for and may play a role in this respect. However, UM has set itself ambitious goals in the Vision with the full intention to continue its growth and develop as an institution. If UM is to accomplish its goals greater effort will be required across the entire institution.

7. Conclusion

Sustainability reporting at UM

The sustainability progress report 2014 is the fifth sustainability report on UM by UMGO. Since the CAR 2010, many improvements have been made. Apart from utilizing a greater number of indicators which cover more areas and greatly improving the accuracy of information through more systematic management of data, the analysis and presentation of indicators has also greatly improved. One important step in that area was the introduction of a list of indicators that was introduced with the SPR 2013 and is continued in this report. This allows reports to be more comparable. UMGO is furthermore working on a sustainability assessment framework for Dutch universities. This will make it even easier to identify indicators within reports and compare them to previous years and, potentially, other institutions.

Apart from the efforts of UMGO, the finance department of UM has also made great improvements in its reporting efforts. In 2014, the annual report of UM for 2013 aimed to be an integrated report. As part of this development a section on the environment and sustainability was included. Such a chapter was also included in the annual report for 2014. The section was prepared by FS and UMGO. Nevertheless, UM still has a long way to go before being able to publish an integrated report as defined by the IIRC. UMGO and finance must cooperate closely in order to make further improvements in this direction. Integrated Reporting <IR> at higher education institutions is still a fairly new field. A sustainability assessment framework for Dutch universities could therefore help to develop this field further and aid <IR> at UM and beyond.

Maastricht University's sustainability transition

UM is making progress towards greater sustainability in all areas. Major steps have been taken with a student-run course pilot, a knowledge exchange platform and a transportation policy. Major improvements can also be seen in the management of E-waste, the printer environment and catering. Nevertheless, improvements in terms of many KEIs remains slow. In research and education some progress can be seen, but major improvements cannot be observed. In operations small positive trends in 2014 have more or less cancelled out negative trends seen in 2013. Also here, significant progress is missing. UM is of course growing in terms of student numbers and research activities. However, this has been the case since its creation. Between 2009 and 2011 UM experienced exceptional growth levels and nevertheless managed to maintain its energy usage and waste generation. After 2011 growth was much slower. While waste levels continued to fall, there was no significant reduction in energy usage. Furthermore, UM set itself ambitious goals with the Vision with the full intention to continue to grow and develop. If UM is to reach the Vision goals, current efforts must be continued with equal and, in some cases, greater determination. New efforts in many areas will also be required. Such efforts can be initiated by continuing the existent constructive dialogue between UMGO, FS and ICIS as well as higher management and other departments of UM. Another step that would greatly facility progress would be to establish a UM sustainability coordinator who could coordinate efforts towards greater sustainability the university in collaboration and unison with UMGO.

