Analysis and Recommendations for Use of the Sustainability Tracking, Assessment and Rating System (STARS) for the National University of Public Service in Budapest, Hungary

Authors:
Mark McCaffrey
[Centre for Sustainable Development Studies, National University of Public Service, Hungary]
Katrin Keis
[ÅF-Consulting AS, Estonia]
Przemysław Wołczek
[Wrocław University of Economics, Poland]

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1. Acronyms

AASHE - Association for the Advancement of Sustainability in Higher Education.
ASSHE is a North American association of colleges and universities formed in 2005 to support efforts in higher education to foster a sustainable future. This association gathered over 1000 campus members and is a professional home for campus sustainability officers and a creator of STARS - a campus sustainability assessment tool. The mission of ASSHE is: empower higher education to lead the sustainability transformation required to address climate and other global challenges.

Climate-KIC
Climate-KIC, created in 2010, is one the Knowledge and Innovation Communities (KICs) by the European Institute of Innovation and Technology (EIT). The mission of Climate-KIC is to bring together, inspire and empower a dynamic community to build a zero carbon economy and climate resilient society.

CSDS – Centre for Sustainable Development Studies
The National University of Public Service has established a Centre for Sustainable Development Studies (CSDS) whose mission is to introduce sustainability considerations into the entire spectrum of the University's educational, research and community activities as well as to contribute to the environmentally friendly operation of the University itself.

EIT - European Institute of Innovation and Technology
The EIT is an independent body of the EU set up in 2008. It is a unique EU initiative that spurs innovation and entrepreneurship across Europe with one simple idea: through diversity there is strength. The EIT's mission is to create sustainable growth.

NUPS – National University of Public Service
The National University of Public Service in Budapest, Hungary defines itself as the "University of cooperation" – a model of effective cooperation among social needs, national strategical governmental objectives, and higher educational autonomy.

STARS - Sustainability Tracking, Assessment & Rating System
STARS is a voluntary, self-reporting framework for advancing sustainability in all sectors of higher education. As a common standard of measurement for sustainability in higher education. STARS also promotes a comprehensive understanding of sustainability that includes its social, economic and environmental dimensions. The first version (STARS 0.4) was launched in 2007, with version 2.1 being released in May 2016.

2. Executive Summary

A team of sustainability experts participating in the Climate-KIC Pioneers in Practice programme examining the potential of implementing the Sustainability Tracking, Assessment and Rating System (STARS) at the National University of Public Service (NUPS) has concluded **that implementing STARS at NUPS provides an opportunity to establish a baseline of sustainable practices, which will likely earn a high rating using the STARS framework, thereby allowing the University to become a recognized sustainability leader in Europe.**

The energy efficiency of the new campus is state-of-the-art, transportation benefits from the high use of public transportation and low use of private vehicles, and the source of electrical energy primarily comes from low-carbon nuclear generation. Acquiring the necessary data to establish a baseline of energy consumption is not easy, but this report is designed to help streamline and simplify the process.

Another task for NUPS that is required to complete STARS involves the examination of curriculum and research through the lens of social, economic and environmental sustainability. While currently very few courses or research projects at NUPS directly relate to sustainability, by engaging with the faculty and explaining the breadth of sustainable practices, giving examples of how other institutions have defined them, NUPS could conceivably earn a strong score in this area as well.

The primary challenge for NUPS, which many institutions have faced in completing the STARS framework, relates to the difficult task of collecting accurate data in all the areas required. An initial gap analysis of existing data by the Climate-KIC Pioneer team for this study has found that virtually none of the data that has been collected relating to the University's energy consumption can be input into the STARS tool.

We recommend that, using the spreadsheets developed by the team, a methodical and thorough review of all elements of the framework be conducted. **This will require a full or part-time person who has the support of the administration be empowered to seek out, acquire and input into STARS the necessary data, including information relating to research and courses, which are a major component of the overall STARS score.**

The benefits of completing the STARS reporting are numerous and include: i) the international validation of the University's leadership in sustainable practices for the public service sector, ii) establishing a firm baseline foundation to measure future progress against, and iii) preparing students for the sustainability challenges of the future.

During the four-week placement, the Pioneers conducted meetings with University staff and were taken to see different facilities of the University, such as the main building at Ludovika and the Orczy Dormitory. The Pioneers presented an overview of their one-month intensive study and overall recommendation on 25th of October 2016 at a sustainability forum.

In order to implement STARS, the team recommends that the University:

1. **Hire full time (minimum half time) sustainability officer.** As the STARS model is very complex and needs substantial input, there should be full-time person to coordinate and manage all the data and information required to complete the STARS framework.
2. **Engagement of staff.** One key assignment of the sustainability officer should be the engagement of the staff: organizing meetings, outreach campaigns and development programs. In particular, to increase awareness of social, economic and environmental sustainability, it is recommended that sustainability seminars and events in the university. Benefits for such activities include increasing the environmental awareness of staff and getting feedback from the faculty regarding their curricular and research activities.
3. **Prepare sustainability guidelines and policies.** Sustainable economic, social and environmental practices are increasingly recognized by society as vital priorities. The University can support society's interest in sustainability by establishing relevant guidelines and policies. STARS can help in this process by allowing the University to identify its environmental impact and social responsibility, locally, nationally and globally. These efforts will also allow the University to enhance its positive impacts and reduce its negative impacts by setting baseline measures and future targets to be met through continual improvement, helping increase energy efficiency, reduce emissions, improve carbon management, manage waste and material resources, conserve water, implement sustainable purchases and travel, enhance biodiversity, and improve education and knowledge transfer. The Orczy Dormitory is already built as sustainable building, which serves as a solid foundation to showcase and promote sustainability online. Examining STARS reports from other Universities will assist in developing benchmarks and policies by providing insights into the experiences and lessons learned from other similar institutions.
4. **Continue to fill data to STARS model and follow the sustainability performance.** By using STARS to set clear environmental objectives and targets that are reviewed annually and supported by long-term strategies and plans, the University's performance will be monitored, measured, and communicated to stakeholders as appropriate. As mentioned already in chapter 8, the STARS model has many opportunities. This could also be used world widely as a marketing tool and thus get higher ranking.
5. **Co-operation with other Universities in region**. To further extend the University's standing in higher education, the benefits of STARS can be shared with other colleges and Universities in Hungary through the Hungarian Sustainability University Network (HUSUN). In addition, STARS and AASHE, which are now attracting international interest, can serve as networks for further sharing the experience and insights developed at NUPS.

3. Introduction

Climate change and related global challenges require solutions informed by current science and strategic policies. Higher education plays a unique role in helping to support and convey the science, inform policies, and train the leaders of tomorrow

In the Fall of 2016, the newly established Centre for Sustainable Development Studies at the National University of Public Service (NUPS) in Budapest, Hungary hosted two environmental consultants participating in the Climate-KIC Pioneers Into Practice (PIP) Programme. Their challenge: study the Sustainability Tracking, Assessment and Rating System (STARS), a framework developed in the United States by the Association for Advancement of Sustainability in Higher Education (AASHE) to encourage sustainable practices in academia, and determine how it could be deployed at NUPS.

The two consultants brought with them substantial experience and depth of insight to the task. Przemyslaw Wolczek, Assistant Professor from Wroclaw University of Economics in Poland, has focused much of his research and teaching on how companies have begun taking responsibility for their impact on society and environment through efforts often referred to as Corporate Social Responsibility (CSR). Katrin Keis, Program Manager with AF-Consulting in Estonia, has worked with companies and governments in greenhouse gas verification, carbon emissions mitigation, developing environmental impact assessments, and related due diligences.

Climate-KIC, which is an EU-wide initiative funded through the Budapest-based European Institute of Innovation and Technology (EIT), is Europe's largest public-private innovation partnership focused on climate innovation to mitigate and adapt to climate change. The Pioneers Into Practice Programme is one of Climate-KIC's flagship initiatives to encourage creative problem-solving and provide development opportunities for young professionals. Wolczek and Keis participated in the 2016 programme beginning in May, and spent the entire month of October in Budapest working on the campus of NUPS on their project.

Their charge: become familiar with the STARS framework, do a preliminary gap analysis of what data needs to be collected to complete the reporting, and develop a strategy with recommendations on how to move forward should it be determined to be a worthwhile approach.

The following report details their findings and recommendations.

