SUSTAINABILITY POLICY UNIVERSITY OF TWENTE

SUSTAINABILITY IN OPERATIONAL MANAGEMENT

UNIVERSITY OF TWENTE.

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1.INTRODUCTION

1.1 PURPOSE

The executive board of the University of Twente (UT) has expressed its wish to develop an integral policy document on sustainability to bring together all efforts on improving sustainability in UT's operational management to obtain the highest achievable collaborative results. Simultaneously, staff and students are expecting sustainability to be integrated in operational management, asking questions about it and expressing their willingness to contribute to improving the University's performance in this area.

The urgency to provide a framework to improve the sustainability performance in the operational management is also due to the contribution the University wishes to make to achieving the Sustainable Development Goals[1] and the need for compliance to the legislation supporting the climate roadmap developed in order to achieve what has been agreed in the Paris Agreement[2]. The strategy Shaping 2030 focusses strongly on sustainability requiring an ambitious policy on sustainability in the operational management of the university to meet set ambitions.

This document explains the context in which this document is written, the different aspects of sustainability and the interlinkages with other programs and faculties. Using 10 relevant themes this document describes the ambitions UT will aim for per theme: energy, water, waste, food and drinks, travel, biodiversity, procurement, buildings, events and finance. For these themes the current situation will be sketched, followed by the intended situation for 2020 leading to desired situation in 2030 (and where applicable to 2050).

This policy document describes the necessary steps to reach the desired situation.

The involvement and level of awareness among the UT community is essential in realizing the ambitions of this policy. Communication and transparent reporting is an essential part of increasing the awareness and involvement of the UT community.

1 https://sustainabledevelopment.un.org/
2 https://ec.europa.eu/clima/policies/international/negotiations/paris_en

This document is written to be applied in the operational management at the entire University.

1.2 THE UT STRATEGY SHAPING 2030 AND SUSTAINABILITY

In Vision 2020 sustainability was not yet mentioned. In 2019, a new UT mission, vision and strategy[3]. for the period 2020-2030 was developed. Increasing attention is paid to sustainability in comparison to the previous strategy.

The strategy expresses a wish to raise the University's profile concerning sustainability in a way that not only highlights the research achievements in the area of sustainability but also 'walks the talk' and applies sustainability in the operational management.

1.2.1 MISSION, VISION AND STRATEGIC GOALS UT SHAPING 2030

The mission of the UT is: The University of Twente is the ultimate people-first university of technology. We empower society through sustainable solutions.

The identity of the University is summarised in: being 'people-first' is our choice, we are a university of technology, we empower and we provide sustainable solutions.

Vision: In 2030 we envision a society where UT is contributing to the development of a fair, sustainable and digital society.

A sustainable society in 2030: wellbeing within the ecosystem. In an era in which unsustainable ways of living have become the biggest threat to humanity, we create viable solutions. It is our mission to respond to societal needs by developing sustainable, proactive measures to support our planet and the people to which it is home. **As a university, we lead by example. We consider sustainability to be a precondition for everything we do,** while our diversity nurtures adaptability and resilience. Our recognition of the value of human capital is the single most important key to the long-term well-being of our students and staff, and to the effectiveness of our organization. Our

3 https://www.utwente.nl/en/organization/about/shaping2030/documents/shaping2030-fulldocument.pdf

education, research, innovation and **organization are centred around environmental, social and economic sustainability**. This gives us the kind of edge that does not eclipse others, but includes them: an authority that speaks for the good of all. Society welcomes the difference we make through our work, and eagerly joins us in our efforts to create a liveable world for future generations.

In order to have maximum impact on society in 2030, we must become an entrepreneurial, inclusive and open ecosystem with a signature style of working. We will set clear priorities and merge our core values into a mind-set that encompasses all that we believe is important for realizing our vision for 2030. We will cultivate a mind-set and attitude that enable us to reach for new heights in entrepreneurialism, inclusiveness and openness : - Entrepreneurial: courage over comfort; - Inclusive: Student over system; - Open: community over campus.

Taking in mind that we cannot do everything at once, the strategic goals developed to reach our vision are:

- Shaping society: a quest full of challenges
- Shaping connections: Proximity: outside in & inside out
- Shaping individuals: fostering ownership and talent

These goals have to be further translated to plans in order to make this a reality.

The United Nations' Sustainable Development Goals are the reference point for our own sustainable development. We work toward enhanced opportunities for healthy living and better healthcare, connected communities, and sustaining the environment. This means we direct our knowledge, human capital and research infrastructure to addressing societal challenges related to these domains.

The next section describes the translation of the ambitions and goals into the policy on sustainable operational management.

1.2.2 TRANSLATING STRATEGY SHAPING 2030 TO THE POLICY ON SUSTAINABLE OPERATIONAL MANAGEMENT

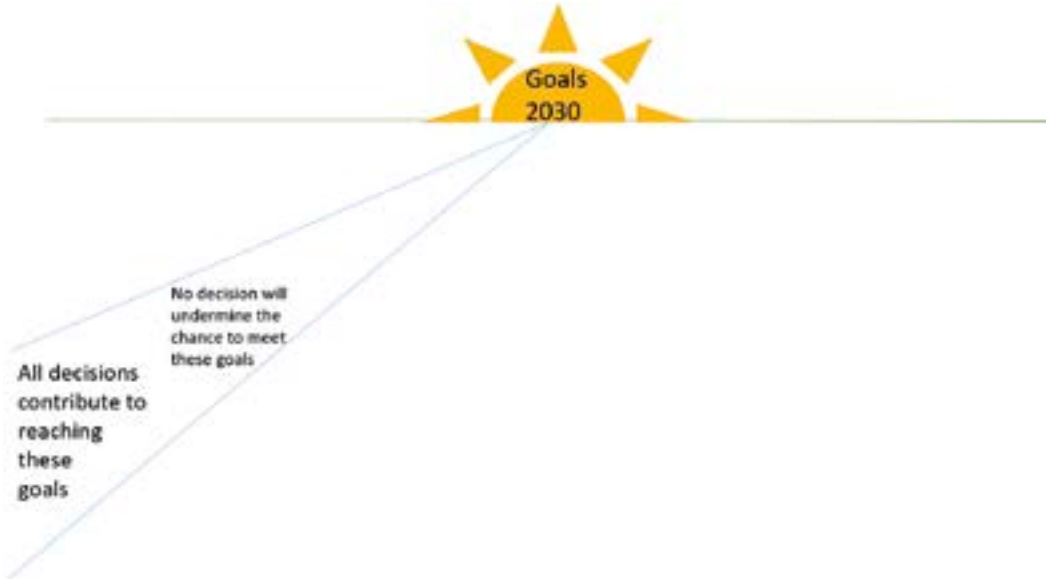
STRATEGIC GOAL 1: Shaping society describes that by 2030 UT has become a sustainable organisation.

The goal for realizing this ambition is to start by reducing our carbon footprint by 15% in 2023 through the implementation of sustainable solutions in the areas of food, water, waste, travel and energy use.

This goal can be achieved by a combination of technical and organizational measures. Change is never easy, therefore transparent communication and attention for behavioural change will be part of the approach. Sustainability awareness will also be increased through the activities of the Green Hub[4]. This Green Hub will be run by students and supported by staff. Together we will develop and implement an agenda for a healthy and sustainable campus, not limiting ourselves to environmental sustainability, but covering social and economic sustainability as well.

In order to meet the ambition described in the mission-vision-strategy, the sustainability policy for operational management needs to be equally ambitious. Integrating sustainability into the structure of an organisation is no small task and a clear framework is needed. This policy will offer that framework and will provide the direction towards our goals.

The long term goals provide the dot on the horizon. It shows the direction in which we want to move forward. We may not yet know today if we will be able to reach those goals in 2030, but we need to ensure all decisions that are taken fit within the framework that will lead the University towards nearing that goal. A mechanisms will need to be developed where, in every project, a check is made to identify decisions that (unintentionally) undermine the change needed to reach the goals. We need to make sure we do not miss opportunities to take steps towards the sustainability goals. The goals are described in this policy document.



4 https://www.utwente.nl/en/cfm/discover/sustainability/green-hub-twente/

1.3 HISTORY OF SUSTAINABILITY AT UT

In the past sustainability has received attention at UT through the Sustainable Campus initiative, through annual reporting on the environmental performance (HR) and UT has signed up to Convenant on sustainable procurement[5], mobility and sustainable events[6].

The sustainability coordinator was made redundant during the crisis years. All employees were expected to continue incorporating sustainability in their work. The result is that sustainability is sometimes taken into account but more often ends up being a minor consideration. This experience learns that a large organisation needs a team that coordinates all efforts on sustainability. This team initiates projects to further integrate sustainability in all aspects of operational management in collaboration with all support staff. The team makes connections between faculties and facility management to implement sustainability research on campus contributing to the goal of making the university operate more sustainably.

1.3.1 ENERGY POLICY AT UT

Since 1999, the UT is actively managing its energy consumption. A UT energy mission was written in 2010 (390.606/PA&O). It states:

The University Twente is an entrepreneurial university that takes their societal role seriously. The energy policy is therefore progressive, with space for innovative measures. UT will realise this in collaboration with internal and external stakeholders. The principles supporting the 2010 energy policy are:

1. Guaranteed energy supply (best possible costs and benefits). When applying new energy supply methods, the current structure will remain as a back-up.
2. UT aims to obtain a frontrunner position by applying a mixture of measures within the Trias Energetica, an energy saving strategy. The strategy of Trias Energetica focusses firstly on minimise the energy demand; secondly use sustainable energy and thirdly use fossil fuels cleanly and efficiently. This means the UT is prepared to make additional investments. For each project or measure a cost/benefit analysis will be made and operational security[7] is assessed.
3. Internal and external stakeholders have an important role in the development and implementation of the energy policy. UT will make active use of the collaboration potential, especially in the region.
4. Apply in-house knowledge.
5. Apply a methodology that expresses direct and indirect savings in CO2 equivalents.
6. Use a good communication strategy to inform, find and commit (internal and external) partners

The UT signed the MJA (multi annual year agreements) with the government[8]. The MJA[9] requires the realisation of a 30% energy efficiency between 2005-2020 of which 20% is realised within the organisation and 10% in the supply chain. Additionally, a roadmap should be developed for a strategic vision towards 2030. From 2014 onwards, an annual CO_2 footprint analysis is produced. This footprint visualises the CO_2 emissions resulting from UT activities including its energy consumption[10].

5 https://www.utwente.nl/en/cfm/work/procurement/purchase/sustainable/
6 https://www.utoday.nl/news/60572/Checklist_voor_duurzame_evenementen
7 Bedrijfszekerheid
8 https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/gebouwen/hoger-onderwijs
9 https://www.rvo.nl/sites/default/files/bijlagen/MJA3_convenanttekst_2008-07-01_excl_bijlagen.pdf
10 https://www.utwente.nl/nl/cfm/ontdek/duurzaamheid/

1.4 CONTEXT

1.4.1. INTERNATIONAL CONTEXT

The 2030 agenda for Sustainable Development called Transforming our World was adopted by the heads of state at a UN summit in September 2015. This agenda contains the commitment to implement the 17 Sustainable Development Goals and accompanying 169 targets. This agenda integrates the three dimensions of sustainability: economic, social and environmental. The agenda should be implemented in its entirety as the different goals and targets are closely interlinked.

2030 is the year that should see the realization of the Sustainable Development Goals [11].

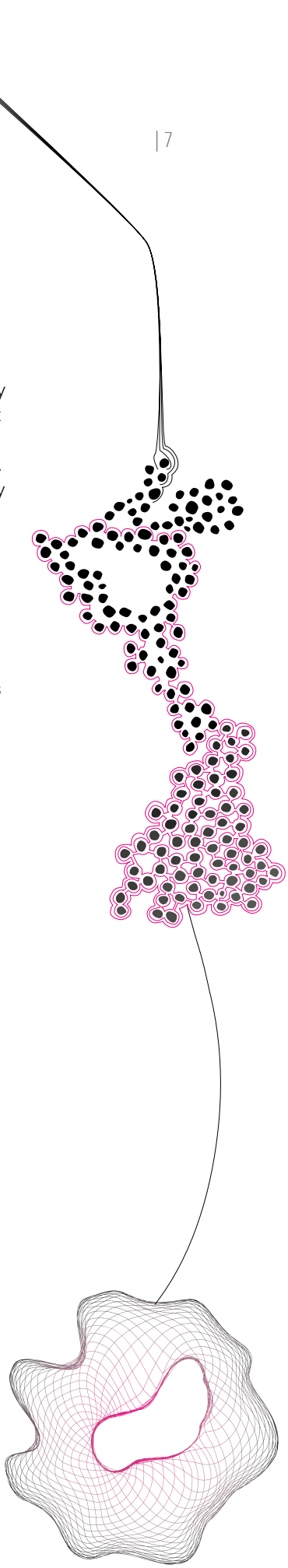
The Paris climate conference (COP21) in 2015 resulted in an agreement[12] signed by 195 countries which goal is to put the countries on track to limit global warming to below 2°C approaching 1.5°C. Following on from this, the EU pledged to reduce its greenhouse gas emissions by 40% in 2030. The Netherlands is campaigning to further decrease the emissions to 55% by 2030.

The 2030 Agenda and the Paris Agreement need to be realised together.

These international agreements are continually supported by updated research. In August 2019 a special IPCC report on Climate Change and Land[13] stressed that the window of opportunity – the period in which significant change can be made for limiting climate change within tolerable boundaries – is rapidly narrowing. A rapid reduction in anthropogenic greenhouse gas emissions is urged.

In November 2019 the Emissions Gap Report 2019[14] from the UN Environment Programme showed the emissions of greenhouse gases to the atmosphere have continued to grow by 1.5% per year over the last ten years. They state: "there is a need for rapid and transformative action". Countries need to aim for net zero emissions by 2050 and investments need to shift to low-carbon technologies. "By 2030, emissions would need to be 55 per cent lower than in 2018 to put the world on the least-cost pathway to limiting global warming to below 1.5°C (or 25 per cent to limit warming to 2°C)".