ANNEX I – List of Indicators

#	Topic	Indicator	Unit	Value	Equivalents	Page number
Education						
1	Course inventory	List of courses focused on sustainability	List	See Report	AISHE: 3.1 (related); 4.1	11–12
2		Number of courses focused on sustainability	Number	27 (no change)	AISHE: 3.1 (related); 4.1	13
2a		ECTS provided by courses focused on sustainability	Number	168.5 (new)	AISHE: 3.1 (related); 4.1	13
3		List of courses related to sustainability	List	See Report	AISHE: 3.1 (related); 4.1	11–13
4		Number of courses related to sustainability	Number	29 (no change)	AISHE: 3.1 (related); 4.1	13
4a		ECTS provided by courses related to sustainability	Number	163.5 (new)	AISHE: 3.1 (related); 4.1	13
5	Further education initiatives	Further education initiatives	Description	See Report	AISHE: 3.1 (related); 4.4	13–14
5a		Student engagement in education	Description	See Report	AISHE: 3.1 (related); 4.4	13–14
Research						
6	Professorship Inventory	List of professorships focused on sustainability	List	See Report	AISHE: 2.2 (related)	16
7		Number of professorships focused on sustainability	Number	4 (no change)	AISHE: 2.2 (related)	16–17
8		List of professorships related to sustainability	List	See Report	AISHE: 2.2 (related)	17
9		Number of professorships related to sustainability	Number	41 (+1)	AISHE: 2.2 (related)	15
10	Research Centre Inventory	List of research centres conducting research in sustainability	List	See Report	AISHE: 2.4 (related)	17–18
11		Areas of research conducted by research centres	List	See Report	AISHE: 2.4 (related)	17–18
12		Number of research centres conducting research in sustainability	Number	10 (no change)	AISHE: 2.4 (related)	19
14	Further research initiatives	Further research initiatives	Description	See Report	AISHE: 2.1 (living lab)	19–20
14b		Knowledge Exchange and Internal Usage	Description	See Report	---	19–20
Community and Stakeholder Involvement						
15	Inventory of Student Organizations	List of student organizations active in sustainability	List	See Report	AISHE: 5.2 (related)	22
16		Fields in which student organizations are active	Description	See Report	---	22
17	Communication	Communication of sustainability	Description	See Report	AISHE: 1.3	23
18	Further community initiatives	Behavioural change initiatives	Description	See Report	AISHE: 1.3 (partial)	23

#	Topic	Indicator	Unit	Value	Equivalents	Page number
Operations						
19	Energy	Electricity usage	kWh	17,951,726 (-1.0%)	GRI: G4-EN3	26
20		Electricity usage per m2	kWh/m2	93 (+0.7%)	GRI: G4-EN5	27
21		Electricity usage per student and staff member	kWh/student and staff member	929 (-0.1%)	GRI: G4-EN5	27
22		Electricity usage per student and staff member in each faculty	kWh/student and staff member	FHML: 1543 (-2.9%); FPN: 638 (-6.3%); FHS: 363 (-2.0%); SBE: 252 (-2.2%); FASoS: 174 (+5.6%); FdR: 133 (-9.3%)	GRI: G4-EN5	28
23		Natural gas usage	m3	1,673,494 (-27.6%)	GRI: G4-EN3	28
24		Heating energy	m3/heating days	566 (-23.9%)	GRI: G4-EN3	29
25		Heating energy per m2	m3/ (m2*heating days)	3.6 (-4.4%)	GRI: G4-EN5	29
26		Heating energy per student and staff member	m3/(student and staff member *heating days)	36 (-5.1%)	GRI: G4-EN5	30
27		Heating energy per student and staff member in each faculty	m3/(student and staff member *heating days)	FHML: 5.1 (-2.9%); SBE: 1.4 (-10.7%); FPN: 2.4 (-17.9%); FdR: 1.5 (-16.2%); FHS: 2.3 (-39.6%); FASoS: 1.5 (-11.1%)	GRI: G4-EN5	30
28		Water usage	m3	61451 (+14.7%)	GRI: G4-EN22 (partial)	31
29		Water usage per student and staff member	m3/student and staff member	3.2 (+15.8%)	---	31
30		Water usage per student and staff member in each faculty	m3/student and staff member	FHML: 5.0 (+15.7%); FHS: 1.3 (-9.3%); FPN: 1.7 (+36.5%); SBE: 1.0 (+4.8%); FASoS: 0.8 (+0.8%); FdR: 0.7 (-4.0%)	---	32
31		Energy efficiency measures	Description	See Report	---	26–32