4. Background and purposes of the study

The issue of sustainability has become in recent years one of the leading topics discussed on the international stage (see i.e. UN Sustainable Development Goals[1]). One of the most popular definitions of sustainability is actually a definition of sustainable development. It is from *Our Common Future: The Report of the World Commission on Environment and Development*:

1. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:
    - the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
    - the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.
2. Thus the goals of economic and social development must be defined in terms of sustainability in all countries - developed or developing, market-oriented or centrally planned […].
3. Development involves a progressive transformation of economy and society. A development path that is sustainable in a physical sense could theoretically be pursued even in a rigid social and political setting. But physical sustainability cannot be secured unless development policies pay attention to such considerations as changes in access to resources and in the distribution of costs and benefits […].[2]

Developed by experts at the National University of Public Service, The Good State and Governance 2015 Report states:

> Sustainability is not merely an area or aspect of good governance. Sustainability is the sole possible manner in which it is both feasible and worthwhile to plan for the long term. This means that sustainability is both a system and an approach that must run across all disciplines in order to ensure that decisions made for the long term will serve the interests of the citizens, whether this is at the regional, national or global level.[3]

In order to "walk the talk," the University itself must take the initiative to demonstrate sustainability to the nation it serves, and, by using proven strategies to measure and monitor a wide range of sustainability factors, including curriculum, research, facilities and operations, food, and transportation, the STARS framework can help in establishing a baseline and measuring future progress towards ever greater energy efficiency, resilience and service to its students and the nation.

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[1] http://www.un.org/sustainabledevelopment/sustainable-development-goals/

[2] Our Common Future: The Report of the World Commission on Environment and Development (http://www.un-documents.net/ocf-02.htm#I)

[3] http://en.uni-nke.hu/no-menu/hirek/2015/10/15/good-state-and-governance-report-2015

5. Methodology

STARS is Sustainability Tracking, Assessment & Rating System, which is a voluntary, self-reporting framework for helping colleges and universities track and measure their sustainability progress. It is designed to:

- Provide a framework for understanding sustainability in all sectors of higher education.
- Enable meaningful comparisons over time and across institutions using a common set of measurements developed with broad participation from the campus sustainability community.
- Create incentives for continual improvement toward sustainability.
- Facilitate information sharing about higher education sustainability practices and performance.
- Build a stronger, more diverse campus sustainability community.

STARS is intended to engage and recognize the full spectrum of colleges and universities—from community colleges to research universities, and from institutions just starting their sustainability programs to long-time campus sustainability leaders.

STARS participants pursue credits and may earn points in order to achieve a STARS Bronze, Silver, Gold or Platinum rating, or recognition as a STARS Reporter. STARS only gives positive recognition - each level of recognition represents significant sustainability leadership. Participating in STARS, which includes gathering extensive data and sharing it publicly, represents a commitment to sustainability that should be applauded.

There are four STARS ratings available: Bronze, Silver, Gold, and Platinum. The table below summarizes the scoring thresholds corresponding with each rating.

Table 1. STARS rating and scoring

STARS Rating	Minimum score required
Bronze	25
Silver	45
Gold	65
Platinum	85

Source: https://stars.aashe.org/pages/participate/recognition-scoring.html

Any institution that wishes to participate in STARS but does not want to pursue an overall STARS rating or make their scores public may participate as a STARS Reporter. STARS Reporters receive many of the same benefits as institutions that pursue a STARS rating, including positive recognition for participation and the ability to share data publicly. All

participants have the option to choose STARS Reporter status before completing their final submission and making it public.[4]

This study recommends that the methodology of the STARS model by implemented by NUPS. This will help the university to validate that it is acting as environmental friendly and responsible institution and measure the impact of its activity in all three dimensions of sustainability: socio, environment and economic. By establishing a baseline, the University can then begin the process of continuous improvement towards sustainability.

In order to gather the information needed to the model, 20 different Excel spreadsheets with input data queries were created to streamline and simplify the process. This approach was chosen due to the fact that different university staff are holding different information and this system can way can help divide the responsibilities to gather data between people. Once the spreadsheets are filled with relevant information, then the data can be input into the STARS model.

The STARS spreadsheets developed by the Climate-KIC team are available through the Centre for Sustainable Development Studies office and website.

[4] Stars technical manual Version 2.1, Administrative Update One, May 2016

6. Context of the project

Humans are a force of nature. Global change, including human impact on the planet's climate system primarily caused by the burning of fossil fuels for energy, is already having significant local, regional, and indeed global impacts now. These changes are projected to increase in the decades to come. Scientists warn that the planet is experiencing the largest global changes that are orders of magnitude more rapid than at any time in the past 65 million years.

The potential of "daunting challenges for ecosystems, especially in the context of extensive land use and degradation, changes in frequency and severity of extreme events, and interactions with other stresses," as Diffenbaugh and Field observed in their 2013 article in the journal Science, is real and profound. These challenges also threaten to further disrupt vulnerable social and economic systems, requiring governments to make decisions today that will have long term impacts.

To counter the current "business as usual" trend of ever-increasing fossil fuel burning and environmental and social disruption, the nations of the world negotiating The Paris Agreement at COP21 agreed to strengthen the global response to the threat of climate change. The goal: keep the global temperature rise in the 21st century to less than a 2-degree Celsius increase above pre-industrial levels, and ideally not more than 1.5 degrees Celsius. In addition, the agreement "aims to strengthen the ability of countries to deal with the impacts of climate change" through appropriate financial flows, a new technology framework, and an enhanced capacity building framework.

While the nations of the world have committed to the ideal of preventing temperatures from rising beyond 2 degrees Celsius, current temperatures are already nearly 1C above preindustrial levels, and projections show emission trends that will lead to an increase of more--potentially much more in the 22nd Century--than 4°C. The EU-funded IMPRESSIONS project has examined the potential societal responses, called Shared Socioeconomic Pathways (SSP) that could shape and would be influenced by varying carbon emission scenarios. Hungary is one of the sites where the IMPRESSIONS team has engaged with local stakeholders to consider the potential futures--such as Lake Balaton drying up by the year 2070. Such possibilities are all too easy to discount or deny, but they are very real and need to be planned for in order to be avoided or prepared for.

Against this background, Higher Education, especially Universities dedicated to Public Service, have the responsibility to consider the range of climate and other global change scenarios and work to support the local, national and international communities that they serve by working to minimize the risks and maximize the potential for informed decisions throughout society. The STARS framework is an important step toward infusing sustainable practices and perspectives throughout the Academy.

7. Analysis of STARS

STARS is a voluntary, self-reporting framework. First version (STARS 0.4) was launched in 2007. The newest version (STARS 2.1), launched in 2016, is broken down into four main categories and one optional category. A maximum of 200-203 points for all main categories. Below there are categories and points.

CATEGORIES	POINTS
Academics (AC)	• 58
Engagement (EN)	• 41
Operations (OP)	• 69-72
Planning & Administration (PA)	• 32
Innovation & Leadership (IN) – optional	• 4 (bonus points)

Figure 1. STARS Categories and Points
Source: own work based on: STARS Technical Manual, version 2.1, May 2016

The STARS model has also one additional category, **Institutional Characteristics** (IC) without available points but it is required for submission. The IC category includes information about:

- **Institutional Boundary** (defining the campus for purposes of reporting: institution type, institutional control, a brief description of the institution's main campus and other aspects of the institutional boundary);
- **Operational Characteristics** (the context in which institution operates: endowment size, total campus area, localization, climate zone, floor area of building space, floor area of laboratory space, floor area of other energy intensive space); and
- **Academics and Demographics** (information about the institution's academic programs, students, faculty and staff: number of academic divisions and departments, number of students enrolled for credit, total number of employees, number of student resident on-site, number of employees resident on-site, number of other individuals resident on-site, e.g. family members of employees).

All information documented in the Institutional Characteristics will be displayed in the institution's public STARS report. Some of the values reported in this category are also required to pursue specific STARS credits.

As you can see below (figure 2) each category in the STARS model is divided into subcategories and each subcategory is divided into so-called sub-subcategories.

Category Academics is divided into two subcategories: **Curriculum** and **Research**. Then subcategory Curriculum is divided into eight sub-subcategories and subcategory Research is divided into three sub-subcategories.