Research into the state of the planet is overwhelming and may lead to paralysis, not knowing what to do first. Project Drawdown[15] has reviewed, analysed and identified the most viable global climate solutions[16]. Drawdown refers to the point in time when the concentration of greenhouse gases in the Earth's atmosphere begins to decline on a year-to-year basis.



CO2-footprint/

11 https://sustainabledevelopment.un.org/
https://ec.europa.eu/environment/sustainable-development/SDGs/index_en.htm

12 https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
https://ec.europa.eu/clima/policies/international/negotiations/paris_en

13 https://www.ipcc.ch/site/assets/uploads/2019/08/4.-SPM_Approved_Microsite_FINAL.pdf

14 https://www.unenvironment.org/resources/emissions-gap-report-2019

15 https://www.drawdown.org/

16 https://www.drawdown.org/solutions-summary-by-rank

1.4.2 NATIONAL CONTEXT

A climate law[17] describing the way the national climate policy will meet the goals of the 2015 Paris Agreement was passed at the House of Representatives in December 2018 and by the Senate in May 2019[18]. The climate law containing the framework of the climate policy will ensure a legal obligation and thus continuity on the climate goals.

The national government has set national ambitions concerning greenhouse gas emissions and circularity. In 2050, the country will have a circular economy where all waste is considered a resource and is reused. Products are designed more efficiently so that these can be taken apart and all materials can be reused. The ambition is to use 50% less primary resources by 2030. In 2050, the country will have reduced its CO_2 emissions to ~ 95% compared to 1990. Intermediary ambitions are 14% renewable energy in 2020 and 16% in 2023.

In June 2015, the court ruled the Dutch Government must reduce its greenhouse gas emissions by 25% by 2020 compared to 1990 levels in a case brought by the Urgenda Foundation[19] in line with its human rights obligations. In December 2020, the Dutch Supreme Court upheld the previous decisions in the Urgenda Climate Case, finding that the Dutch government has obligations to urgently and significantly reduce emissions, starting with 25% by the end of 2020. Urgenda Foundation also developed a 40 points guide on how to achieve a 25% CO_2 reduction before 2021[20] in collaboration with 700 organisations.

To ensure public support the cabinet set out to develop a Climate Agreement[21] containing measures suggested by parties at roundtable meetings on specific topics, namely electricity, industry, mobility, built environment and agriculture and land use.
Every five years a climate plan will be presented. The first version will cover the period 2021-2030.

The fourth Thursday in October will be named Climate Day when reporting on energy and climate will be done. The development of a roadmap for energy transition for societal real estate, such as university buildings, forms part of this.

17 https://www.rijksoverheid.nl/onderwerpen/klimaatverandering/klimaatbeleid
18 https://www.rijksoverheid.nl/onderwerpen/klimaatverandering/klimaatbeleid/ontstaan-klimaatbeleid
19 https://www.urgenda.nl/en/home-en/
20 https://www.urgenda.nl/themas/klimaat-en-energie/40-puntenplan/
21 https://www.klimaatakkoord.nl/

1.4.3 REGIONAL CONTEXT

Twente region is currently translating the national climate and sustainability goals to goals for the region[22]. The focus lies on:

- Reduction of greenhouse gas emissions by 30% by 2020 compared to 1990
- Reduction of energy consumption by 2% a year
- 20 % renewable energy generation by the end of 2020

Goals that have already been set:

- Twente energy neutral in 2050
- Waste free Twente 2030: a maximum of 50 kg non-recyclable waste per person per year and a 90% recycling rate.

1.4.4 CONTEXT OTHER UNIVERSITIES

A publicly funded institute like a university is optimally placed to take a leading role in reaching the sustainability ambitions and share their expertise.

Universities have participated in discussions on the Climate Agreement through the discussion table 'built environment'. VSNU prepared a roadmap for the universities' real estate based on an inventory of all buildings of all universities by Royal HasKoning (RHDHV). This has resulted in an overview of potential sustainability measures for which additional investments are needed. The VSNU steering group operational management and finances were asked to approve of this roadmap. The roadmap states to deliver detailed plans by 2020 and perform an evaluation every two years. The goals are a 49% reduction of CO_2 in 2030 compared to 1990 and 95% CO_2 neutral in 2050. Currently, the roadmap is limited in scope as it focusses on building-related energy (scope 1 and 2 of the Greenhouse Protocol), not on user-related energy or circularity. Discussions on this are on-going.

Within the Netherlands, universities ranking high in the benchmark SustainaBul 2019 (S)[23], Eindhoven (1 S), and the Green Metric (GM)[24] are WUR (1 on GM), Groningen (7 on GM), Leiden (24 on GM).

22 https://www.regiotwente.nl/in-twente/tda/87-klimaat
23 https://www.studentenvoormorgen.nl/sustainabul/
24 http://greenmetric.ui.ac.id/overall-ranking-2018/

Eindhoven (**TUe**) has offset their CO2 emissions due to their electricity consumption since 2012 by buying certificates with Guarantees of Origin. As of 2015, TUe is climate neutral (all energy consumption is offset). The aim is to be 50% energy neutral by 2030 (half of the energy consumed will be produced by Tue itself)[25]. They set up a green office in 2015.

Wageningen University (**WUR**) is a frontrunner and their ambition is to maintain that position. WUR is part of a climate plan to work towards a climate neutral Wageningen by 2030. WUR generates renewable energy through wind turbines, biomass cogeneration[26] and heat and cold storage[27] and solar panels. WUR uses excess generated energy for CO_2 compensation which in 2017 was higher than their CO_2 footprint[28]. They also aim to reduce CO_2 emissions due to mobility by 2% per year, and they have achieved that their catering uses 40% organic produce and their procurement is 100% sustainable (sustainability scan). They established a green office in 2012.

Groningen University has produced a roadmap 2015-2020 for sustainability[29]. Their ambition is to be CO2 neutral in 2020, where 25% of energy comes from renewable sources. A green office was founded in 2014.

Leiden University's environmental plan indicates their objective to reduce their carbon footprint by 50% between 2016-2020[30]. Leiden compensates the CO2 emissions from electricity consumption by certificates with Guarantee of origin from hydropower. The University compensates CO2 emissions from flights. Targets are: for work trips shorter than 6 h, the train is the norm. The amount of waste/student/year is 25kg in 2020. A green Office was set up in 2016.

The strategic plan 2016-2020 of the **University Utrecht** indicates sustainability as one of the focal areas. Ambition: CO2 neutral operations in 2030[31]. Also with regards to real estate: BREEAM –NL excellent for new and existing buildings. They established a green office in 2013. From March 2018 all work lunches are vegetarian by default.

The **University of Nottingham** ranks second on the Green Metric. The University of Nottingham's objective is to be net-positive and contribute more to society than we take. In their strategy[32] they refer to reduce dependency on fossil fuels by realising energy

efficiency of 34% by 2020; to minimise waste, to reduce environmental impact of buildings, travel, good and services purchased and to protect and enhance biodiversity on campus.

The **University of California**, Davis (UC Davis) is ranked third on the green metric. The university strives for

25 https://www.tue.nl/en/our-university/about-the-university/sustainability/campus-and-operational-management/
26 warmtekrachtkoppeling WKK
27 warmte/koude opslag WKO
28 https://www.wur.nl/nl/show/CO2-footprint-2.htm; https://www.wur.nl/upload_mm/0/6/9/becbdb6c-6476-46ed-8191-7b8a0f768de8_20191211_verslag_CO2fp_2017_WUR.pdf
29 https://www.rug.nl/about-us/who-are-we/sustainability/general/roadmap2015.pdf

30 https://www.universiteitleiden.nl/en/dossiers/the-sustainable-university/environmental-plan
31 https://www.uu.nl/en/organisation/strategic-plan-2016-2020
32 https://www.nottingham.ac.uk/sustainability/documents/sustainabilitystrategy.pdf https://www.nottingham.ac.uk/sustainability/

net-zero greenhouse gas emissions by 2025 from its buildings and vehicle fleet. The university also wants to become waste-free by 2020. All new buildings at UC Davis are required to meet standards equivalent to the U.S. Green Building Council's LEED® (Leadership in Energy and Environmental Design) Silver certification[33].

University networks
University of Twente is active in several networks where universities share lessons learnt and discussions on sustainability issues are conducted. The main networking group consists of sustainability coordinators from universities and universities of applied sciences network, a spin-off from the SAAZ Unie environmental coordinator network from universities and academic hospitals.

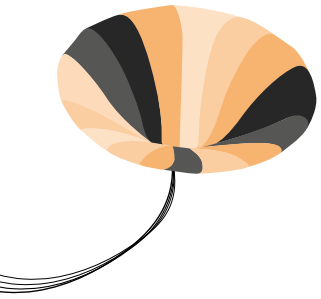
Energy coordinators of Dutch universities have collectively started a process to develop sustainable energy in the Netherlands, not to just compensate but to contribute to the energy transition. The rules need to be clarified on whether this contributes to 'greening a university' when the energy generation is off campus. This plan is currently on-hold.

UT is a member of the ECIU (European Consortium of Innovative Universities) where in 2012 a sustainable campus working group was established (now dormant).

Another source of information is the international sustainable campus network (ISCN)[34], a global forum for sharing information and best practices for achieving sustainable campus operations and integrating sustainability in research and teaching. University of Twente has become a member in 2020.

1.4.5 UNIVERSITY OF TWENTE CONTEXT

Despite the fact the university has not previously had a policy detailing a roadmap to become a sustainably operated university, a lot of initiatives to improve the sustainability performance have taken place[35].



The participation of UT in the MJA[5] obliged UT to establish an Energy Management System. Considering the overlap between energy, sustainability and environment, the decision was made to establish a management system that integrates these three aspects. This is called the SEE programme[36].

1.4.5.1 SEE PROGRAMME

The UT would like to fulfil its societal duty by stimulating awareness on energy, the environment and sustainability issues. To put this into practice, it has launched the Sustainability, Energy & Environment (SEE) programme, a university-wide programme for managing its sustainability, energy & environmental performance.

With this programme, the UT wants to achieve a lasting reduction of its consumption of energy and raw materials, reduce its carbon emissions through organizational and technical

measures as well as minimalizing the impact of UT's activities on the air, soil and water. A steering group, support group and working group have been set up for this purpose.

33 https://www.ucdavis.edu/about/sustainability/
34 https://www.international-sustainable-campus-network.org/
35 https://www.utwente.nl/sustainability/
36 https://www.utwente.nl/en/cfm/discover/sustainability/see-programme/

The support group develops and co-ordinates the SEE programme, prepares policy documents, guides the decision-making process, monitors and evaluates the performance and ensures good communication to all stakeholders. The support group reports to the steering group.

The steering group members take on a leadership role, integrate the strategy and sustainability policy in their areas of responsibility, and align their decision-making accordingly. They advise the Executive Board and the support group. The steering group also checks if the short-term and long-term goals are achieved.

The working group implements the policies. They plan, develop and realise projects to improve the performance of the university with regards to sustainability, energy and environment. The policy on sustainability in operational management provides

the framework for the plans. Please refer to the animations[37] on the website for a visual explanation of the SEE programme.

This policy on sustainability in operational management has received input from the working group and has been approved by the steering group and UCM before having been presented to the executive board.

Thematic working groups for specific themes will be formed. These thematic working groups are formed by both members from the SEE programme working group and colleagues from the relevant departments, scientists and where possible students. Together the implementation plans are developed further. The plans of the thematic working groups are discussed in the general working group to ensure that there is sufficient alignment and cohesion.

This management system uses the cycle of plan-do-check-act to realise continual improvement.

1.4.5.2 UT STRATEGY - TRACK SUSTAINABLE WORKING GROUP

This policy on sustainability in operational management was developed concurrently with the Strategy Shaping 2030 to ensure alignment enabling effective implementation.

The track working group 'sustainable' in the Shaping 2030 strategy expressed the elements of sustainability as follows:

1. Environmental: Environmental sustainability is one of the biggest challenge of humanity; as a university we have to show leadership and practise what we preach.
2. Social: Human capital is the key ingredient that needs to be cherished for long-term well-being of students and staff and for an effective organization.
3. Economic: Sustainability is the future; aligning our education, research and organization around sustainability will put us in the best competitive position in the long term.

1.4.5.3 CONNECTIONS TO OTHER UT DEPARTMENTS

The policy on sustainability in operational management is drafted by Campus & Facility Management. Other departments are also working on the various aspects of sustainability. It is important to have open communication channels between the various departments concerned. The directors of the support departments have been involved in the development of this policy via the UCM meetings. An overview of the connection to several departments is described below.

HR: Sustainable Human Resource Management
The HR department drafted a sustainable Human Resource Management paper which assigned HR aspects to the five dimensions of sustainability.

- People [Respect]: Invest in health (including managing work pressure), knowledge, capabilities and talent.
- Planet [awareness of your surroundings]: invest in diversity and inclusion, work-life balance, stakeholders, shrinking potential working population and changing demands on workforce.
- Prosperity [continuity]: Invest in sustainable usability and strategic personnel planning (SPP).
- Peace [pacifism]: invest in the prevention and management of aggression, discrimination and violence (including (sexual) intimidation and bullying) on the work floor.
- Partnership [collaboration]: invest in the dialogue and collaboration between management, representative advisory committees and staff.

The HR policy can be aligned with this policy on sustainability in operational management. Regular UT Health-Safety-Environment network meetings (VGM) facilitate easy alignment and coordination between HR and the SEE programme.

37 https://www.utwente.nl/en/cfm/discover/sustainability/see-programme/#animations-see-programme

The plans for a Healthy Campus (under development by HR and the Sports Centre) for mental and physical health will be in close contact with the SEE programme as a similar approach can be taken for this programme.

Strategic Business Development
Within the Strategic Business Development unit a strategy has been: An integrated energy transition strategy (Centre for Energy Innovation).

This strategy will have links to this policy document in terms of raising awareness, bringing people together to work on sustainability. It is important to ensure alignment where necessary. The new Energy Innovation Centre and its LIFE living lab will be in close contact with the Green Hub and the SEE programme.

Strategy & Policy
The Shaping 2030 strategy is coordinated by the Strategy and Policy department. As mentioned above, this policy has been aligned with the new strategy.