#	Topic	Indicators	Unit	Value	Equivalents	Page numer
32	Waste	Total waste	Kg	684,191 (–0.6%)	GRI: G4-EN23 (partial)	33
33		Total waste by category	Kg	Residual: 358,415 (52%; –8.1%); Paper and Cardboard: 202,252 (30%; +11.2%); Bedding: 64,778 (9%; +6.7%); Hazardous: 35,219 (5%; –12.2%); Organic: 11,041 (2%; +62.9%); Other: 12,486 (2%; +41.5%)	GRI: G4-EN23 (partial)	33
34		Total waste per student and staff member	Kg/student and staff member	35 (–2.9%)	---	33
35		Total waste by category per student and staff member	Kg/student and staff member	Residual: 18.5 (-10.2%); Paper and Cardboard: 10.5 (+8.7%); Bedding: 3.4 (+4.2%); Hazardous: 1.8 (-14.2%); Organic: 0.6 (+59.1%); Other: 0.6 (+38.3%)	---	33
36		Hazardous waste by category	Kg	Medical: 26,623 (-18.9%); Chemical: 8,229 (+26.6%); Other: 367 (-54.4%)	GRI: G4-EN25 (partial)	34
37		(Reported) E-Waste[1]	Kg	8,500 (+125.5%)	---	35
38		Radioactive waste resulting from energy consumption	Grams	2004 (–19.6%)	---	35
39	Procurement	Share of tenders to which governmental (RVO) sustainability criteria were applied[2]	Percentage	100 (no change)	GRI: G4-EN32 (partial)	36
40		Share of sustainable products in catering[3]	Percentage	Main caterer (94%) - 35.6 (+9.6) Further (6%) – 99 (new)	---	37
41		Share of organic products in catering[4]	Percentage	Main caterer (94%) - 14.8 (+9.4) Further (6%) – 99 (new)	---	37
42		Initiatives in procurement	Description	See Report	---	36–37
43	Transportation	Split of transportation mode of staff member commuting	Percentages	Bike 43 (-3); Car 28 (-5); Train 16 (-2); Bus 2 (no change); E-bike 2 (no change); Other 9 (new category)	---	37
44		GHG emissions caused by staff commuting	Tonnes	4247 (-11.4%)	GRI: G4-EN30 (partial)	38
45		Initiatives in transportation	Description	See Report	---	38

1 See report for proper context.
2 In financial terms.
3 In financial terms as a percentage of purchases.
4 In financial terms as a percentage of purchases.

#	Topic	Indicators	Unit	Value	Equivalents	Pagenumer
46	Green House Gas Emissions	Scope 1 and 2 Green House Gas (GHG) Emissions	Tonnes (CO2 equivalents)	10,125 (–7.9%)	GRI: G4-EN15 and G4-EN16	38–39
47		Scope 3 GHG Emissions D12[5] (+ Scope 1 and 2)	Tonnes (CO2 equivalents)	13,897 (–5.5%)	GRI: G4-EN17	39
48		Scope 1 and 2 Green House Gas (GHG) Emissions accounting for purchased certificates of origin	Tonnes (CO2 equivalents)	5,242 (–24.1%)	---	40
49		Scope 3 GHG Emissions D12 (+ Scope 1 and 2) accounting for purchased certificates of origin	Tonnes (CO2 equivalents)	10,643 (–13.8%)	---	40
50		Scope 1 and 2 GHG Emissions per capita	Tonnes (CO2 equivalents) /student and staff member	0.52 (–7.0%)	G4-EN18	41
50a		Scope 1 and 2 Green House Gas (GHG) Emissions accounting for purchased certificates of origin per capita	Tonnes (CO2 equivalents) /student and staff member	0.27 (–23.5%)	---	41
51		Scope 3 GHG Emissions D12 (+ Scope 1 and 2) per capita	Tonnes (CO2 equivalents) / student and staff member	0.80 (–4.7%)	G4-EN18	41
51a		Scope 3 GHG Emissions D12 (+ Scope 1 and 2) accounting for purchased certificates of origin per capita	Tonnes (CO2 equivalents) / student and staff member	0.55 (–13.1%)		41

5 Scope 3 D12 includes factors stated in the report. It is used for the footprint from 2012-2014.

www.greenofficemaastricht.nl

Maastricht University Green Office coordinates and initiates sustainability projects at Maastricht University, by empowering students and staff members. Thereby, the Green Office addresses the urgent need for integrated and innovative efforts for a sustainable future at the university. This report outlines the developments of Maastricht University regarding sustainability in 2014.

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