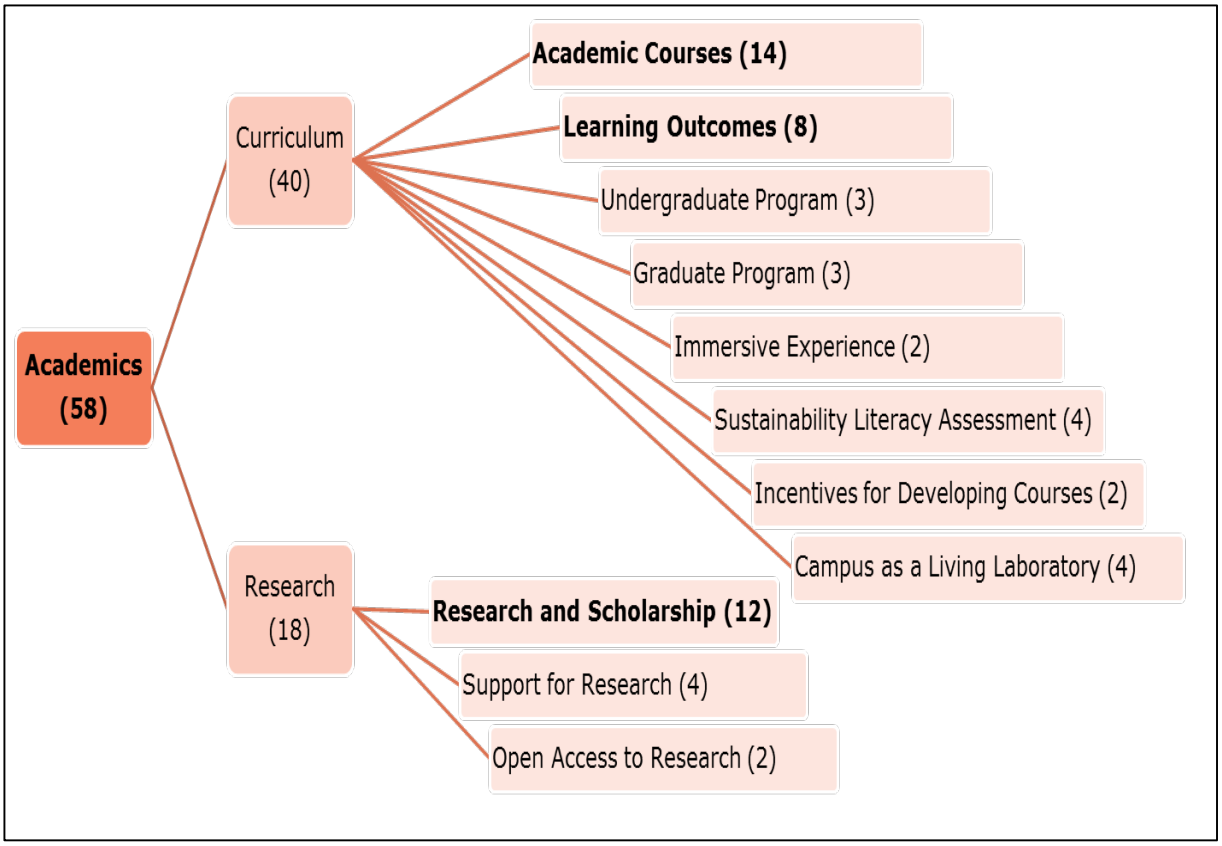

Figure 2. Structure of the Academics Category
Source: own work based on: STARS Technical Manual, version 2.1, May 2016

The most important or valuable, in terms of points available, sub-subcategories are:

- **Academic Courses** (14 points)
- **Research and Scholarship** (12 points)
- **Learning Outcomes** (8 points)

The sub-subcategory **Academic Courses** requires among others information on institution's sustainability course offerings. Sustainability course offerings should include:

- courses that have been identified as "sustainability courses" and "courses that include sustainability"
- courses that have been formally designated as sustainability course offerings in the institution's standard course listings or catalog.

For each course, the institution should provide:

- the title, department (or equivalent), and level of the course (e.g. undergraduate or graduate),

- a brief description of the course.
- an indication of whether the course is a “sustainability course” or a “course that includes sustainability” (or equivalent terminology).

The STARS Technical Manual defines “sustainability course” and “course that include sustainability” as follows:

> ***Sustainability Course*** - courses in which the primary and explicit focus is on sustainability and/or on understanding or solving one or more major sustainability challenge. This includes:
>
> - Foundational courses in which the primary and explicit focus is on sustainability as an integrated concept having social, economic, and environmental dimensions. Obvious examples include: Introduction to Sustainability, Sustainable Development, and Sustainability Science, however courses may also count if their course descriptions indicate a primary and explicit focus on sustainability.
> - Courses in which the primary and explicit focus is on the application of sustainability within a field. As sustainability is an interdisciplinary topic, such courses generally incorporate insights from multiple disciplines. Obvious examples include Sustainable Agriculture, Architecture for Sustainability, and Sustainable Business, however courses may also count if their course descriptions indicate a primary and explicit focus on sustainability within a field.
> - Courses in which the primary focus is on providing skills and/or knowledge directly connected to understanding or solving one or more major sustainability challenges. A course might provide knowledge and understanding of the problem or tools for solving it, for example Climate Change Science, Renewable Energy Policy, Environmental Justice, or Green Chemistry. Such courses do not necessarily cover “sustainability” as a concept, but should address more than one of the three dimensions of sustainability (i.e. social wellbeing, economic prosperity, and environmental health).
>
> While a foundational course such as chemistry or sociology might provide knowledge that is useful to practitioners of sustainability, it would not be considered a sustainability course. Likewise, although specific tools or practices such as GIS (Geographical Information Systems) or engineering can be applied towards sustainability, such courses would not count as sustainability courses unless their primary and explicit focus is on sustainable applications. If there is a sustainability unit, module or activity within one of these courses, but it is not the main focus, the course may be counted as a “course that includes sustainability”
>
> ***Course That Include Sustainability*** - course that includes sustainability is primarily focused on a topic other than sustainability, but incorporates a unit or module on

sustainability or a sustainability challenge, includes one or more sustainability focused activities, or integrates sustainability issues throughout the courses. To count, these units/modules, activities or issues should be documented in course descriptions or syllabi.

While a foundational course such as chemistry or sociology might provide knowledge that is useful to practitioners of sustainability, it would not be considered to be inclusive of sustainability unless the concept of sustainability or a sustainability challenge is specifically integrated into the course. Likewise, although specific tools or practices such as GIS (Geographical Information Systems) or engineering can be applied towards sustainability, such courses would not count unless they incorporated a unit on sustainability or a sustainability challenge, included a sustainability focused activity, or incorporated sustainability issues throughout the course.[5]

The points in sub-subcategory **Research and Scholarship** are available for institutions where faculty and staff are conducting research and other forms of scholarship on sustainability topics. This sub-subcategory requires among others the following information:

- Institution's faculty and/or staff conduct sustainability research (the institution should also make an inventory of its sustainability research publicly available).
  The STARS Technical Manual defines "sustainability research" as follows:

  > **Sustainability research** is research that leads toward solutions that simultaneously support social wellbeing, economic prosperity, and ecological health. It includes research and scholarship that:
  >
  > - Explicitly addresses sustainability and/or furthers our understanding of the interconnectedness of social, economic and environmental issues;
  > - Contributes directly toward solving one or more major sustainability challenge (e.g. contributes toward achieving principles outlined in the Earth Charter - http://earthcharter.org/) and/or;
  > - Engages community members with the aim of combining knowledge and action to achieve positive social, economic and environmental outcomes (e.g. participatory and community-based research and engaged scholarship)[6].
- Institution's academic departments (or the equivalent) include faculty and staff who conduct sustainability research.

The sub-subcategory **Learning Outcomes** includes data on institution's sustainability learning outcomes associated with program degrees and/or courses of study. This sub-subcategory requires among others the following information:

[5] STARS Technical Manual, version 2.1, May 2016, pp. 36-37.
[6] STARS Technical Manual, version 2.1, May 2016, pp. 67.

- Total number of graduates from degree programs (i.e. majors, minors, concentrations, certificates, and other academic designations).
- Number of students that graduate from programs that have adopted at least one sustainability learning outcome.
- Does the institution specify sustainability learning outcomes at the institution level (e.g. covering all students)?
- Does the institution specify sustainability learning outcomes at the division level (e.g. covering particular schools or colleges within the institution)?
- Does the institution specify sustainability learning outcomes at the program level (i.e. majors, minors, concentrations, degrees, diplomas, certificates, and other academic designations)?

Next main category, **Engagement** is divided into two subcategories: **Campus Engagement** and **Public Engagement**. Then subcategory Campus Engagement consists of nine sub-subcategories and subcategory Public Engagement consists of six sub-subcategories.