Marketing & Communication
The emphasis on sustainability can result in a positive reflection on UT's reputation but there is also a risk that UT cannot do enough to satisfy public opinion and will be accused of greenwashing[38]. Communication and transparent reporting on the measures taken, making data available to the public, publishing plans being developed and sharing the decisions that are taken is extremely important. A communication plan will be developed with a dedicated communication advisor on sustainability of the M&C department (see chapter 4). This communication plan will be UT wide and will include sustainability in operations, education and research. This plan needs to facilitate the UT community and external partners to easily come across information on sustainability at UT.

38 An organisation presenting itself as sustainable while this is not the case.

1.5 DIMENSIONS AND ELEMENTS OF SUSTAINABILITY

The initial Brundtland definition[39] states sustainable development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs'.
The dimensions of sustainability, people, planet, prosperity, peace and partnership, are briefly described below:

PEOPLE: End poverty and hunger and ensure that all people can achieve their potential in an equal, dignified and healthy environment

PLANET: Protect the planet against deterioration and focus on actions that counteract climate change and promote sustainable consumption, production and management of resources.

PROSPERITY: Guarantee that all people can thrive and live a fulfilling life. Safeguard that economic, social and technological process takes place in harmony with nature.

PEACE: Stimulate peaceful, just and inclusive societies, free from fear and violence.

PARTNERSHIP: Be determined to mobilise resources needed to implement the Sustainable Development Goals agenda by giving a renewed impulse to a global partnership for sustainable development, based on worldwide solidarity encompassing all stakeholders and all people.

These dimensions are often narrowed down to the three core elements of sustainability: environmental protection, social inclusion and economic growth.

For operational management, the primary focus lies on the environmental dimension. The social dimension addresses aspects such as access to the labour market[40], work-life balance and the prevention of aggression and discrimination. The economic or prosperity element focusses on HR aspects of strategic personnel planning and sustainable employability.

39 http://www.un-documents.net/our-common-future.pdf
40 https://www.rijksoverheid.nl/onderwerpen/participatiewet

1.5.1 MAJOR CHALLENGES IN ENVIRONMENTAL SUSTAINABILITY

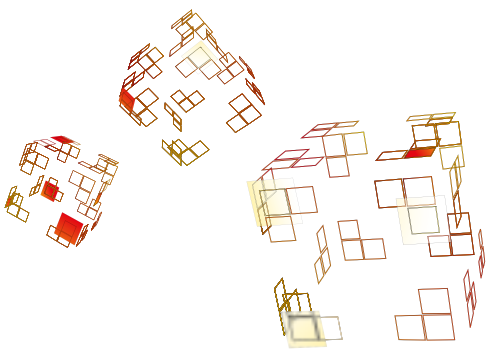
The major challenges in environmental sustainability we will focus on are:

1. Reducing greenhouse gas emissions to lower the impact of global warming (emissions from energy consumption or hidden emissions resulting from the use of resources);
2. Avoiding environmental pollution such as toxicity, particulate matter41, acidification, eutrophication, and pollution from plastics in the air, soil and water;
3. Reducing our impact on land use change, deforestation and depletion/scarcity of natural resources;
4. Contributing to combatting the loss of biodiversity.

As a university we will aim to remain within the carrying capacity of the planet. The impact of our ecological footprint leads to a world earth overshoot day[42] occurring in 2019 on July 29. Earth overshoot day for the Netherlands[43] was even earlier, on May 4.

Most environmental issues are worldwide issues. As a university we aim to take as much responsibility as possible to operate more sustainably. Hereby we look at the visible impact the UT has as well as the impact happening in the chain and the hidden impact. The hidden impact refers to the impact that is associated with certain products but which is not immediately visible and is mostly taking place in other countries. It is like looking at the entire iceberg instead of only the tip that is above the water. Impact in the chain refers to impact of products in their chain (from sourcing the raw materials to recycling at the end of life stage of the product) and how one change affects all the others other steps in the chain.

41 fijnstof
42 https://www.overshootday.org/
43 https://www.overshootday.org/newsroom/country-overshoot-days/



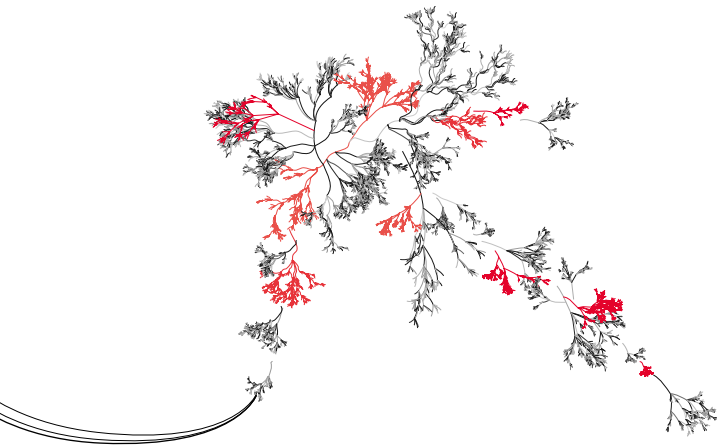
The hidden impact is important to consider in the choice of products and as a university we have a societal role to make these impacts more known and work on addressing these:

- the environmental damage and human rights violations associated with mining of precious metals needed for electronics;
- the impact of crops grown in areas with severe water shortages, the emissions of greenhouse gasses leading to global warming with the worst consequences in the poorest regions;
- the extreme loss of biodiversity threatening many ecosystem services such as pollination, sources for new medication etc..

But also we need to take responsibility of what happens in the chain, for example:

- The processing of (separately collected) waste. The difficulties in transparent processing of our waste44 demonstrates the need for focus on reducing the amount of resources we use, thus reducing the amount of waste we need to have processed.

To address sustainability, it is important to adopt the approach to 'zoom out' in order to see the entire system. Applying systems thinking – where the impact of one change on the entire system is assessed – in decision-making is a first step where UT can show it is taking responsibility for the negative impact of the products UT procures.



44 www.theguardian.com/environment/2019/aug/17/plastic-recycling-myth-what-really-happens-your-rubbish

2 SUSTAINABILITY IN OPERATIONAL MANAGEMENT

Integrating sustainability in an organisation means systematically reducing the use of resources, energy and reducing the damaging consequences of the activities of the organisation[45] such as pollution to the air, water and soil.

The goals of the policy on sustainability in operational management center around ten themes. The goals are grouped into these themes in order to facilitate the implementation within the organisation. These themes are aligned with the organizational structure of the UT, specifically with the organizational structure and division of responsibilities within the Campus & Facility Management department.

1. **ENERGY:** Continuous decrease in dependency on fossil fuels. Reduction of (both building-related energy and user-related) energy consumption and efficient use of energy.
   HOW? Purchase and generate renewable energy. Compensate greenhouse gas emissions from consumption of fossil fuels. Intensify the monitoring of energy consumption with built-in meters to, for example, optimise the maintenance of installations.
2. **WATER:** Strive towards a reduced water footprint with the ambition for a closed water cycle on campus and a zero water footprint (water neutral). Recovery of nutrients from waste water and the strengthening of resilient water infrastructure.
   HOW? Rainwater harvesting and storage for use during periods of drought and for purposes that do not require drinking water quality water. Reduction of water consumption. Apply in-house knowledge of separation technology and membrane filtering to recover nutrients from waste water.
3. **WASTE:** A circular campus. Reduction in the consumption of resources. Improve the recycling of waste.
   HOW? **R**ethink (is it really necessary?). **R**efuse single use items. **R**educe the amount of waste (focus on quality, longevity, durability to reduce the consumption of natural resources). **R**euse

45 https://www.circulairebusinessmodellen.nl/dl/JonkerenFaberScenariosCirculaireEconomieSIGMA2018.pdf

(establish a system where surplus items can be donated or sold. Buy second hand or refurbished items). **R**epair (maintain and repair components and parts instead of buying new products). **R**emanufacture (work with companies that make new products out of second hand materials, upcycle). **R**ecycle (separate waste streams properly).

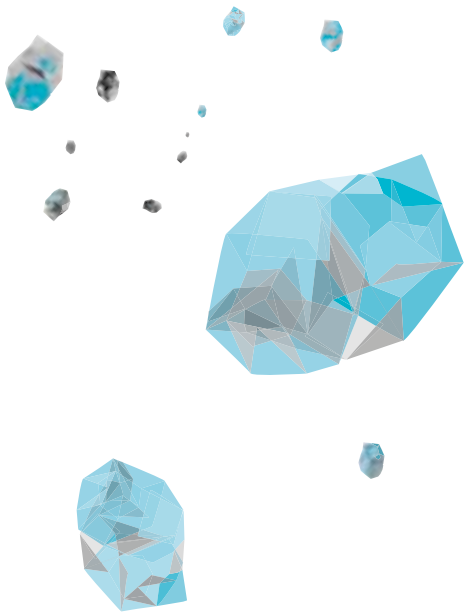
4. **FOOD AND DRINKS:** Minimise the environmental impact of food and drinks served on campus.
   HOW? Visualise the carbon footprint, water footprint and land use footprint of products offered on campus. Increased focus on plant-based diets. Reduction of food waste.
5. **TRAVEL AND MOBILITY:** Reducing travel, more sustainable travel and increase cycling & public transport
   HOW? Prioritise sustainable travel options offered by travel agency. Facilitate electric car sharing. Limit compensation on unsustainable modes of travel, commuting or work travel. Compensate CO_2 emissions of work trips. Teleconferencing.
6. **BIODIVERSITY:** increase biodiversity on campus and bio sequester carbon
   HOW? Conduct an assessment and develop plans to improve biodiversity of selected areas. Report on sustainability criteria applicable to the maintenance of the campus.
7. **PROCUREMENT & PURCHASING (PRODUCTS AND SERVICES):** Circularity is the norm in 2050. Focus on decreasing the carbon footprint of services and products purchased. Expand and strengthen criteria on sustainability used in assessment contracts.
   HOW? Expand and optimise the selection criteria applied for sustainability in new contracts. Integrate sustainability criteria in the awarding criteria[46] for new contracts. Focus on longevity of materials and appliances during the procurement process. Prioritise low carbon, recycled or refurbished products. Increase participation in the sharing economy and service economy as alternatives for ownership of products. This can be realised by increasing the weighting of sustainability criteria (the allocation of points to meeting the sustainability criteria). Decrease of the carbon footprint through compulsory criteria in contracts on CO_2 monitoring and the requirement for suppliers to work on decreasing their CO_2 footprint during the duration of the contract. Establish a method where the client is provided with a list of criteria before a product is purchased in order to avoid inefficient use of energy or other resources. Monitor compliance with agreed criteria.
8. **BUILDINGS:**
   New buildings: Energy Neutral buildings are the norm[47]. Built-in energy monitoring.
   Existing buildings: Always start with an energy scan to identify the opportunities for improvement. Strive towards the highest attainable improvement for insulation at times of large renovations to reduce the energy demand of a building. Phase out natural gas consumption.
   HOW? Consider the Total Cost of Ownership[48] (initial costs ~ 15%, operating and maintenance costs and personnel costs ~ 85%[49]). For new buildings: initial investment in sustainable solutions balance out when assessing construction plus operating and maintenance costs overall. For existing buildings: when maintenance or renovations are carried out, apply additional insulation simultaneously (for example roof maintenance). To integrate this is the decision making process a check needs to built-in where the sustainability aspects are assessed before a final decision is made. Use (circular) materials with low CO2 footprint.
9. **EVENTS:** CO_2 neutral events, circular events and congresses.
   HOW? Reduce waste. Consider alternatives for plastic disposables. Facilitate and improve waste recycling rate. Transfer to low environmental impact food options. Include fun elements of awareness raising. Include sustainability criteria in contracts with (external) event organisers.

46 Gunningscriteria
47 BENG is the current norm. https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/gebouwen/wetten-en-regels/nieuwbouw/energieprestatie-beng
48 https://nevi.nl/inkoopkennis/total-cost-of-ownership
49 http://www.fminsight.com/a-lifecycle-view-total-cost-of-ownership/

10. **FINANCES:** Integrate sustainability in financial procedures. Sustainable banking and investments. **HOW?** Extend return of investment period to end of life for depreciation[50] of installations and buildings. UT changes banking partner to a sustainable bank that does not invest in unsustainable practices such as mining where child labour occurs or the environment protection is lacking, arms industry and fossil fuel companies. UT lobbies with pension fund and investment partners to invest in a sustainable portfolio.

These themes cover the majority of aspects related to operational management. This overview includes themes that require the compliance with legislation (buildings[51] and energy[5]); themes that UT has specific expertise on; themes that contribute most to UT's CO_2 footprint; topics especially relevant for the region (water management, biodiversity[52]); themes that can be linked to current initiatives (on waste, on mobility) in the region and themes that will contribute to creating support and awareness on sustainability topics (events). Aspects such as communication (awareness and involvement of the UT community) and the required conditions for implementing change are cross-cutting goals and will need to be incorporated in all themes.

50 Afschrijving
51 https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/gebouwen/wetten-en-regels-gebouwen/energielabel-c-kantoren
52 https://www.utwente.nl/nieuws/!/2019/6/154285/let-op-eikenprocessierups; https://www.utoday.nl/news/66935/biodiversiteit-als-wapen-tegen-eikenprocessierups



2.1 FOCUS OF SUSTAINABILITY IN OPERATIONAL MANAGEMENT

There are many options to operate more sustainably. The availability of technological measures and products is immense and is constantly changing. This adds to the challenge. It will not be possible to do everything. There will be budget limits and limits on the capacity of the personnel to take on additional projects. Choices will need to be made on what the priorities will be and the justification of those choices will need to be transparently shared with the stakeholders.

Choices will be based on the following principles. These principles provide a structure for decision-making while the goals mentioned above provide the direction.

The principles:
- Realizing impact (whether visible or invisible)
- Implement measures and activities that generate awareness, support and involvement of the UT community to improve sustainability
- Easy of implementation (low hanging fruit)

Many visible improvements may not contribute significantly to lowering the CO_2 footprint of the University but will contribute to a greater level of support within the UT community and serve as visible examples to illustrate UT's ambitions. Therefore it is important to consider these principles.