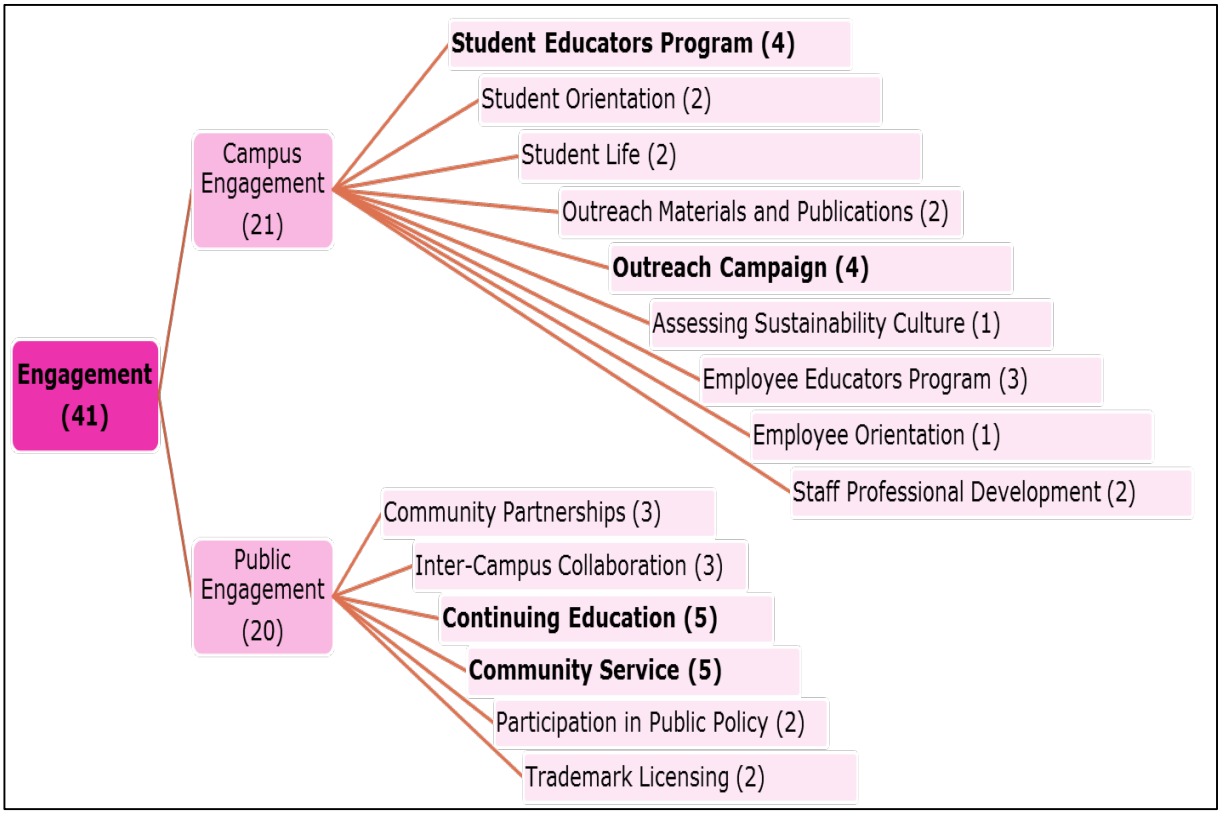

Figure 3. Structure of the Engagement Category
Source: own work based on: STARS Technical Manual, version 2.1, May 2016

As we can see in the figure 3 the most important or valuable sub-subcategories are:

- **Continuing Education** (5 points)
- **Community Service** (5 points)
- **Student Educators Program** (4 points)
- **Outreach Campaign** (4 points)

If an organization wants to score points in sub-subcategory **Continuing Education,** it should provide information about its continuing education courses and programs in sustainability offered to the community.

In turn, the sub-subcategory **Community Service** has points available for institutions that engage their student bodies in community service. The institution submitted to STARS should provide the following information:

- Number of students enrolled for credit (headcount; part-time students, continuing education, and/or graduate students may be excluded)
- Number of students engaged in community service (headcount; part-time students, continuing education, and graduate students should be excluded if excluded above)
- Total number of student community service hours contributed during the most recent one-year period.

The sub-subcategory **Student Educators Program** contains data on programs that engage students to serve as educators in peer-to-peer sustainability outreach. This sub-subcategory requires among others the following information:

- Number of students enrolled for credit (headcount)
- Total number of students enrolled for credit that are served (i.e. directly targeted) by a student peer-to-peer sustainability outreach and education program

  If the percentage of students that serve as educators in sustainability education program is greater than zero, the institution should provide:
  - Name of the student educators program
  - Number of students served (i.e. directly targeted) by the program (headcount)
  - A brief description of the program, including examples of peer-to-peer outreach activities
  - A brief description of how the student educators are selected
  - A brief description of the formal training that the student educators receive to prepare them to conduct peer outreach
  - A brief description of the financial and/or administrative support the institution provides to the program (e.g. annual budget and/or faculty/staff coordination)

And the last sub-subcategory **Outreach Campaign** refers to institution's sustainability outreach campaigns that yield measurable, positive results in advancing its sustainability performance (e.g. a reduction in energy or water consumption). That kind of campaigns engage the campus community around sustainability issues and can help raise student and employee awareness about sustainability. If an organization wants to score points in this sub-subcategory it should answer to the following questions:

- Has the institution held at least one sustainability-related outreach campaign during the previous three years that was directed at students and yielded measurable, positive results in advancing sustainability?
- Has the institution held at least one sustainability-related outreach campaign during the previous three years that was directed at employees and yielded measurable, positive results in advancing sustainability?

  If the answer to either of the above questions is yes, then the institution should provide:
  - Name of the campaign
  - A brief description of the campaign, including how students and/or employees were engaged
  - A brief description of the measured positive impact(s) of the campaign

The third main category, **Operations** is divided into nine subcategories: **Air and Climate, Buildings, Energy, Food and Dining, Grounds, Water, Purchasing, Transportation, Waste.**

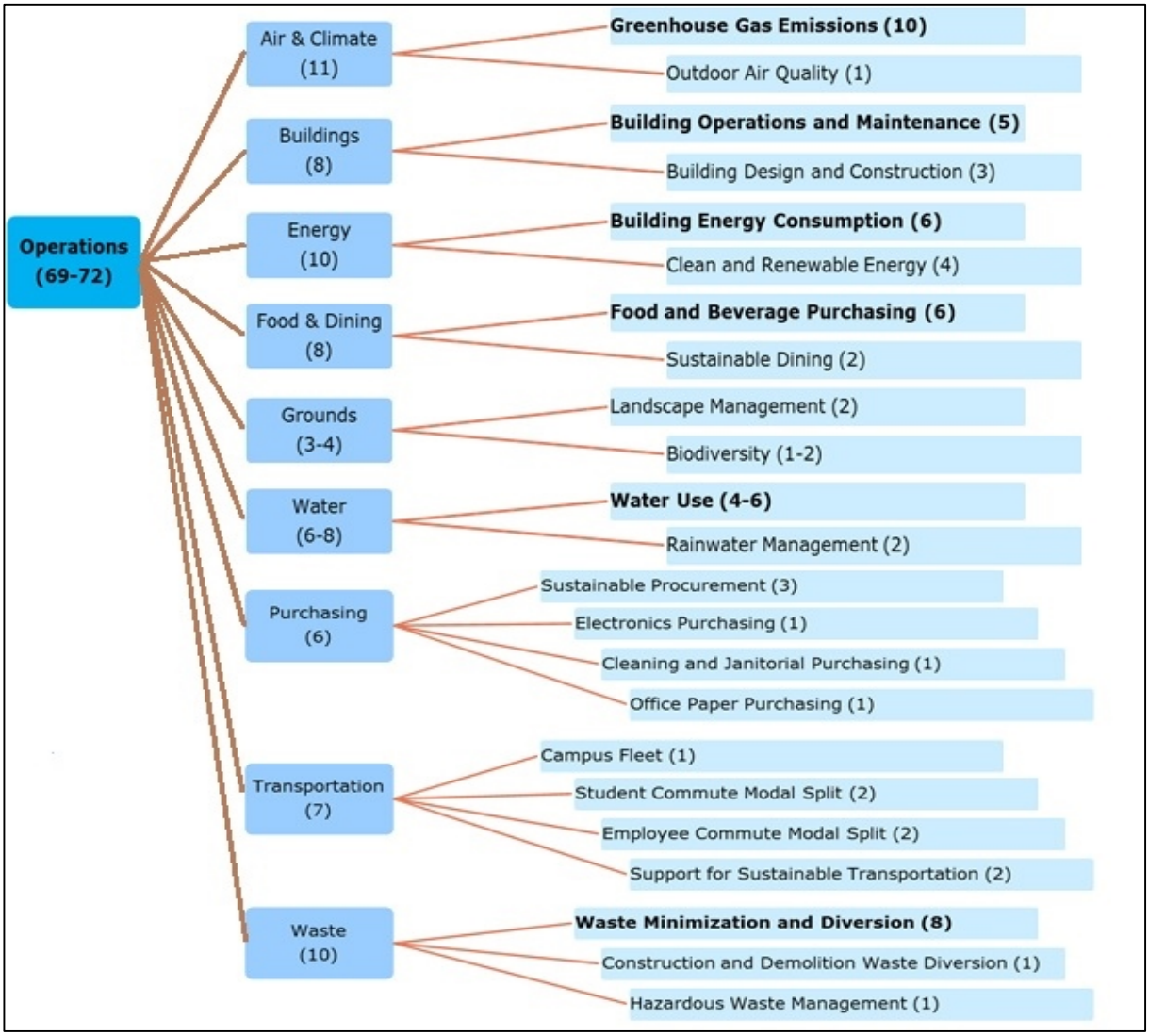

Figure 4. Structure of the Operations Category
Source: own work based on: STARS Technical Manual, version 2.1, May 2016

And the most important sub-subcategories are:

- **Greenhouse Gas Emissions** (10 points)
- **Waste Minimization and Diversion** (8 points)
- **Building Energy Consumption** (6 points)
- **Food and Beverage Purchasing** (6 points)
- **Building Operations and Maintenance** (5 points)
- **Water Use** (4-6 points)

Generally, it can be said that sub-subcategory **Greenhouse Gas Emission** is focused on issues related to institutions' ability of measuring and reducing their greenhouse gas and air pollutant emissions. The main required information in this sub-subcategory are the following:

- Has the institution conducted a GHG emissions inventory that includes all Scope 1 and 2 emissions?

  Scope 1 and Scope 2 GHG Emissions

  Scope 1 GHG emissions are direct GHG emissions occurring from sources that are owned or controlled by the institution. Scope 1 emission sources include:
  - Combustion of fuels to produce electricity, steam, heat, or power using equipment in a fixed location such as boilers, burners, heaters, furnaces, incinerators
  - Combustion fuels by institution-owned cars, tractors, buses, and other transportation devices

  Scope 2 GHG emissions are indirect GHG emissions that are a consequence of activities that take place within the organizational boundaries of the institution, but that occur at sources owned or controlled by another entity. Scope 2 emission sources include purchased electricity, purchased heating, purchased cooling, and purchased steam[7].
- Does the institution's GHG emissions inventory include its Scope 3[8] GHG emissions in these categories: business travel, commuting, purchased goods and services, capital goods, fuel- and energy-related activities not included in Scope 1 or Scope 2, waste generated in operations?
- Gross Scope 1 GHG emissions from stationary combustion, performance year
- Gross Scope 1 GHG emissions from other sources (i.e. mobile combustion, process emissions, fugitive emissions), performance year
- Gross Scope 2 GHG emissions from purchased electricity, performance year
- Gross Scope 2 GHG emissions from other sources (i.e. purchased heating, cooling and steam), performance year
- Gross Scope 1 GHG emissions from stationary combustion, baseline year

[7] STARS Technical Manual, version 2.1, May 2016, p. 134.
[8] More information about Scope 3 GHG emission you will find in STARS Technical Manual, version 2.1, May 2016, p. 134

- Gross Scope 1 GHG emissions from other sources (i.e. mobile combustion, process emissions, fugitive emissions), baseline year
- Gross Scope 2 GHG emissions from purchased electricity, baseline year
- Gross Scope 2 GHG emissions from other sources (i.e. purchased heating, cooling and steam), baseline year.

Next sub-subcategory, **Waste Minimization and Diversion** is focused on institution's initiatives that minimizing its production of waste, diverting materials from landfills and incinerators, and conserving resources by recycling and composting. The most important data have to be delivered by institution in this sub-subcategory are the following:

- Figures needed to determine total waste generated and diverted during the performance year and baseline year: materials recycled, materials composted, materials donated or re-sold, materials disposed through post-recycling residual conversion, materials disposed in a solid waste landfill or incinerator
- Figures needed to determine "weighted campus users" during the performance year and baseline year: number of students resident on-site, number of employees resident on-site, number of other individuals resident on-site and/or in-patient hospital beds (if applicable), total full-time equivalent student enrollment, full-time equivalent of employees (staff plus faculty), full-time equivalent of students enrolled in exclusively in distance education

Third sub-subcategory, **Building Energy Consumption** concerns issues related to reducing building energy usage. This sub-subcategory requires among others the following information:

- Figures needed to determine total building energy consumption during the performance year and baseline year: grid-purchased electricity, electricity from on-site renewables (geothermal, low-impact hydro, solar, wave/tidal, or wind installations), district steam/hot water, energy from all other sources (e.g. natural gas, fuel oil, propane/LPG, district chilled water, coal/coke, biomass)
- Total building energy consumption (all sources excluding transportation fuels), performance year and baseline year
- Gross floor area of building space, performance year and baseline year
- Heating degree days, performance year
- Cooling degree days, performance year

Generally, the fourth sub-subcategory, **Food and Beverage Purchasing** recognizes institutions that are supporting sustainable food systems through their food and beverage purchases. This category should be filled up with, among others, such kind of data as:

- Percentage of dining services food and beverage expenditures on products that are third party verified under one or more recognized food and beverage sustainability standards or both local and community-based
- A brief description of the sustainable food and beverage purchasing program, including how the sustainability impacts of products in specific categories are addressed (e.g. meat, poultry, fish/seafood, eggs, dairy, produce, tea/coffee)
- An inventory of the institution's sustainable food and beverage purchases that includes for each product: the description/type; label, brand or producer; category in which it is being counted; and a description of the sustainability attribute(s) for which it is being included
- Specify which food service providers are located on campus: dining operations and catering services operated by the institution, dining operations and catering services operated by a contractor, student-run food/catering services, franchises (e.g. national or global brands), convenience stores, vending services, concessions

The fifth sub-subcategory, **Building Operations and Maintenance** is focused on institutions' activities related to operating and maintaining their buildings in ways that protect the health of building occupants and the environment. The reporting institution should deliver, among others, following information:

- Total floor area of building space
- Floor area of building space that is certified at each level under a green building rating system for the operations and maintenance of existing buildings used by an Established Green Building Council:
    - Certified LEED O+M Platinum or at the highest achievable level under another GBC rating system for the operations and maintenance of existing buildings
    - Certified LEED O+M Gold or at the 2nd highest level under another 4- or 5-tier GBC rating system for the operations and maintenance of existing buildings
    - Certified at mid-level under a 3- or 5-tier GBC rating system for the operations and maintenance of existing buildings (e.g. DGNB, Green Star Performance, BREEAM-In Use, CASBEE for Existing Buildings)
    - Certified LEED O+M Silver or at a step above minimum level under another 4 - or 5–tier GBC rating system for the operations and maintenance of existing buildings
    - LEED O+M Certified or certified at minimum level under another GBC rating system for the operations and maintenance of existing buildings
- Floor area of building space that is certified under a non-GBC rating system for the operations and maintenance of existing buildings, e.g. BOMA BEST, Green Globes CIEB

In the last sub-subcategory, **Water Use** there should be included information about:

- Total water use (potable and non-potable combined), performance year and baseline year
- Potable water use, performance year and baseline year
- Figures needed to determine "weighted campus users" during the performance year and baseline year: number of students resident on-site, number of employees resident on-site, number of other individuals resident on-site and/or in-patient hospital beds (if applicable), total full-time equivalent student enrollment, full-time equivalent of employees (staff and faculty), full-time equivalent of students enrolled exclusively in distance education

The fourth main category, **Planning and Administration** is divided into four subcategories: **Coordination and Planning, Diversity and Affordability, Investment, Wellbeing and Work.**