Data collection and analysis is core to this policy. Choices need to be based on facts. Data collection management is essential for enabling the monitoring the performance and progress.

Sustainability in operational management will need to be integrated in the existing organizational structures. Initially this requires additional staff time to become familiar with the topic (through coaching or training) and integrate sustainability into the existing working plans and procedures. Once woven into the structure of the organisation, it will become common practice.

2.2 COMMUNITY BUILDING

Alongside improving the sustainability performance of the UT, increasing environmental awareness within the UT community is core to the success of this policy.

2.2.1 INTERNAL STAKEHOLDERS

Internal stakeholders are the staff of faculties and supporting services, students and initiatives with a special focus on sustainability.

2.2.1.1 FACULTY STAFF

The shell of UT buildings and building-specific installations are managed and maintained by Campus and Facility Management. Many aspects of sustainability are already applied without the user of the buildings noticing any change. Besides building management, a lot of aspects of sustainability are associated with the users of the buildings, faculty staff and students. Electricity consumption, water use, purchasing orders, mobility to name a few. These topics will be discussed in the SEE programme steering and working groups leading to projects to reduce the environmental impact.

Data collected to improve the sustainability, energy or environmental performance will be made available to researchers and students for analysis. An example of this the platform https://energydata.utwente.nl where electricity, district heating, gas, cooling and water data can be accessed. This will increase the involvement of the UT community and the conducted analyses will provide insight into possible measures for improvement. Students and staff can use data from their own university for their research and at the same time provide suggestions and become involved in making UT more sustainable.

2.2.1.2 SUPPORTING SERVICES STAFF

Sustainability is relevant for all support services. To structure this broad issue into sizeable chunks, the initial focus is on the following units:

Within Campus & Facility Management: Contract management of large contracts such as cleaning, waste, food and drinks, outdoor green maintenance, building maintenance (including electrical and mechanical engineering) and energy. Also asset management, management and maintenance of real estate, procurement and purchasing of products and services, culture & events office, mobility, energy performance of buildings and buildings-specific installations are addressed within CFM.

ICT matters are the responsibility of LISA.

Faculties are responsible for their energy performance through the user-related energy consumption behaviour and energy consumption resulting from research and education appliances. Waste reduction and mobility are also topics that will be taken up in collaboration with faculties.

Besides a good framework plan, excellent communication and attention for change management and the challenges of behavioural change are needed to realise the integration of sustainability into the organisation.

2.2.1.3 STUDENTS AND STUDENT ASSOCIATIONS

Students learn about the relevance of sustainability in their respective study fields and will have the opportunity to put research into practice on the campus which acts also as a living lab. Campus and Facility Management often facilitates this.
Many measures to be taken in making operational management more sustainable are applicable in the operational management of study, student and sports associations as well. The Student Union is therefore a partner in sharing lessons learned and develop networks to support each other in applying the necessary changes. The recently established student association Sustain[53] is also a key stakeholder in implementing sustainability.

53 https://www.facebook.com/SustainUT/

2.2.1.4 GREEN HUB

To ensure effective communication and collaboration between faculties, supporting services, students and the wider community one central place is needed where all these activities can be brought together.

A Green Hub is a student-led and staff-supported central point that ensures the institutional integration of sustainability throughout the university, connecting people and initiatives at the University of Twente. The Green Hub Twente will facilitate the creation and realization of ideas to make education, research, operational management, the community and culture of the UT more sustainable. It will continuously develop new goals, create plans and realize them, as well as monitor and report on the progress the university makes. Thereby, the Green Hub Twente will be a strong contributing force in putting the ambitions of the 2030 strategy into practice.

It is the **vision** of The Green Hub Twente that sustainability becomes the norm throughout the University of Twente landscape and culture.

The Green Hub Twente's **mission** consists of:

- creating a central point which connects, informs, and supports the UT community to advance its sustainability
- being a platform engaging the UT community to create a bottom-up movement for sustainability
- playing an active role in shaping, realizing, implementing, and tracking the UT sustainability policy and performance.
- acting as a channel for a sustainable entrepreneurs network, empowering them as ambassadors of sustainable business practices

To meet its mission the core tasks of the Green Hub will be:

1. facilitating collaboration between the different initiatives to ensure greater impacts as well as a diffusion of best practices. This includes initiatives started by student organisations, the research departments of the university, the operations and external partners.
2. Establishing a network of sustainable entrepreneurs to advance sustainable entrepreneurship, allowing them to build on each other's ideas and experiences.
3. Acting as a central access point for information regarding sustainability. GHT will create an accessible database to collect all research, ideas, and efforts, to enable building-up upon previous results.
4. Informing and advising students and staff regarding sustainability to ensure greater success in the development and implementation of sustainability efforts.
5. Facilitating sustainability projects through expert knowledge, connections and understanding of the UT landscape. The Green Hub network consists of partners like Sustain, NovelT, Student Union and the DesignLab.
6. The Green Hub of the university will be involved in the organisation of events in regard to sustainability with the aim to create awareness and offer networking opportunities. This will include the organisation of conferences, networking opportunities and activities such as a Sustainability Week.
7. Reflecting on the university's sustainability efforts by offering constructive feedback, as well as taking an active role in implementing recommendations.

The Green Hub is a first point of contact on all matters to do with sustainability. They will build a network of people engaged with sustainability. They will collect information on activities, conducted research or research opportunities in the area of sustainability and make it available. They will broker the connection between scientists, students and the SEE programme to be able to apply in-house knowledge in improving the performance of the UT on sustainability matters. They will be the linking pin between several initiatives related to sustainability and will facilitate connections between their network and the SEE programme.

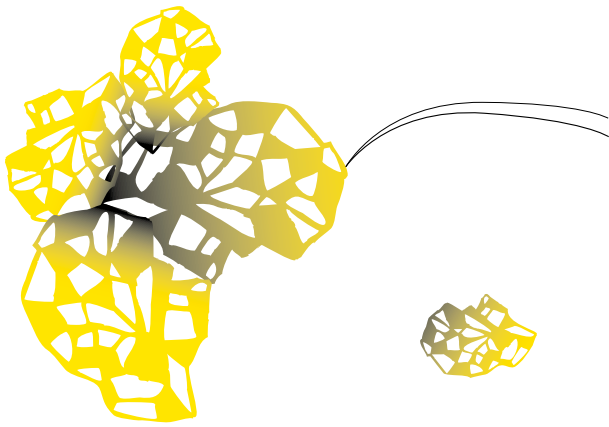
3 LINK SUSTAINABILITY IN OPERATIONS WITH RESEARCH AND EDUCATION

3.1 STUDENT RESEARCH

The aim is to make maximum use of student assignments, internship and thesis students to further sustainability issues in operational management. This is facilitated by providing access to data collected at UT such as **https://energydata.utwente.nl.**

Collaboration will be sought where UT has departments with a specialization on a specific topic of interest in the sustainability policy, such as mobility, biodiversity, behavioural change.

This approach requires a working budget to compensate researchers for their time spent on improving the operational management of UT (TAS budget code) and to compensate student through UT flex assignments.



3.2 SUSTAINABILITY IN RESEARCH AND EDUCATION

Sustainability is a topic in many courses. Sustainability is part or the focus of research projects.

Also here the University can make improvements, for example:

1. Label all courses that focus on sustainability to make these easier to find;
2. Develop a sustainability certificate for students that have completed x many courses on sustainability;
3. Include a standard section in each report on what impact your project/research has on sustainability;
4. Make the SDG award54 a big visible UT wide event.

This policy document has its focus on the operational management of the University and will not elaborate on the above mentioned suggestions in this document. The Green Hub will be able to take a role in this.

54 https://www.utwente.nl/en/bms/sdg/sdg-award/

4 COMMUNICATION ON SUSTAINABILITY

This policy on sustainability in operational management is one section of the UT wide activities on sustainability (research, education, organisation and operations). The main aim is to reach, connect, inform, involve and activate the UT community. The focus lies on developing a communication plan for sustainability as a whole at UT, to connect the activities and find ways to communicate to all interested parties.

For the operational management part, the **communication goals** are:

- Informing internal and external parties about sustainability on a regular basis
- Creating awareness and increasing internal commitment on this topic

The communication strategy will be developed further once the policy has been approved and a dedicated communication advisor for sustainability has been appointed. Until then, the approach of process communication will followed. This means that, when there are milestones to be highlighted, communication will be designed around these milestones.

Communication means to be used for this are:

COMMUNICATION

Via line management through departmental meetings

DIGITAL MEANS

Employee portal – tag Sustainability
Sustainability website: **utwente.nl/sustainability**
Led screens on campus
Sustainable newsletter via **sustainability@utwente.nl** (subscription[55])
Digital Sustainability Tour via Campus app (not available yet)
Social Media content calendar

ACTIVITIES

- Sustainability tours around campus currently done by the environment and sustainability policy officer. In future this can be taken up by the student guides from Studium Generale or could become self-guided walks supported by information boards on site with details on the specific sustainable measures.
- The organization of a Sustainability Week Enschede with external partners to share sustainability information and measures applied to inspire a broader audience.

Target audience

For internal communication: UT community (staff and students), with close collaboration with the
Student Union to reach all study and student associations. Also with close collaboration with student association Sustain, a recently established student association focusing on sustainability.

A Green Hub would be a central player in this communication plan as it will have continuous interaction with the (UT) community on various aspects of sustainability in research, education and operations. This will be thé place to go to concerning sustainability. Green Hub will be able to assist people with their queries and refer people to the appropriate departments where relevant.

External communication will focus on: Sharing experiences and information to inspire the wider community to become aware and involved with the topic of sustainability. This can be done through news items, activities or participating in benchmarks.

55 https://www.utwente.nl/register-sustainability

5 SUSTAINABILITY GOALS

Sustainability ambitions need to be set for the long term. This policy document will include ambitions towards 2050 and 2030, parallel to the government's roadmap and the UT Shaping 2030 strategy.

The UT strategy Shaping 2030 describes as the goal for 2023, on the path to become a sustainable organization, that it wants to reduce the CO_2 footprint by 15% through implementing sustainable solutions in the areas of food, water, waste, travel and energy use. Chapter 5.1 will provide more detail on the goals per theme.

As mentioned in chapter 2, the goals of the policy on sustainability in operational management center around ten themes in order to align the goals with the organizational structure of the UT and specifically with the organizational structure and division of responsibilities within the Campus & Facility Management department for effective and efficient implementation.

POLICY ON SUSTAINABILITY IN OPERATIONAL MANAGEMENT

The environmental goals of the policy on sustainability in operational management center around ten themes:

1. **ENERGY:** Trias Energetica: Increase efficient use of energy sources. Continue reducing energy consumption by 2% a year. Source all electricity renewably and apply CO2 compensation on remainder of fossil fuel usage from 2022 onwards. Become a carbon neutral campus in 2030. Strive towards a carbon negative campus in 2050.
2. **WATER**: Reduce water consumption by 5% in 2022 compared to 2020, zero water footprint (water neutral) in 2030. Full recycling of water used on campus in 2050. Trias Aqua: reduce water consumption, use rainwater, reuse water.
3. **WASTE:** A (single use) plastic-free campus by 2022. A waste free[56] campus by 2030. A circular campus by 2050.
4. **FOOD AND DRINKS:** Halve the environmental impact (CO2 footprint) of food and drinks served on campus by 2030 compared to 2020. Default option for work lunches is vegetarian in 2020. Every canteen has a meatless day a week by 2022. Impact of food options is visualised in canteens by 2022.
5. **TRAVEL AND MOBILITY:** Strong promotion of reduction of travel and sustainable modes of travel. Train is the preferred option for work trips < 800km in 2022. 100% compensation of CO2 emissions from business travel by 2025. Increase usage of (e-) cycling & public transport. Strive towards a low traffic campus.
6. **BIODIVERSITY:** Report on the application of biodiversity criteria in all green maintenance decision-making by 2022. Improve biodiversity at two selected sites by 2025.
7. **PROCUREMENT & PURCHASING (PRODUCTS AND SERVICES):**
   All new contracts contain a list of UT sustainability criteria by 2022. The weighting[57] of sustainability criteria is increased in 2022 and integrated in the awarding criteria by 2030. Requirements for CO2 monitoring in all new contracts from 2022. KPIs on sustainability in all contracts by 2025[58]. Focus on sharing and service economy options from 2020

56 Equal to Twente waste free ambition – 50 kg per person per year: http://afvalloostwente.nl/afvalloos-twente/ and 90% recycling rate
57 The allocation of points by complying to the selection criteria on sustainability.
58 To encourage progress on the sustainability performance during the duration of the contract.

onwards. Focus on circular ('design-for-recycling'), products and services and modular products[59] from 2020 onwards. Increased attention for monitoring compliance by service and product suppliers.

8. **BUILDINGS**:
   Existing buildings: Energy Index (kWh/m2/year) 1.3, label C by 2022.
   Renovations: Shell insulation follows the Dutch building decree[60] for new buildings.
   New built[61]: BENG, built in energy consumption meters, energy neutral by 2050.
   Maintenance: A Sustainable Multiple Year Maintenance Plan is operational by 2022 (Sustainable MJOP). Material usage – increased focus on low CO2 impact and circular options.
9. **EVENTS**: UT organised events monitor and report on sustainability performance by 2020 based on criteria compiled by UT. Events organised by external parties monitor and report on sustainability performance based on UT criteria by 2022. First small plastic free by 2021, first large plastic free event by 2022. Waste free events by 2030.
10. **FINANCES**: UT banks with a sustainable bank by 2022. From 2020 UT starts the discussion with University Fund, pension fund ABP and investment and banking partners on increasing their sustainable portfolio. Return on (sustainable) investment is extended to end of life by 2022, this is 15 years on installations and 30 years on buildings.

59 https://simplicable.com/new/modular-products
60 Bouwbesluit: Rc 4,5m2K/W gevel; Rc 6,0m2K/W daken; Rc 3,5m2K/W vloeren
61 https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/gebouwen/wetten-en-regels

For several themes, Trias Materia is relevant: limit the amount of materials needed; use sustainable materials (low CO2 footprint, circular), use products/resources as efficiently as possible.

Communication is a cross-cutting theme:
50% of staff and students are aware of sustainability measures applied at UT by 2030.
Green Hub activities reach 25% of student population by 2030. A yearly Sustainability Week is organised.

Reporting on sustainability
Data collection and management is important for monitoring and reporting on the sustainability performance of the UT and visualize its progress. Structures will need to be put in place that facilitate data collection, data sharing and analysis. The aim is to strive towards open data such as https://energydata.utwente.nl. Data management, analysis and visualisation is therefore the one of the most important aspects supporting this policy. That said, taking action to become a more sustainable university is the most important things. Actions that cannot (yet) be quantified will be reported on qualitatively.

Shadow bookkeeping: UT cannot change everything overnight to become a sustainably operated university tomorrow. To give insight into the consequences of current processes, it is proposed to hold a pilot for transparent shadow bookkeeping. This is a means to provide the UT community clarity about the consequences of decision-making: to monitor greenhouse gas emissions associated with decisions taken to assess what the UT's true environmental impact is and to determine where improvements can be made. This includes monitoring financial consequences of decisions taken over the longer term and to record true pricing for example for flights taking into consideration the absence of tax on tickets and

kerosene. Sustainable alternatives may prove to be more economical when assessing the true price and total cost of ownership compared to conventional choices.

Change management
The UT has had the experience of being an innovator and frontrunner. The building of the cold circle[62] was extremely innovative and experimental. Currently UT is transitioning to a smoke-free campus. To transition to sustainable operational management will need a similar mindset, from decision makers and operational staff alike.

INTEGRATING sustainability means at every decision the question is asked: how does this decision affect our sustainability performance? Does this contribute to reaching the set goals? Does this have any negative consequences of reaching the set goals? Clear and transparent communication on these decision-making processes will help to gain support and understanding of sustainability.

MANAGEMENT has an important role to play. Lead by example. Incorporate sustainability in the daily business, such as team meetings and reporting to the management.

TRAINING COURSES on a variety of sustainability topics, from focused training on circular procurement to change management and change implementation training will be needed to support staff. Courses should be included in the course finder[63] and offered to support services and faculty staff.

IS THIS ACHIEVABLE?
Yes / not yet.

It is important to consider that there is a tremendous focus now on making our economy more sustainable. On top of that, UT itself develops a lot of knowledge to guide the energy transition towards a CO_2 neutral society and material transition to a circular economy. What we cannot yet achieve today, we may be able to achieve tomorrow. The targets set for 2030 or 2050 may feel out of our reach in 2019 but the reason why these are set, is to ensure all decisions, that are taken, contribute to striving to achieve that goal. Decisions, that undermine that goal, will be avoided.

Some goals can be grouped in a category ‘difficult’: we do not yet know how to achieve them. Examples are: A circular economy, full recycling of water on campus. A selection of goals can be grouped into the category: ‘average level of difficulty’. Some measures may be technically possible now, but are accompanied by essential changes in habits which may need more time. Other measures may require changing systems or structures requiring thoughtful planning and detailed preparation.

And there are many ‘easy’ actions that can be taken to operate more sustainably, such as sourcing all electricity from an energy provider focusing on renewable sources, compensating CO_2 emissions, facilitate train travel below a distance of 800 km, set the default option for lunch orders to vegetarian, transferring to more sustainable alternatives of products etc..

62 https://www.utwente.nl/en/cfm/discover/sustainability/initiatives/energy/#energy-saving-measures
63 https://www.utwente.nl/en/ctd/courses/

5.2 POLICY IMPLEMENTATION PLAN

All these ambitions, goals and practical measures will have to translated into concrete project plans.

This requires to have people involved with technical knowledge, organizational knowledge and behavioural knowledge.

These goals will be incorporated into the organizational structure of the operational management at UT. The following table shows which themes are the responsibility of which functional units in the organisation. The development of the plans will be coordinated through thematic working groups of the SEE programme[64] (see chapter 1.4.5.1).

Themes / Organisational units at UT	Energy	Water	Waste	Food and drinks	Travel	Biodiversity	Procurement and purchasing	Buildings	Events	Finance
Campus and Facility Management										
Procurement and purchasing							■			
Asset management (Long term Housing Strategy)								■		
Management/maintenance of real estate	■							■		
Contract management (services)	■	■	■	■	■	■				
Mobility					■					
Energy performance of buildings and building specific installations	■									
Culture & Events office									■	
LISA – ICT							■			
Finance										■
Faculties: Behavioural, Management and Social sciences (BMS), Engineering Technology (ET), Electrical Engineering, Mathematics and Computer Science (EEMCS / EWI), Science and Technology (TNW), Geo-Information Science and Earth Observation (ITC)	■	■	■	■	■				■	■

64 https://www.utwente.nl/en/cfm/discover/sustainability/see-programme/

There are cross cutting themes of which almost all measures need collaboration. The categorization according to functional unit has been done to indicate the suggested lead for the proposed actions.

Appendix 9.1 lists suggested actions based on the sustainability consultation sessions conducted in March 2019 (appendix 9.2), as well as consultations carried out for the FBeter campaign, for Shaping 2030[65] and others (appendix 9.3). This is not an exhaustive list and new suggestions are received continuously via **sustainability@utwente.nl** or in meetings. It is included to share the results that have been collected over the years and is not meant to be a prescriptive list.

5.2.1 EXPECTED RESULTS

Several thematic working groups will be set up. Each thematic working group of the SEE programme will develop a five year plan running from 2020-2025 with an outlook to 2030 and an annual plan. The coordinator of the thematic working group informs the SEE programme working group on its progress.

These plans will include an overview of the current situation, in terms of current processes, of CO_2 emissions, of measures applied, of pilots conducted. All aims will be completed with a project lead name and a budget. Data collected through these projects will form a baseline where no baseline existed yet.
The project plan will together formulate a roadmap for realising the ambitions of the strategy.
For 2020, an implementation plan has been written in a separate document.

65 https://www.utwente.nl/en/organization/shaping2030/#round-table-conversations

6 CONCLUSION

Integrating sustainability into the organizational structure will have a large impact on the sustainability performance of the UT. Change is never easy and integrating sustainability in all aspects of operational management will ask a lot from everyone.

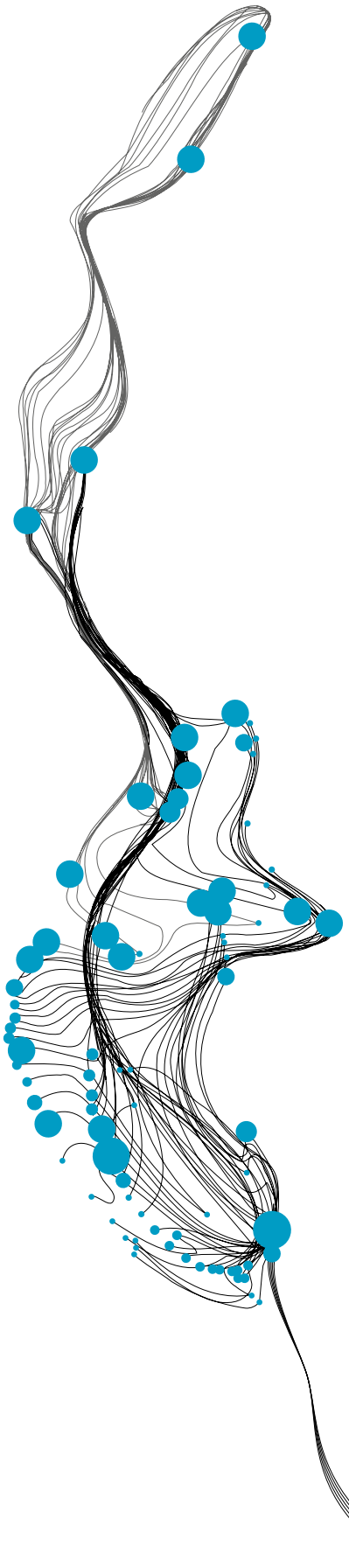
When improving the sustainability performance of the UT, we can learn from others. This can be done by increased participating in networks such as SAAZunie, RVO and international networks such as ECIU.

The prioritization of this topic on the UT's agenda is essential to make funding available to obtain the necessary means and personnel capacity to take up the challenge for UT to be an inspiration to others, become more sustainable itself and engage the region in following suit. It is important to reserve a budget that will be able to facilitate the execution of some plans that will be developed throughout the year for which the budget has been set already in order not to stifle enthusiasm or avoid putting brake on the momentum on improving the sustainability performance of UT.

The implementation plan for 2020 provides a budget overview amounting to approximately 0.1 % of the UT budget, indicating the expected annual budget needs.

7 TIMELINE

Timeline	Date
First discussion of policy on sustainability in operational management in working group SEE programme	2 September 2019
Presentation first draft policy on sustainability in operational management in MT C&FM	3 September 2019
First discussion of policy on sustainability in operational management in steering group SEE programme	12 September 2019
LTSH (for advice)	10 October 2019
Steering group SEE program	31 October 2019
CvB (for discussion)	4 November 2019
UCB (for advice)	10 December 2019
UCI (for advice)	12 February 2020
UCB (for advice)	10 March 2020
CvB (decision-making)	16 March 2020
University Council FBD	22 April 2020
University Council	13 May 2020
AuditCie	14 May 2020
RvT	17 June 2020

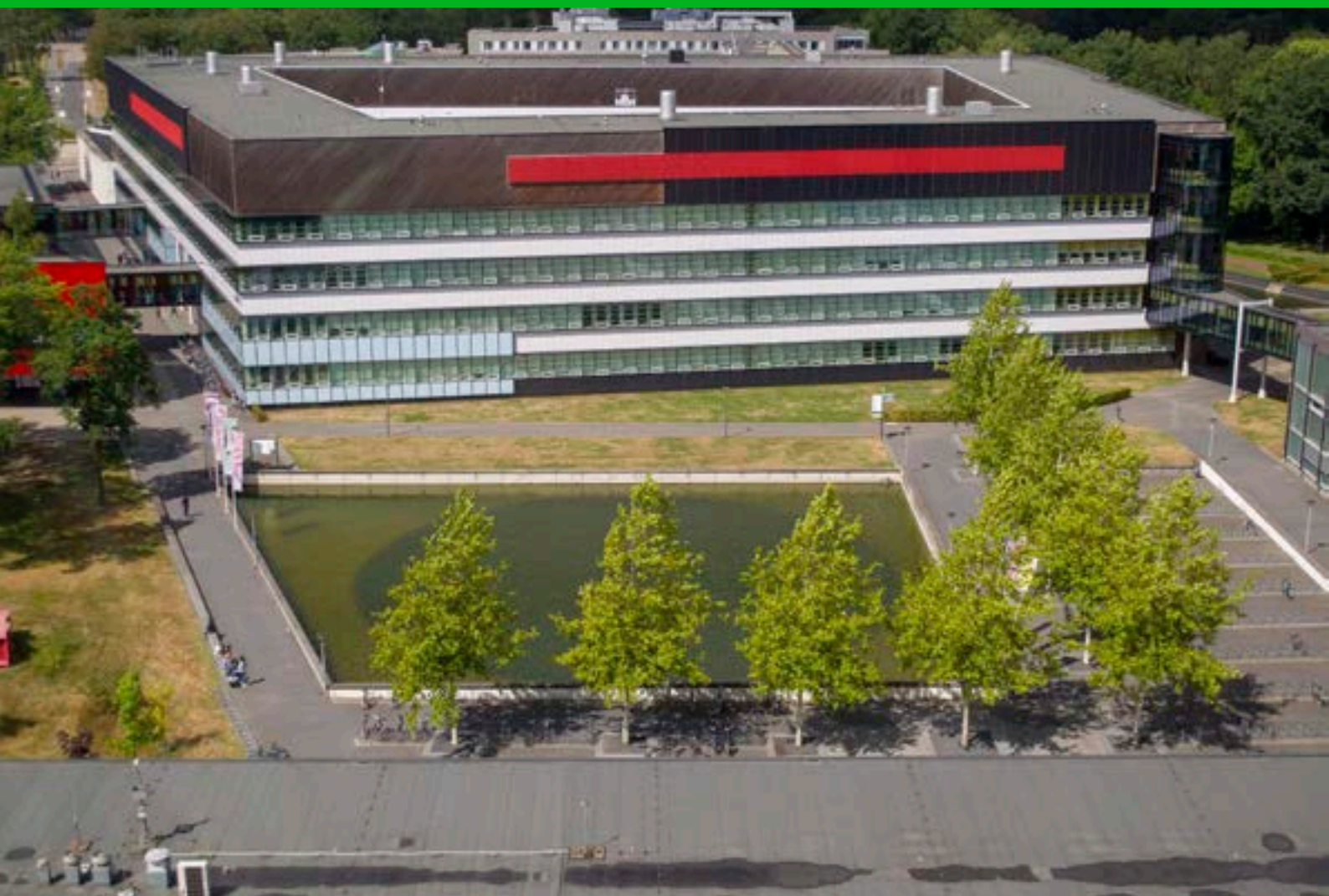


8 APPENDICES

8.1 NOTES POLICY IMPLEMENTATION

8.2 CONSULTATION UT COMMUNITY ON SUSTAINABILITY IN OPERATIONAL MANAGEMENT

8.3 CONSULTATION DREAM OF STUDENTS: UT AS THE MOST SUSTAINABLE UNIVERSITY



8.1 NOTES POLICY IMPLEMENTATION

This appendix lists all suggestions that resulted from the consultation sessions that have been held over the last years. These ideas have been grouped into twelve categories: Energy, Water, Waste, Events, Biodiversity, Food & Drinks, Travel & Mobility, Procurement & Purchasing, Buildings, Finances, Training, Communication.

This is not an exhaustive list and new suggestions are received continuously via **sustainability@utwente.nl** or in meetings. It is included here to share the results that have been collected over the years and is not meant to be a prescriptive list.

ENERGY

Reduce energy consumption, transfer to 100% renewable energy, work towards a carbon negative campus.