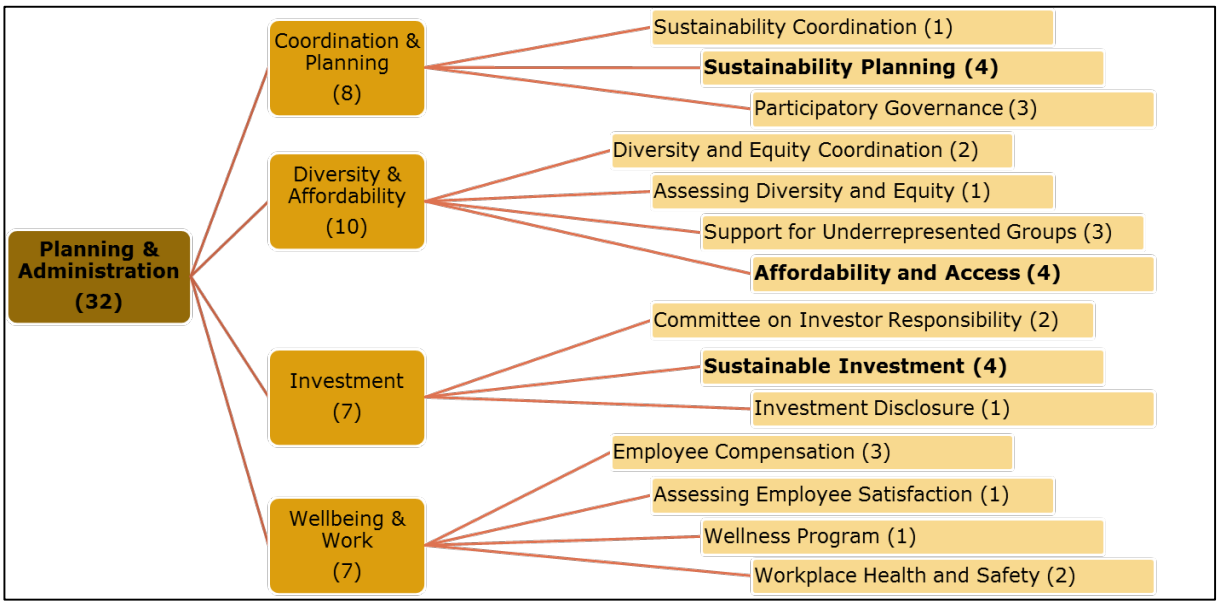

Figure 5. Structure of the Planning & Administration Category
Source: own work based on: STARS Technical Manual, version 2.1, May 2016

To the most important sub-subcategories we should include:

- **Sustainability Planning** (4 points)
- **Affordability and Access** (4 points)
- **Sustainable Investment** (4 points)

The sub-subcategory, **Sustainability Planning** has points available for institutions that have developed comprehensive plans to move toward sustainability. It is clear that the path leading to be more sustainable institution will be easier when institution has its clear vision of a sustainable future. This vision provides a road map to help guide decision-making. The sub-subcategory, Sustainability Planning requires, among others, answers to the following questions:

- Does the institution have a published strategic plan or equivalent guiding document that includes sustainability at a high level?

- Does the institution have a published sustainability plan?
- Does the institution have a published climate action plan?
- Does the institution have other published plans that address sustainability or include measurable sustainability objectives (e.g. campus master plan, physical campus plan, diversity plan, human resources plan)?
- Taken together, do the plan(s) reported above include measurable sustainability objectives that address the following:
    - Curriculum
    - Research
    - Campus Engagement
    - Public Engagement
    - Air & Climate
    - Buildings
    - Energy
    - Food & Dining
    - Grounds
    - Purchasing
    - Transportation
    - Waste
    - Water
    - Diversity & Affordability
    - Investment
    - Wellbeing & Work
    - Other (e.g. arts and culture or technology)

The second sub-subcategory, **Affordability and Access** has points available for institutions that are implementing strategies to improve their accessibility and affordability. In this section the reporting institution should, among others, answer to the following questions:

- Does the institution have policies and programs to make it accessible and affordable to low-income students?
  If the answer is yes, then there should be provide at least one of the following:
    - A brief description of the institution's policies and programs to minimize the cost of attendance for low-income students
    - A brief description of the institution's programs to equip the institution's faculty and staff to better serve students from low-income backgrounds
    - A brief description of the institution's programs to guide and prepare students and families from low-income backgrounds for higher education
    - A brief description of the institution's scholarships for low-income students
    - A brief description of the institution's targeted outreach to recruit students from low-income backgrounds

    - A brief description of the institution's other policies or programs to make the institution more accessible and affordable to low-income students
- Does the institution have policies and programs to support non-traditional students? If the answer is yes, then there should be provide at least one of the following:
    - A brief description of the institution's scholarships provided specifically for part-time students
    - A brief description of the institution's onsite child care facility, partnership with a local facility, and/or subsidies or financial support to help meet the child care needs of students
    - A brief description of the institution's other policies and programs to support non-traditional students

The last sub-subcategory, **Sustainable Investment** is focused on how institutions use their investment power to promote sustainability. If the institution invests in one or more of the following: sustainable industries, businesses selected for exemplary sustainability performance, sustainability investment funds, community development financial institutions, socially responsible mutual funds with positive screens (or the equivalent), green revolving loan funds that are funded from the endowment, then it should provide relevant information about these investments. This sub-subcategory may not be relevant for NUPS.

As it was mentioned earlier in the STARS model there is one more category, **Innovation and Leadership.** This category is optional and institution can get maximally four extra points which are added to the percentage of available points earned by an institution. Having established the Centre for Sustainable Development, NUPS could in theory get some extra points for this category.

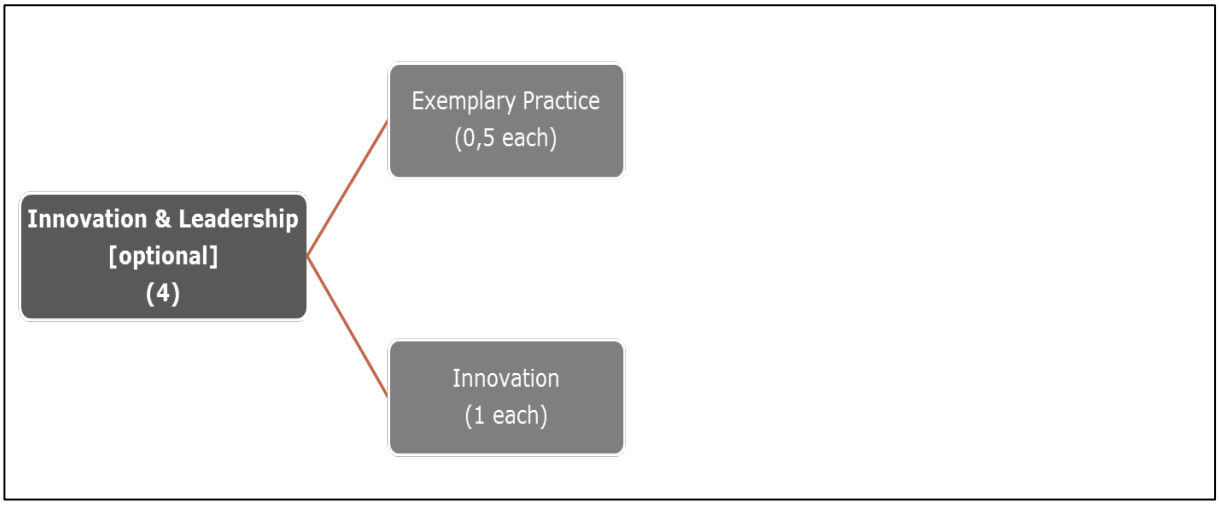

Figure 6. Structure of the Innovation & Leadership Category
Source: own work based on: STARS Technical Manual, version 2.1, May 2016

The sub-subcategory **Exemplary Practice** is focused on specific initiatives that demonstrate sustainability leadership of the reporting institution. And the sub-subcategory **Innovation** has points reserved for new, extraordinary, unique, groundbreaking, or uncommon outcomes, policies, and practices that are not covered by an existing credit or exemplary practice option.

How many points does NUPS need to earn a rating?

There are four STARS ratings available (Bronze, Silver, Gold and Platinum). An institution's score is based on the percentage of points it earns by pursuing credits across four main categories: Academics, Engagement, Operations, and Planning & Administration. Some credits do not apply to all institutions. For example, the credits about dining services do not apply to institutions that do not have dining services operations. Institutions will earn a score based on the percentage of applicable points they earn. In other words, credits that do not apply to an institution are not counted against that institution's overall score. Although all applicable credits count toward scoring, participants have the option to decide which credits to pursue and which not to pursue.

In addition to the credits in the four categories outlined above, institutions may earn up to four Innovation & Leadership points for new and path-breaking practices and performances that are not covered by other STARS credits or that exceed the highest criterion of a current STARS credit. An institution's overall STARS score is the total number of points earned divided by the total number of points available, plus any Innovation & Leadership points earned. Once earned, a STARS rating is valid for up to three years, however an institution may submit for a new rating as often as once a year[9].