Electricity meters

- Ability to measure and monitor

POTENTIAL ACTIONS:

1. Electricity meters
    a. Overview per building: what is linked to which meter?
    b. Plan for monitoring per faculty/department and adjusting costs accordingly
    c. Plan for smart scheduling based on energy consumption and user demands

Energy consumption: apply trias energetica[1]

- Closed door policy
- Insulation of buildings

POTENTIAL ACTIONS:

2. Promote closed door policy for improved comfort and energy saving
3. Develop student assignments to gather information that can be used to improve communication on energy consumption
4. Communicate on choice/obligation automatic (revolving) door or manual door
    a. Investigate innovations in this area
5. Develop plans for each building based on Energy Performance Assessments

Climate control

- Effective cooling

POTENTIAL ACTIONS:

6. Effective cooling
    a. Inventory user experiences with cooling
    b. Plan to improve efficiency / optimise installations
    c. Communicate about cooling situation
7. Effective heating
    a. Inventory leading to plan where heating can be adjusted and made more efficient / optimise installations
    b. Monitor and communicate about heating situation
    c. Collaborate on awareness raising activities, like warm sweater day
8. Communication
    a. Prevent window open, heating or AC on

1 Reduce energy demand, use renewable energy, if necessary use fossil fuels as efficiently as possible.

Lighting
- Sensible use of lighting
- Communication about use of lighting

POTENTIAL ACTIONS:
9. Inventory legal requirements (-> flight paths need to be lit)
    a. inventory of actual situation (indoor and outdoor lighting)
    b. if applicable: develop plan to adjust to reduce amount of lighting used
10. Sensor / smart lighting
    c. inventory % sensor/no sensor
    d. Identify priority locations for sensor
    e. Identify locations where lights are left on unnecessarily
    f. Provide cleaners with remote to turn off lights (sensor stays on for 15 min)
    g. Adjust sensors for effective usage
11. LED inside/outside
    h. Inventory % non LED
    i. Priority areas for replacement
    j. Communicate about current replacement schedule
12. Develop communication material
    k. Where no sensor -> sticker: turn off when not in use/when you leave the room
    l. Where sensor and button (sticker: turn off when room not in use)
    m. Campaign to make people aware of their role
    n. Communicate about plans (for replacement LED, legal req. lighting etc.)
    o. Communicate per building about light situation
13. Monitoring
    a. Half yearly check if all is according to plan and user demands
    b. Report on pilots

TV screens
- Usage and effectiveness

POTENTIAL ACTIONS:
14. Develop guideline/advisory policy on usage TV screens (Timer / rotation messages / number of screens per corridor)
    a. Student assignment on effectiveness advertising via TV screens

Appliances
- Guideline on use of appliances
- Communicate about use of drinks machines

POTENTIAL ACTIONS:
15. Research possibility to use night mode on drinks machines in connection to Health and Safety legislation
16. Next tender: include energy reduction requirement by turning off machine at night / Internet of Things connection for monitoring usage and energy consumption / fewer options (cold water function?)
17. Communication plan to turn off PC's and other appliances at the end of the day.

Computers, data and servers

18. Communicate about (hidden) impact on energy consumption of data
    a. Research server demand for email archive
    b. Set targets to reduce email archive.
19. Consider low energy demand in procurement: laptop with extra screen has lower consumption than PC (see procurement section).
20. Develop plan to make servers and data centres operate more sustainably

Renewable energy

Solar panels, wind turbines, other

POTENTIAL ACTIONS:

21. Collect various opinions and cost-estimates on possibilities for renewable energy on campus
    a. Communicate about necessary conditions for generating renewable energy on site: solar panels on roofs, on water, covering car parks / wind turbine / other
22. Participate in project with other universities to generate (new) renewable energy elsewhere in the country therefore contributing to the energy transition
23. Compensate for consumption non-renewable energy
    a. Focus tender process on providers that only source renewable energy (include social aspects in requirements)
    b. Develop several scenarios for compensation, from projects on campus to tree planting in countries UT collaborates with to formal compensation programs through the Climate Neutral Group.
24. Make collaborative plan to work towards negative emissions using knowledge and resources of the UT
25. Communicate about the results of actions 18-21

District heating

POTENTIAL ACTIONS:

26. Record actual CO_2 emissions related to amount of district heating consumed by UT.

Campus staff housing

POTENTIAL ACTIONS:

27. Research options to renovate staff houses managed by UT (no more single glazing, gas).

CO2 footprint

28. Analyse results CO_2 footprint and draft recommendations
29. Research possibilities to extend scope/level of detail and applicability CO_2 footprint
    a. Make CO_2 recording mandatory for suppliers UT
    b. Record CO_2 footprint on various themes per faculty or department/unit to increase awareness
    c. Estimate CO_2 footprint of daily activities UT community: choices in canteen, mode of transport etc.
30. Use CO_2 footprint as a communication tool. Develop interactive webpage to bring the analysis to life.
31. Develop a plan to compensate CO_2 footprint UT (mobility to start with)- see below *110*

WATER

Zero water footprint (water neutral) , recovering nutrients from water and resilient water infrastructure.

Zero water footprint, nutrient recovery

- Reduce consumption
- Recycle waste water

POTENTIAL ACTIONS:

32. Develop a plan to work towards 100% recycling of water
33. Avoid wasting water
    a. Vestingbar male toilet trough
    b. Sensors on watertaps
    c. Inventory where rainwater can be used for flushing toilets
    d. Update communication materials
34. Visualise the water cycle on campus
35. Raise awareness on water consumption through communication
    a. Related to work (make inventory where water savings can be made.)
    b. Related to daily habits (using stickers)
36. Raise awareness on water purification / water pollution
    a. Through student assignments conducted on campus
    b. Through communicating about monitoring data
37. Prevent pollution of water
    a. Make inventory of cleaning materials used, indoors, outdoors
38. Develop a plan to start recovering nutrients from waste water
39. Develop a plan to remove pollutants from waste water
    a. Membrane technology / separation technology – UT knowledge
    b. Sustainable water treatment options
40. Reduce the concentration of substances of very high concern, e.g. heavy metals (legal obligation linked to the environmental permit of the UT)

Resilient water infrastructure

POTENTIAL ACTIONS:

41. Make inventory which drainpipes from which buildings drain into a pond and which ones not.
    a. Research possibilities for monitoring volume of rainwater not added to sewage system
42. Make inventory possibilities green roof at UT campus
43. Develop a plan to increase capacity to store water on site for dry summers
44. During preparation for renovations and building consider rainwater flushed toilets and waterless urinals, vacuum toilets or compost toilets
45. Increase capacity for water to infiltrate on campus

WASTE

A (single use) plastic-free campus. A waste free[2] campus by 2030. A circular campus by 2050.

Reduce the amount of waste. Follow the Ladder Lansink[3]

POTENTIAL ACTIONS:

46. (update) policy on advertising on campus
    a. No more flyers on bikes
    b. No plastic bike seat covers for promotion
    c. Organisation responsible for pollution due to advertising
47. Reduce littering
48. Research optimisation waste collection. Option to replace plastic bags for reusable bags (paper?)
49. Promote bringing own container for take away food
50. Use ceramic plates, bowls and cups at canteens
51. Events: lunch wrapped only in paper
52. Make inventory of single use products and make plan to phase out usage.
53. Promote use of products with least packaging

Reduce the amount of paper used

POTENTIAL ACTIONS:

54. Awareness campaign unnecessary paper use
    a. Stimulate limitation of advertising via post (help cancelling subscriptions etc.)
    b. Standard printing settings double-sided, promote printing multiple pages per A4.
    c. Campaign for people to exchange tips on working in a paperless office
    d. Research methods to reduce printing for staff/students: for example use printer data to inform individuals amount of prints per months used (data from LISA).
55. Reduce paper use through targeted communication: guidelines, communication materials on tips &tricks / dummy sheets for stimulate paperless office, on how to use one note for note taking, sharepoint for simultaneous working in same document, etc.
56. Research effectiveness digital exams, digital reporting.
57. Limit amount of paper handed out for exam.
58. Stop printed out lecture notes.
59. Ensure paper used is recycled paper.

A (single use) plastic-free campus

POTENTIAL ACTIONS:

60. No (plastic) cups in drinks machines
    a. Develop a plan to stop dispensing cups in warm drinks machines
    b. Develop accompanying communication materials and plan
61. Remove plastic stirrers from stocklist supplier. Communicate about alternatives.
62. Use washable cutlery (spoons, knives and forks) in canteens
63. Catering to provide washable cups at work lunches
64. Stop selling water in plastic bottles, alternative tap water or dissolvable waterbubbles.
65. Develop plan to become a single use plastic free campus

2 Equal to Twente waste free ambition – 50 kg per person per year: **http://afvalloostwente.nl/afvalloos-twente/**

3 Prevention – reuse – recycling – waste as fuel for energy generation – incineration without energy recovery. Updated to the 7 R's: Refuse – Reduce – Reuse – Recycle (refurbish/upcycle) – Repair – Rethink - Recover

66. Develop plan with alternatives for plastic food packaging in canteens
    a. Or communicate extensively about why you do use plastic

Optimise recycling

POTENTIAL ACTIONS:

67. Separate collection polystyrene and large plastic packaging at labs
68. Communicate about waste separation (big waste items - guidelines?)
69. Align waste collection ITC with campus (same number of waste streams, recycling bins)
70. Align waste collection UT buildings with De Veste student housing
71. Assess effectiveness recycling containers at large canteens.
    a. Asito/UT to monitor amount at different times during the day
    b. Perform a separation analysis (how well is the waste separated)
    c. Assess options for improvement
72. Optimise communication material on recycling (on bins, online, on posters, in app)
    a. Develop communication materials indicating what packaging goes in which bin.
    b. Improve text on bins to clarify things for users.
73. Publicity campaign to recycle at the central islands (no more individual bins in people's rooms)
74. Inform UT community how waste is processed to increase awareness
75. Collect coffee grinds at study associations to use as medium for mushroom growing

Reduce food waste

POTENTIAL ACTIONS:

76. Make inventory on current situation on food waste
    a. Develop plan to reduce it by 50%
77. Promote measures taken to reduce food waste
    a. Too Good to Go app
    b. Promote measures everyone can adopt, make it easy to do
    c. Research other options to reduce food waste
    d. Collaborate with all partners on campus selling food (canteens, supermarket, hotel) and consumers (for Xmas parties, work lunches) to reduce food waste

Reduce e-waste

POTENTIAL ACTIONS:

78. Extend the period in which computers, laptops and phones are written off.
79. Repair computers before considering them as e-waste
    a. Communicate about this option.

Reuse resources

No more waste, everything is recycled

POTENTIAL ACTIONS:

80. Develop plan for central repository for technical research equipment (that becomes surplus to requirement after project is finished) between universities
81. Make a plan for a repository for other resources within the university (furniture, smoke cabins that become surplus to requirement when campus becomes smoke-free)
82. Research options for reusing waste
83. Information material on battery recycling
84. Sell reusable bags, mugs, water bottles, travel mugs, food container at all canteens.
85. Move furniture when departments moves

86. Apply Trias Materia: use as few resources possible; use sustainable materials; use materials as efficiently as possible, also consider how the products are disposed off.

Note: Circularity will be mentioned further at the section on procurement and purchasing.

EVENTS

Strong focus on sustainability

POTENTIAL ACTIONS:

87. Make events at UT sustainable
    a. Develop joint sustainability criteria for small and large events
    b. Collaborate with SU, Sustain, study and student associations
    c. Sustainability policy for events
88. Organise events to raise awareness on sustainability
    a. Design challenge with sustainability gaining you additional points
    b. Annual Sustainability Week

BIODIVERSITY

Increase biodiversity on campus

POTENTIAL ACTIONS:

89. Develop plan to increase biodiversity on campus
    a. Share available information on biodiversity on campus
    b. Research option to improve biodiversity
        i. increase area for wildflowers
90. Monitor and communicate about status biodiversity
    a. Nests, burrows
    b. Pests procession caterpillar on oak trees
91. Communicate about running projects

FOOD & DRINKS

Half the environmental impact of food and drinks served on campus

Promote environmentally friendly food options

POTENTIAL ACTIONS:

92. 2020: Work lunch is vegetarian by default, extra effort required to request otherwise.
93. 2022: all work lunches are vegetarian
94. Develop plan with Appel to have one vegetarian/plant-based day a week in each canteen
95. Increase options that are more environmentally friendly
    a. vegan and vegetarian option in all canteens every day
    b. chicken or pork lower impact than cow
96. Make more environmentally friendly options (vegan, vegetarian) a bit cheaper and position them in prime locations in canteen.
97. Increase use of local and organic products in canteens and restaurants
98. Provide healthy options in machines for out-of-hours snacks
99. Provide microwaves to warm up homemade food
100. See 63 and 64: reduce food waste
101. Communicate about origin products

a. local meat > beef from amazon
b. fish MSC or ASC certification only

102. Reduce portion size meat options

Labelling food in canteen

POTENTIAL ACTIONS:

103. Develop research project on labelling food with regards to water footprint, carbon footprint and land use requirement (comparable to energy label products)
104. Label food ingredients clearly (vegetarian, vegan, gluten free etc)

Drinks

POTENTIAL ACTIONS:

105. Research options to sell drinks in canteen from dispensers instead of plastic bottles, promote healthy drinks with lower footprint.
106. Use data from warm drinks machines to analyse (energy) consumption.
107. See 49: no plastic cups in drinks machines
108. Waaier: Food waste – can compostable plates & cutlery be collected there too?

TRAVEL & MOBILITY

More sustainable travel and increase cycling & public transport

A low traffic campus: reduce car traffic

POTENTIAL ACTIONS:

109. Reduce the speed limit from 50km/h t 30km/h
110. Investigate options to stop short cuts (Bosweg coming from Hengelo)
111. Ensure policy measures are followed.
    a. Warning for parking outside carpark spaces / speeding
    b. Engage work experience company for recording
112. Give priority to pedestrians and cyclists in the design of the campus
    a. Use natural ads using high pressure hose on roads/bike lines and pavement as a communication tool
    b. Communicate about travel by suppliers across campus, set reduction targets
113. Align parking policy with the new Kennispark parking policy to prevent Kennispark using UT car park excessively
114. Discourage access to old cars
115. Develop collaboration with faculties for intelligent transport systems on site
116. Use existing data in communication
    a. Number of kilometres travelled in UT vehicles per department/unit
117. Mobility on campus
    a. encourage use of stairs instead of lift through nudging
    b. Discourage reduce car travel between UT buildings
        i. Facilitate use of UT department bikes[4] (with means to carry your things)
        ii. Use peer pressure
        iii. Make umbrellas available
        iv. Promote lunch walks

4 Dienstfiets

Commuting
Reduce car use, promote cycling and public transport

POTENTIAL ACTIONS:
118. Realise sufficient bike parking spaces on campus
    a. Engage work experience company youths to promote parking in bike racks
    b. Remove bikes that are incorrectly parked / abandoned (NS system, pick up within 6 weeks, after 6 weeks donation to good cause)
119. Create an overview map with all parking facilities on campus
    a. Bike parking (covered/outdoor), per entrance, incl. e bike charging points
    b. Car parking, incl. charging stations
    c. Use data to communicate about usage car park (peak times)
120. Conduct a mobility survey for commuting traffic
    a. Including questions on how they think they will travel in 5 or 10 years' time (electric bike/car)
    b. Use a prize (bike or bike accessories) for motivation for participation
121. Develop plan based on results mobility survey to reduce commuting by car by 10%
    a. Considering connections to German cities
    b. also considering children cycle less, in 10-15 years they are our students
    c. Include focus on UT contribution to peak rush hour[5] in collaboration with the Dutch Railways NS
122. Stimulate car sharing / communicate about carpooling – environmentally friendly commuting options
    a. Use existing data to communicate: about Choice Model HR - buy a bike tax free, receive allowance for kilometres cycled, maintenance bike
    b. Pilots
    c. From research department Center for Transport Studies
    d. Set up collaborations to develop some initiatives that encourage people to use an alternative mode of transport to the car.
        i. Fietsmaatjes (Twente Mobiel)
        ii. Pilots with speed pedelec etc..(Twente Mobiel)
        iii. SMARTin enschede.nl Self motivated and rewarded travel
        iv. Research commuting / carpool apps, Toogether
        v. HR- wellbeing staff
        vi. Samen gezond app Menzis
123. Go for recognition as bike friendly employer[6]
124. Develop a plan to stimulate use public transport and cycling, consider aspects such as:
    a. Make commuter allowance and allowance for commuting by bike more attractive than allowance for car use (in KAT choice model).
        i. Remove allowance for car.
    b. Paid parking / parking permit
        i. Fee linked to distance travelled. Short distance by car, higher fee
        ii. Barriers to enforce parking permit
    c. No permit or more expensive permit when living < 10km from work (justification needed to be exempt)
125. Transition UT owned means of transport to emission free (electric)

5 Hyperspits in Dutch
6 Fietsvriendelijkbedrijf.nl Fietsersbond

Sustainable travel options for work trips
2030: For journeys below 6h or 800km the standard mode of travel is the train
Flights are compensated. Alternatives to travel are offered.

POTENTIAL ACTIONS:
126. Stimulate train travel for journeys below 6h / 800km
    a. Develop plan for Travel Agency to facilitate international train travel, ferry travel. Goal: when requesting a trip within 6h norm, an offer for train journey is provided.
    b. Develop plan for Travel Agency to include CO_2 calculation according to travel options
    c. Research how much travel falls in the category 6h and 800km. Communicate about this.
    d. Target by 2030 to make train travel the default option below 800km or 6h
127. Experiment with sharing schemes (mobility as a service) and evaluate current schemes
    a. Go About bikes, Flow campus bikes
    b. Electric cars (via Munsterhuis pilot in development)
    c. E-bikes
    d. E-cargo bike
128. Communicate about best options
    a. effectiveness NS business card, OV fiets
    b. organise a mobility battle to increase awareness
    c. stimulate scientists not to fly. Create competition
129. Use existing data for research to improve situation at UT
    a. include data NS business cards in CO_2 footprint per department
    b. include CO_2 footprint from flights in CO_2 footprint per department
    c. Share shadow quotation for real flight prices (incl VAT on tickets and tax on kerosene)
    d. data from kilometres travelled in personal vehicles or hired vehicles (Munsterhuis)
    e. Collaborate with UT researchers on MaaS (Mobility as a Service)
130. Develop a plan for CO_2 emission compensation of UT's mobility
    a. Set up a fund for sustainability measures on campus
    b. Set up a fund for sustainable projects in countries where UT is working
    c. Use an existing scheme such as Green Seat from the Climate Neutral Group to compensate UT's CO_2 emissions.
131. Offer sufficient and adequate teleconference facilities
    a. Inventory of existing facilities, including who can reserve facilities (costs, availability)
    b. Inventory of demand for facilities
        i. Incl. research awareness facilities (among staff, secretaries)
    c. Develop plan to make teleconferencing desirable alternative to travel
    d. Communicate about use Skype for one to one meetings
132. Set targets to reduce flight kilometres
133. Experiment with scientific e-conference and virtual reality
134. Limit choice Executive Board to electric cars

Other actions
- Lobby for electric city busses (via Green Hub)
- Lobby for improved connections to German cities

PROCUREMENT & PURCHASING

(products and services): circularity is the norm
'be inventive and always assume that every item has a sustainable twin'

POTENTIAL ACTIONS:

135. Develop plan to make circularity integral to tender and purchasing orders
    a. Target on re use of resources in terms of reference
    b. Account specific percentage to sustainability in weighting criteria tender
    c. Contract with guarantee when saving energy/resources income remains stable
136. Standard requirement for contractors. Develop performance indicators to monitor progress:
    a. monitoring CO_2 footprint company
    b. minimise packaging
    c. reduce transport movements
    d. take back option for 'spent' products for refurbishment or recycling
    e. include refurbished or 2nd hand product options
    f. criteria for design for recycling
    g. plan to continue developing sustainability aspects during contract with KPI's
    h. include KPI's in contract with a stimulus to perform well (performance bonus)
    i. commitment to be involved in solving sustainability issues in the chain in collaboration with other contractors
137. Ensure check on energy demand/cooling demand when ordering equipment
138. Consider products as a service, leasing instead of owning everything
139. Consider low energy demand in procurement process.
140. Communicate about the do and don't of contracts (explain obligation European tender rules)
141. Lengthen policy how long staff should use electronics such as mobile phone, computer
142. Choice PC or laptop based on energy consumption
143. Develop and promote Bring-Your-Own (BYO) appliances incl. incentive for staff to do so
144. Include a standard consultation with colleagues from for example the SEE programme on what sustainability elements to include in the tender or purchasing order.

Importance of impact in the chain
Longer return on investment

BUILDINGS

WELL and Energy Neutral buildings are the norm
Legal requirements: Buildings used for offices minimal label C (energy index 1.3) from January 2023

POTENTIAL ACTIONS:

145. Targets
    a. Analyse current status and determine the status we want to achieve
    b. New buildings energy index of ..
    c. Renovations improve energy index by …
    d. Analyse GJ/m2/student or per person (staff and student)
146. Develop integral plan on real estate, sustainability and innovation
    a. Focus on long term thinking
    b. Total Cost of Ownership
    c. Extended return on investment
    d. Align interests different stakeholders

147. Develop building management plan
    a. based on actual Energy Performance Assessments
    b. integrate WELL standard elements during renovations and new buildings
    c. Materials passport of buildings
    d. All renovations CO_2 neutral
    e. All new buildings CO_2 neutral
    f. Prevent damage buildings
    g. Efficient use of square meters
148. Plan transition from Multiple year maintenance planning to sustainable Multiple year maintenance planning
    a. Integrate Total Cost of Ownership principle
    b. When repair/replacement is required, use sustainable alternative product
    c. Integral decision making: while planning maintenance or repair roof, consider insulation or other sustainability aspects (strengthening to enable solar panels or green roof)
149. Monitoring using BOEI method, with a focus on four themes: Fire risk, maintenance, energy efficiency and sustainability and compliance with legislation.
    a. Communicate about energy and sustainability theme
    b. Set targets for UT to achieve by 2030
150. Write business case for employing a person who develops projects with big impact on costs through energy savings (e.g. use district heating for producing steam)
151. Develop a list of quick wins to increase comfort and reduce energy consumption
152. Apply tools, such as Natural Step (used by UT student to develop circular ambition), to increase awareness and possibilities among relevant staff.

FINANCES

POTENTIAL ACTIONS:

153. Change bank to a 100% green bank that does not invest in unsustainable practices such as mining, the arms industry or fossil fuel companies.
154. Lobby with the pension fund and investment partners to invest in a sustainable portfolio.
155. Return on (sustainable) investment is extended to beyond 7 years in 2022.

TRAINING

POTENTIAL ACTIONS:

156. Line up appropriate training and conference options for staff to gain more knowledge on how to apply sustainability in their own field from 2020.
157. Include training on change management in the course options by 2020.

COMMUNICATION

Focus on awareness and involvement of the UT community on sustainability
All communication based on the following principles:

- Make sustainability understandable for all (use easily understood language)
- Be transparent about the choices made (Yes/No solar panels etc)
- Positive communication
- Walk the talk and make it visible

- Inform and involve the community
- Incorporate behavioural change in every sustainability plan

Informing the UT community

POTENTIAL ACTIONS:
158. Informing through infographics
159. Reach students through students (Green Hub / Sustain / Dream Team Design Lab)
160. Use data & results to motivate people to get involved.
    a. How many kWh consumed / reduced. How much water saved by .. . How many students work on projects with direct impact on the environment. How much fuel saved / CO_2 avoided. How many contractors of UT follow sustainability practices?
    b. Communicate what we do already
161. Informing through a mailing list people can subscribe to / employee portal
162. Increase awareness
    a. On food waste (at work and at home)
    b. On energy consumption (why high consumption on weekends)
    c. Communication on building works

Walk the talk and make it visible

POTENTIAL ACTIONS:
163. Realise visible sustainability measures: Axial wind turbine / Wind turbine for PR
164. Develop Sustainability Walk, with info plaques along the route incl. questions that will stimulate critical thinking and integrated into campus app
165. Create consistent image: sustainability in research and in operations
166. Executive Board, directors, deans and managers: lead by example
167. Show UT innovations in sustainability
    a. Generate energy from sport equipment in gym
    b. Demonstrate even if not yet fully developed/finished
    c. Capture CO_2 heating matenweg- sustainable process technology
    d. Indoor farming
    e. Show how to make an energy neutral building from a used building
    f. Use excess heat elsewhere

Involving the community

POTENTIAL ACTIONS:
168. Involve students to solve problems
    a. Student assignments/projects, theses
    b. Seeing results increases awareness and makes students think they can contribute to this change
    c. Activate student to share ideas and experiences: zero waste, workshops, build your own thing (Design Lab 'Green Hub)
    d. Involve study associations, SU, WOT
        i. Develop a guide to become more sustainable (BBQ veg cheaper, plates from 2nd hand shop)
    e. Link with staff to include sustainability in assignments

169. Idea Box

Behaviour: common practices, habits

POTENTIAL ACTIONS:

170. Develop a plan on how to realise behavioural change
    a. Windows open while heating is on
    b. Analyse where sensors are a possible solution
    c. Courses on how to beat old habits
    d. Sell it as fun not as 'losing something'
    e. How to overcome barriers and criticism?
    f. Attention to consume less
    g. Develop a Step by step plan
171. Active communication to change behaviour
    a. At warm drinks machines, encourage: use a mug (how to)
    b. At warm drinks machine, inform how sensor works with clear glass cup
    c. At warm drinks machine did you know: all coffee/chocolate is UTZ certified
172. Develop a campaign
    a. More active presence in social media
    b. Awareness campaign joined with health week
    c. Challenge to collect points to save for a free lunch
    d. Nudging quotes on toilets, stairs, lift, car park
    e. Be proud of achievements
    f. Nice photos for Instagram
    g. Involve everyone: What can you DO?
    h. Stimulate intrinsic drive to become the greenest university

Note: Some action points specifically mention communication aspects. For every aspect of sustainability transparent communication is at its core.

These are the actions the SEE program working group can develop detailed plans for. Many suggestions made during consultations are expected to lead to a seemingly small impact. The amount of energy consumed is not the only impact we aim for. The level of support for sustainability and the number of people talking about sustainability will increase. This may lead to more students wanting to include sustainability in their assignments, more staff that use sustainability in given assignments or lectures. Staff and students will feel they contribute to improving UT. To create that atmosphere is valuable.

The proposal is to tackle visible measures as well as high impact measures.

This list of action points needs to be augmented and prioritised to result in steps that lead to the realisation of the proposed ambitions. All adopted actions need to be monitored and communicated about to the UT community.