Figure 7. Scoring methodology
Source: https://stars.aashe.org/pages/participate/recognition-scoring.html

[9] https://stars.aashe.org/pages/participate/recognition-scoring.html

To summarize, the four STARS ratings available are:

- Bronze – for minimum 25 score
- Silver – for minimum 45 score
- Gold – for minimum 65 score
- Platinum – for minimum 85 score

8. Implementation process

In order to collect the data, complete the framework, and promote sustainable practices throughout the University, a key priority will be to hire a dedicated person (Sustainability Officer) who can implement STARS and potentially seek additional funding for sustainability activities and projects. The person responsible for tracking and promoting sustainability in NUPS can complete an initial report, which will serve as a baseline study for the future follow-up. The Excel spreadsheets made for this report can be explained and sent to the people responsible for the categories required in STARS model. Relevant data should be collected and then put into STARS, keeping in mind that some categories and subcategories and weighed more heavily and give more points (see chapter 7), and focusing on these areas will give more credits and thus a higher overall score.

The Sustainability Officer should also work towards engagement, both campus and public. This means that there should be a range of different meetings, outreach campaigns and programs offered for staff, administration, faculty and students. Having the high level support of the University administration will greatly help the buy-in of administration, staff, and faculty.

One of the main challenges implementing the STARS is to find the relevant input data as the information needed for the model is varied, detailed and complex. But as the success of hundreds of Universities participating in STARS demonstrates, it is possible and beneficial.

The data needs to be correctly formatted, and the spreadsheets are designed as worksheets that will help in the process. In examining existing data collected about the University's energy and water consumption, building efficiency, and other areas, it is clear that substantial additional work will be required to complete the framework.

For example, in order to have good points in STARS, the University should include in their education program different sustainability courses. There are two types of sustainability courses: the ones directly related to sustainability (topics related to sustainability, climate change, energy efficiency, but also relating to social and economic sustainability) and courses that just include some sustainability issues and are more indirectly related.

By engaging faculty through surveys and consultations, the Sustainability Office can help review NUPS courses and research related to environmental sustainability, economic prosperity and social wellbeing. The results of this examination of the curricular and research catalog will allow the courses to be categorized into sustainability topics and then summarized for the purposes of the STARS scoring. Mapping the current courses and research will also serve as a gap analysis by helping identify what is missing and could be added to further improve curriculum and research.

Many other universities have benefitted in engaging faculty through surveys, interviews, and other engagement. Such collaboration with faculty also helps increase their awareness of sustainability issues.

Although there are several challenges om implementing the STARS, there are also many positive sides and good opportunities for the University. The main benefits of implementing and using STARS are that it:

1. Provides a robust model that measures the breadth and depth of the institution`s current sustainability performance. This means in practice that if the University actually measures the different aspects of institution`s activity, it is also possible to manage them.
2. Offers a tool for continuous improvement toward sustainability. Establishing a baseline and then following up on a regular basis to track progress helps clarify the present situation and allow the University to adopt a clear vision of the main gaps or challenges regarding sustainability aspects.
3. Presents a framework to promote a comprehensive understanding of sustainability that includes its social, economic and environmental dimensions.
4. Helps to streamline university sustainability reporting efforts, allowing the sharing of STARS reporting data with other organizations.
5. Enables comparing, learning and collaborating with other institutions of similar type and demographic. In the STARS database, sustainability reports are available of other higher educational institutions all over the world. This is great opportunity to become familiar with how other universities and colleges approach sustainability challenges.
6. Opens opportunities to gain global recognition for NUPS sustainability efforts as a STARS rated institution. STARS model offers only positive recognition.
7. Serves as a powerful motivation tool to monitor progress toward improved sustainability.

9. Conclusions and Recommendations

This study, conducted by sustainability experts involved with the Climate-KIC Pioneers Into Practice, has examined the potential of implementing the Sustainability, Tracking, Assessment and Rating System (STARS) at the National University of Public Service (NUPS). Our conclusion is **that implementing STARS at NUPS provides an opportunity to establish a baseline of sustainable practices and to likely earn a high score using the STARS framework. This will allow NUPS to become a recognized sustainability leader in Europe.**

The energy efficiency of the new campus is state-of-the-art, transportation benefits from the high use of public transportation and low use of private vehicles, and the source of electrical energy primarily comes from low-carbon nuclear generation. Acquiring the necessary data to establish a baseline of energy consumption is not easy, but this report has provided a template to help streamline and simplify the process.

A key task for NUPS to complete that is required for reporting to STARS involves the examination of curriculum and research through the lens of social, economic and environmental sustainability. While currently very few courses or research projects at NUPS directly relate to sustainability, by engaging with the faculty and explaining the breadth of sustainable practices, giving examples of how other institutions have defined them, NUPS could conceivably earn a strong score in this area as well.

The primary challenge for NUPS, which many institutions have faced in completing the STARS framework, relates to the difficult task of collecting accurate data in all the areas required. An initial gap analysis of existing data by the Climate-KIC Pioneer team for this study has found that virtually none of the data that has been collected relating to the University's energy consumption can be input into the STARS tool.

We recommend that, using the spreadsheets developed by the team, a methodical and thorough review of all elements of the framework be conducted. **This will require a full or part-time person who has the support of the administration be empowered to seek out, acquire and input into STARS the necessary data, including information relating to research and courses, which are a major component of the overall STARS score.**

The benefits of completing the STARS reporting are numerous and include: i) the international validation of the University's leadership in sustainable practices for the public service sector, ii) establishing a firm baseline foundation to measure future progress against, and iii) preparing students for the sustainability challenges of the future.

During the four-week placement, the Pioneers conducted meetings with University staff and were taken to see different facilities of the University, such as the main building at Ludovika and the Orczy Dormitory. The Pioneers presented an overview of their one-month intensive study and overall recommendation on 25th of October 2016 at a sustainability forum.

In order to implement STARS, the team recommends that the University:

1. **Hire full time (minimum half time) sustainability officer.** As the STARS model is very complex and needs substantial input, there should be full-time person to coordinate and manage all the data and information required to complete the STARS framework.
2. **Engagement of staff.** One key assignment of the sustainability officer should be the engagement of the staff: organizing meetings, outreach campaigns and development programs. In particular, to increase awareness of social, economic and environmental sustainability, it is recommended that sustainability seminars and events in the university. Benefits for such activities include increasing the environmental awareness of staff and getting feedback from the faculty regarding their curricular and research activities.
3. **Prepare sustainability guidelines and policies.** Sustainable economic, social and environmental practices are increasingly recognized by society as vital priorities. The University can support society's interest in sustainability by establishing relevant guidelines and policies. STARS can help in this process by allowing the University to identify its environmental impact and social responsibility, locally, nationally and globally. These efforts will also allow the University to enhance its positive impacts and reduce its negative impacts by setting baseline measures and future targets to be met through continual improvement, helping increase energy efficiency, reduce emissions, improve carbon management, manage waste and material resources, conserve water, implement sustainable purchases and travel, enhance biodiversity, and improve education and knowledge transfer. The Orczy Dormitory is already built as sustainable building, which serves as a solid foundation to showcase and promote sustainability online. Examining STARS reports from other Universities will assist in developing benchmarks and policies by providing insights into the experiences and lessons learned from other similar institutions.
4. **Continue to fill data to STARS model and follow the sustainability performance.** By using STARS to set clear environmental objectives and targets that are reviewed annually and supported by long-term strategies and plans, the University's performance will be monitored, measured, and communicated to stakeholders as appropriate. As mentioned already in chapter 8, the STARS model has many opportunities. This could also be used world widely as a marketing tool and thus get higher ranking.

Co-operation with other Universities in region. To further extend the University's standing in higher education, the benefits of STARS can be shared with other colleges and Universities in Hungary through the Hungarian Sustainability University Network (HUSUN). In addition, STARS and AASHE, which are now attracting international interest, can serve as networks for further sharing the experience and insights developed at NUPS.

Appendix – Five Most Important Sub-subcategories in STARS Model

(All spreadsheets developed for the implementation of STARS at NUPS are available at the Centre for Sustainable Development Studies Office.