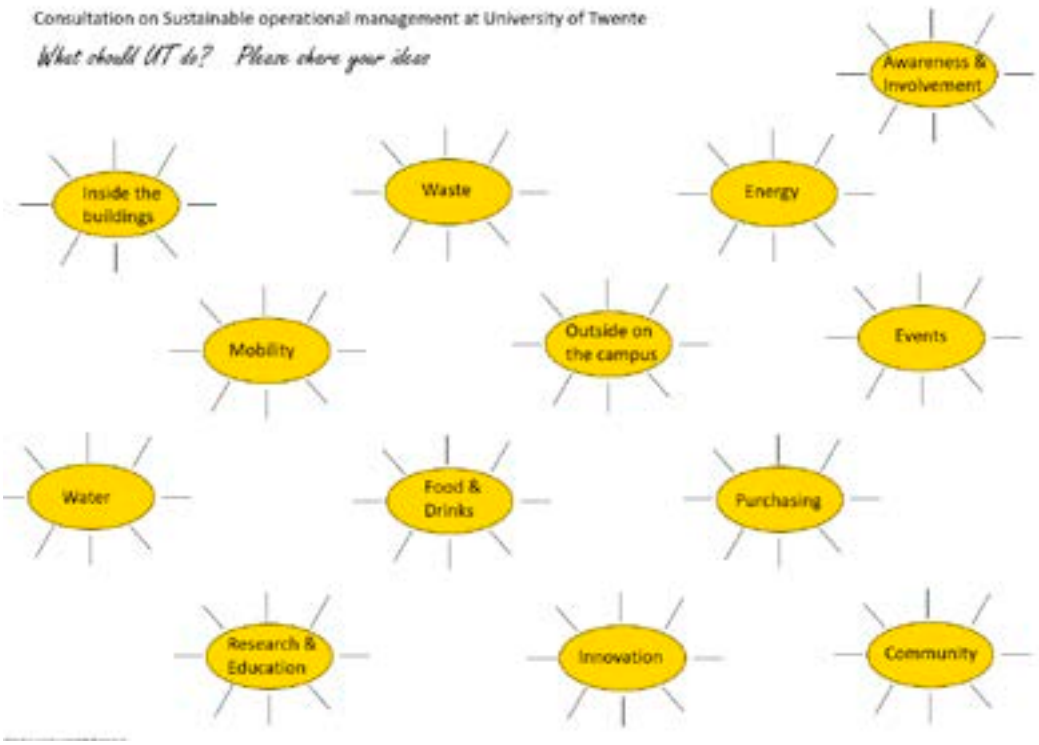
So a combination of measures such as 'no outdoor building lighting on during the day on weekends' and 'compensation of energy consumed that comes from fossil fuels' are both possible measures.

8.2 CONSULTATION UT COMMUNITY ON SUSTAINABILITY IN OPERATIONAL MANAGEMENT

Campus & Facility Management is developing a policy regarding sustainable operational management. An informal walk-in consultation session was held across the university to gather ideas and suggestions from the UT community for the development of a policy on sustainable operational management of the UT. If people could not drop by, they were asked to submit their ideas and suggestions via **sustainability@utwente.nl.**

The reason I organized the consultations is that together with the input of the UT community we will realise a better policy document when the opinions of the UT community are taken into consideration. I have spoken to several scientists and students and many have great ideas but my network does not cover all departments of the UT and with this walk-in consultation session I hoped to reach people outside my network. A walk-in consultation does not demand much time from contributors. A UT wide consultation will also create publicity and contribute to awareness about this policy. For a policy to be effective it needs broad support. Involving people and creating awareness on the topic may lead to more support for the policy.

I was present in the hallway of the major buildings at UT campus (Spiegel, Vrijhof, Ravelijn, Hal, Horst, Cubicus) and ITC between 11:00-14:00 on February 21, 27, March 7, 8, 11, 13, 14. I asked people "We are looking for input for the UT sustainability policy. Can you share your ideas what UT could do to become more sustainable? " Passerby's could write their ideas on post-it notes. These post-it notes were stuck on a poster containing many aspects of operational management where the suggestions could be grouped to a theme accordingly. These themes were: mobility, waste, energy, 'inside the buildings', 'outside on the green campus', events, water, food & drinks, purchasing, research & education, innovation, community, awareness & involvement.



I also indicated that this process is not finished after this consultation. If people were interested to be involved in an advisory group to give feedback on the development of the policy, or if there is a specific topic they would like to contribute too, or if just would like to be kept informed of the progress, they could write down their name on a list.
The results can be used as input for the policy on sustainable operational management as well as input for Shaping 2030.

Results
The consultation sessions resulted in a long list of suggestions, see annex I. I have summarized the results below. These will serve as input for the policy on sustainable operational management.

AWARENESS & INVOLVEMENT

- Make sustainability easily understandable
- Positive approach
- Communicate more
- Awareness campaign
- Sustainability walk across campus
- Be transparent why/why not
- Incentives
- Share knowledge

FOOD & DRINKS

- Discount when using own mug
- Reusable cutlery
- Microwaves
- Label food (CO2 footprint, vegan)
- Give prime location to sustainable food choices
- Meatless Monday
- Default work lunch: vegetarian
- Offer sustainable food options for a lower price

MONITORING

Display monitoring information on:
- CO2
- Meat
- Paper
- Insulation
- Energy
- Mobility
- Travel
- Plastic

COMMUNITY

- Working group on sustainability
- Sustainable behaviour
- Inclusivity
- Involve study associations for assignments
- Communication

MOBILITY

- Parking (paid)
- Train travel instead of flying
- Compensate flying
- Reduce car traffic on campus
- Promote use of work bikes on campus

ENERGY

- Reduce consumption (cooling, heating)
- Reduce consumption by turning them off (lighting, appliances such as coffee machines)
- Sensors, smart scheduling
- Fewer TV screens
- Generate renewable energy on campus (solar panels, windmill)

EVENTS

- Hackaton to collect ideas (but call it e.g. 'design'challenge)
- Default option: vegetarian
- Plastic-free events

INNOVATION

- Circular ambition
- Practise/show what you preach/teach
- Harvest energy from gym equipment
- Use departments/students to make operational management more sustainable

INSIDE THE BUILDINGS

Display monitoring information on:

- Improve waste separation
- Renovations CO2 neutral
- Insulation buildings
- Glass door, no open door policy
- Recycled printing paper

WASTE

- Compostable products: what to do?
- Waste separation at ITC
- Stop using plastic cups drinks
- Improve recycling
- Throw away less food from work lunches
- No bins in the offices
- Ban promotion on bikes (seatcover, flyers)
- Openings bins too small
- Use less plastic (Appèl, Coop)
- Digital lecture notes
- Printing (restrict, double -sided, multiple pages on

RESEARCH & EDUCATION

- Sustainability goals
- More on solar/wind research
- UT people's pages – overview of skills to share
- Apply UT innovation on campus
- Credits for sustainability (courses)/obligatory BSc course

OUTSIDE ON THE CAMPUS

- Solar panels (roof, pond)
- Rainwater storage
- More biodiversity
- Show what can be done to remove medicine rests from waste water

WATER

- Improve water ecosystem
- Vacuum toilets
- Water saving button on toilets
- Water treatment on campus (membrane technology)
- Let rainwater infiltrate

PURCHASING

- Circular tender process
- Facilitate environmental options (int. train booking)
- Focus on share economy
- Sustainability weighting in procurement/tender (%)
- Longer return on investment
- Energy label for all products

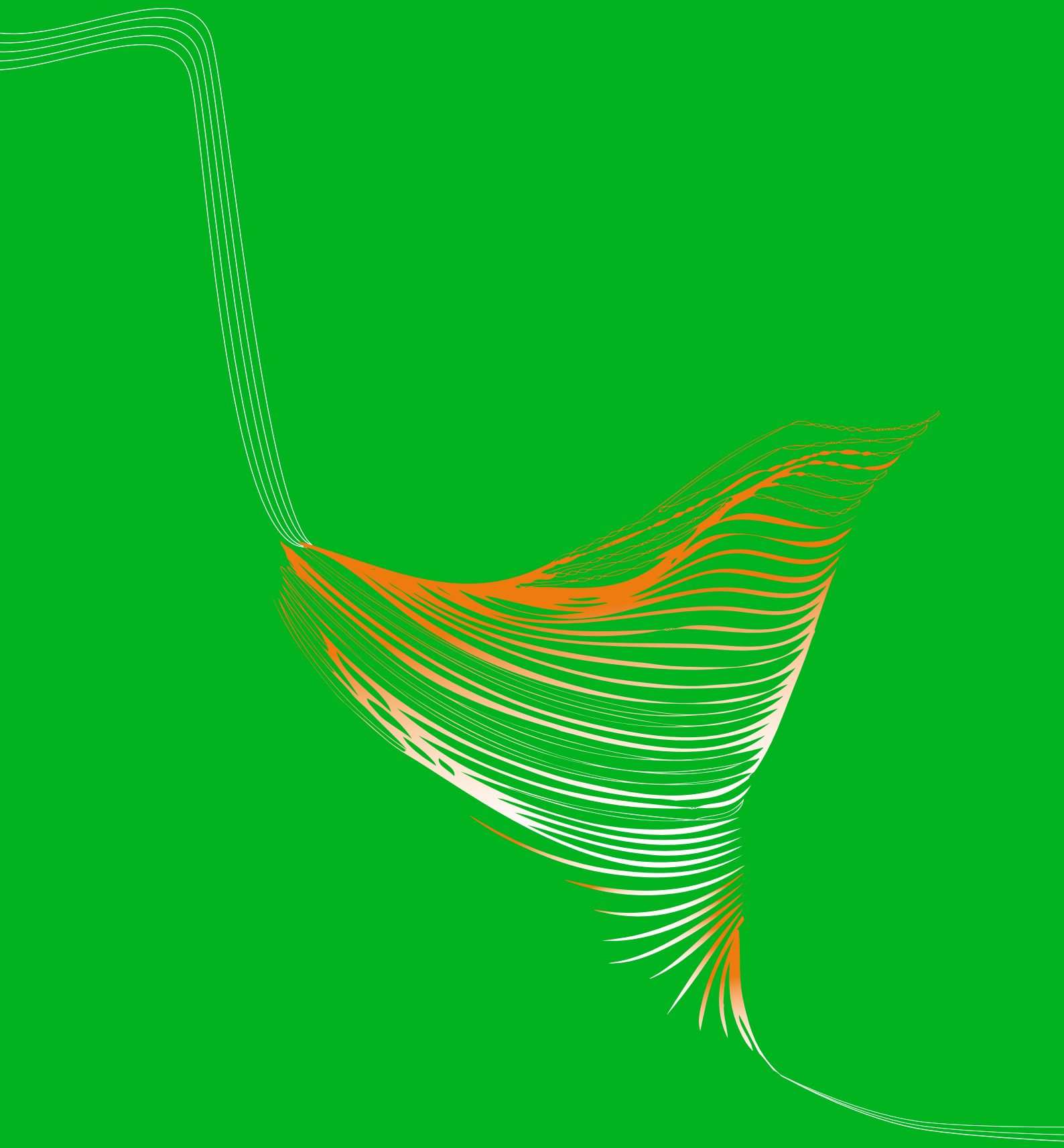
8.3 CONSULTATION DREAM OF STUDENTS: UT AS THE MOST SUSTAINABLE UNIVERSITY

Conducted by Marielle Winkler and Nicole Letteboer July 2018

	Goals	Actions	Leading examples around us
Campus	• Create/improve biodiversity on campus • Food supply locally • No fossil fuel, only renewable • Positive energy balance • No carbon emission • Selfsustaining (in terms of energy) • No waste, everything recycled • Sustainability integrated in everything • Sustainability applied in a style fitting to the UT (high Tech Human Touch) • University self-sufficient on water and energy	• (open air) museum about research on sustainablility (sharing knowledge) • Part of procurement: plan of suppliers how they can contribute to the most sustainable university Sustainability in al policies (e.g. internatiolisatie long term vs short term) • Circular economy (buildings) • Influence on total campus incl studenthousing and sportfacilities etc • Make use of the 'smart'campus (campus as an experimental ground; physically an island, mentally open) • Sustainable walk on campus with examples / projects at UT • Make use of evidence based solutions / choices • Reduce food km • Logo/identity sustainability on campus • Combine arts & sustainability & nature (van gogh painting on solar cycle lane)	• Tony Chocolonely • Lemonade www.lemonade.com • Kromkommer • https://deverspillingsfabriek.nl/ • Hostel San Francisco • Utrecht: vegetarian food • Twence • Waste transformers • http://www.thewastetransformers.com/ • Studio Roosegaarde • Duurzaam schildersbedrijf uit Enschede • https://www.gebrvandergeest.nl/over_ons/innovatie/ • Bioregional https://www.bioregional.com/ support to companies to achieve sustainability ambitions • Attero www.attero.nl (excursion location close to home) • http://nl.uzin-utz.com/de-groenste-fabriek/

	Goals	Actions	Leading examples around us
Primary processes @ UT	• Create awareness that education is for society • UT as living organism: multidisciplinarity / cross pollination between disciplines (holistic view) • Develop a strategy on the Sustainable Development Goals • Multidisciplinary classroom teaching • Sustainable entrepreneurship • Social entrepreneurship	• Students start as blank sheets: start from the beginning of their studies (Open days, Kick in, Opening academic year / Dies), stimulate students to include sustainability in their studies • Investments in research in sustainability (around campus and global) • Rethink involvement with polluting companies • Cooperation / connection research and events (e.g. Enschede lab) BSc on sustainability (full degree on sustainability), pre-master or Minor on sustainability / incorporate in curriculum / working on team projects • Outsource project ideas to students • Mandatory courses on sustainable topics • • Organize excursions on sustainable themes close to the UT • Workshops / courses on sustainability (invite students, companies in a cool and physical spot) • UT-flex opzetten voor opdrachten vanuit bedrijven voor projecten van studenten • Thinktank on university • Duurzame bedrijvendagen •	• Utrecht / Wageningen: academies for development • Uni of Florida: internal assesments on sustainability • UvA: platform for students & employees • Crossing Borders program • Uni of Hertfordshire (https://www.herts.ac.uk/about-us/environment-and-sustainability)

	Goals	Actions	Leading examples around us
Community / Culture	• Create a culture of sustainability (inclusion) • Stimulate sustainability around UT in region & world • Mental wellbeing of both students and staff • Explicit our role in regional development and our connection to society (where lies our responsibility?) • Leading by example: attract staff with a sustainable mindset • Integration of UT with surroundings (The UT is an island now)	• Think big, start small • Walk the talk, not just about money • Just start and then see what hurdles we encounter • Embodiment by the Board • Visibility of goals & ambitions (in line with profiling of UT) • Meetings with different stakeholders to keep focus coherent • Be aware that information on what we do on sustainability is right and available at an attractive location • Less involvement of pollutive companies / partnerships • Decrease meat and dairy consumption • Green Create the UT of Tomorrow • Goals based on SDG's • Green Office @ UT • Create alliances with social work organisations (create platforms in which students can use their knowledge, i.e. read to children, help foreigners fill in forms) "create a common context" • Create connections to Enschede, to the surroundings: with Saxion, ArtEZ (academic and social activities) • Create projects not for Amsterdam but for Enschede. • Integration Dutch and foreign students (speeddating with Dutch students) • Show people that taking initiative has an impact • HR workload and mental wellbeing issues	



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