Category	Subcategory	Credit Number and Title of Sub-subcategory		Points available	Section	Questions	Input data		Applicable to:	Minimum requirement:	Requires completion of a separate inventory, assessment or survey?	Timeframe
Academics (AC)	Curriculum	AC 1	Academic Courses	**14**			**Undergraduate**	**Graduate**	All institutions	Institution conducts an inventory to identify its sustainability course offerings.	Yes	Most recent data available within the three years prior to the anticipated date of submission
					Part 1	Total number of courses offered by the institution						
						Number of sustainability courses offered						
						Number of courses offered that include sustainability						
					Part 2	Total number of academic departments (or the equivalent) that offer courses (at any level)						
						Number of academic departments (or the equivalent) that offer at least one sustainability course and/or course that includes sustainability (at any level)						
					Course Inventory	A copy of the institution's inventory of its sustainability course offerings and descriptions	ATTENTION - a file (doc, pdf or exl format) is needed					
						Do the figures reported above						

						cover one, two, or three academic years?					
						A brief description of the methodology used to determine the total number of courses offered and to identify sustainability course offerings, including the definitions used and the process for reviewing and/or validating the course inventory	Add description here				
						How were courses with multiple offerings or sections counted for the figures reported above? PLEASE CHOOSE ONE ANSWER	Each offering or section of a course was counted as an individual course				
							Each course was counted as a sigle course regardless of the number of offerings or sections				
							Not applicable; no courses with multiple offerings or sections were included				
							Other (please describe below)				
							If "Other", please provide a brief description of how courses with multiple offerings or sections were counted (if different from the options outlined above)				
						Are the following course types included in the inventory?	Yes (included)	No (not included)	Unknown		
						> Internships					
						> Practicums					
						> Independent study					
						> Special topics					

						> Thesis / dissertation						
						> Clinical						
						> Physical education						
						> Performance arts						
					Optional Fields	The website URL where information about the programs or initiatives is available	Add website URL					
						Additional documentation to support the submission	ATTENTION - it is a voluntary section so you can add doc, pdf or exl format if you want to					
					Notes	Data source(s) and notes about the submission :	voluntary					
					Responsible Party	Responsible party	Must be added					
		AC 2	Learning Outcomes	**8**	General Information	Total number of graduates from degree programs (i.e. majors, minors, concentrations, certificates, and other academic designations)			All institutions that have degree programs.	Institution's students graduate from degree programs that include sustainability as a learning outcome or include multiple sustainability learning outcomes.		Most recent data available within the three years prior to the anticipated date of submission .
						Number of students that graduate from programs that have adopted at least one sustainability learning outcome						
						Do the figures reported above cover one, two, or three academic						

						years?					
					Institution and Division Level Learning Outcomes		Yes	No	Unknown		
						Does the institution specify sustainability learning outcomes at the institution level (e.g. covering all students)?					
						Does the institution specify sustainability learning outcomes at the division level (e.g. covering particular schools or colleges within the institution)?					
						If institution level or division level learning outcomes are specified, provide:					
						A list or brief description of the institution level or division level sustainability learning outcomes	Add a list or brief description here				
					Program Level Learning Outcomes		Yes	No	Unknown		
						Does the institution specify sustainability learning outcomes at the program level (i.e. majors, minors, concentrations, degrees, diplomas, certificates, and other academic designations)?					
						If program level learning outcomes are specified, provide:					

						A list or brief description of the program level sustainability learning outcomes	Add a list or brief description here					
					Course Level Learning Outcomes		Yes	No	Unknown			
						Do course level sustainability learning outcomes contribute to the figure reported above (i.e. in the absence of program, division, or institution level learning outcomes)?						
						If yes, provide:						
						A list or brief description of the course level sustainability learning outcomes and the programs for which the courses are required	Add a list or brief description here					
					Optional Fields	The website URL where information about the programs or initiatives is available	Add website URL					
						Additional documentation to support the submission	ATTENTION - it is a voluntary section so you can add doc, pdf or exl format if you want to					
					Notes	Data source(s) and notes about the submission :	voluntary					
					Responsible Party	Responsible party	Must be added					

Category	Subcategory	Credit Number and Title of Sub-subcategory		Points available	Section	Questions	Input data	Applicable to:	Minimum requirement	Requires completion of a separate inventory, assessment or survey?	Timeframe
Academics (AC)	Research	AC 9	Research and Scholarship*	12	Part One	Total number of the institution's faculty and/or staff that are engaged in research (headcount)		All institutions where research is considered in faculty and/or staff promotion or tenure decisions.	Institution conducts an inventory to identify its sustainability research activities and initiatives.	Yes	Most recent data available within the three years prior to the anticipated date of submission.
						Number of the institution's faculty and/or staff that are engaged in sustainability research (headcount)					
						Percentage of the institution's faculty and staff researchers that are engaged in sustainability research					
					Part Two	Total number of academic departments (or the equivalent) that include at least one faculty or staff member that conducts research					
						Number of academic departments (or the equivalent) that include at least one faculty or staff member that conducts sustainability research					

						Percentage of research-producing departments that are engaged in sustainability research					
					Research Inventory	A copy of the institution's inventory of its sustainability research that includes names and department affiliations of faculty and staff engaged in sustainability research. Upload a copy of the research inventory or include a list in the box below	optional! (blue star)				
						The institution's inventory of its sustainability research that includes names and department affiliations of faculty and staff engaged in sustainability research	optional! (blue star)				
						A brief description of the methodology the institution followed to complete the research inventory (including the types of faculty and staff included as researchers)	optional! (blue star)				

					Optional fields	The website URL where information about the programs or initiatives is available. Please note that additional URLs may be entered into the description fields or the public note section of STARS credits. These additional URLs will be accessible in the live report.					
						Additional documentation to support the submission					
					Responsible Party	Responsible Party					

Source: own work based on STARS Model

Category	Subcategory	Credit Number and Title of Sub-subcategory		Points available	Section	Questions	Input data			Applicable to:	Minimum requirement	Requires completion of a separate inventory, assessment or survey?	Timeframe
Operations (OP)	Air & Climate	OP 1	Greenhouse Gas Emissions	10	Part 1		Unknown	Yes	No	All institutions	Institution has conducted a greenhouse gas (GHG) emissions inventory that includes, at minimum, Scope 1 and Scope 2 GHG emissions.	Yes	Most recent data available from the three years prior to the anticipated date of submission and data from a baseline year.
						Has the institution conducted a GHG emissions inventory that includes all Scope 1 and 2 emissions?							
						Does the institution's GHG emissions inventory include all, some or none of its Scope 3 GHG emissions from the following categories?							
							ALL	Some	None				
						Business travel							
						Commuting							
						Purchased goods and services							
						Capital goods							
						Waste generated in operations							
						Fuel- and energy-related activities not included in Scope 1 or Scope 2							
						Other categories							
						A copy of the most recent GHG emissions inventory	Add file						
						A brief description of the methodology and/or tool used to complete the GHG emissions inventory, including how the institution accounted for each category of Scope 3 emissions reported above							

							Unknown	Yes	No				
						Has the GHG emissions inventory been validated internally by personnel who are independent of the GHG accounting and reporting process and/or verified by an independent, external third party?							
						If yes, provide: A brief description of the internal and/or external verification process							
						Documentation to support the internal and/or external verification process	add file						
							Unknown	Yes	No				
						Does the institution wish to pursue Part 2 and Part 3 of this credit? (reductions in Scope 1 and Scope 2 GHG emissions)							
						If yes, provide the following:							
					Part 2	Gross Scope 1 and Scope 2 GHG emissions	Performance year	Baseline year					
						Gross Scope 1 GHG emissions from stationary combustion, Unit: Metric Tons of CO2 Equivalent							
						Gross Scope 1 GHG emissions from other sources, Unit: Metric Tons of CO2 Equivalent							
						Gross Scope 2 GHG emissions from purchased electricity, Unit: Metric Tons of CO2 Equivalent							

						Gross Scope 2 GHG emissions from other sources, Unit: Metric Tons of CO2 Equivalent						
						Total, Unit Metric Tons of CO2 Equivalent						
						Start and end dates of the performance year and baseline year (or three-year periods)	Start date	End date				
						Performance Year	dd/mm/yyyy	dd/mm/yyyy				
						Baseline year	dd/mm/yyyy	dd/mm/yyyy				
						If end date of the baseline year/period is 2004 or earlier, provide:						
						A brief description of when and why the GHG emissions baseline was adopted (e.g. in sustainability plans and policies or in the context of other reporting obligations						
						Figures needed to determine total carbon offsets	Performance year	Baseline year				
						Third-party verified carbon offsets purchased (exclude purchased RECs/GOs), Unit Metric Tons of CO2 Equivalent						
						Institution-catalyzed carbon offsets generated, Unit Metric Tons of CO2 Equivalent						
						Carbon sequestration due to land that the institution manages specifically for sequestration, Unit Metric Tons of CO2 Equivalent						

						Carbon storage from on-site composting, Unit Metric Tons of CO2 Equivalent						
						Carbon offsets included above for which the emissions reductions have been sold or transferred by the institution, Unit Metric Tons of CO2 Equivalent						
						Net carbon offsets, Unit Metric Tons of CO2 Equivalent						
						If total performance year carbon offsets are greater than zero, provide:						
						A brief description of the offsets in each category reported above, including vendor, project source, verification program and contract timeframes (as applicable)						
							Performance year	Baseline year				
						Emissions reductions attributable to Renewable Energy Certificate (REC) or Guarantee of Origin (GO) purchases						
						Emissions reductions attributable to REC/GO purchases, Unit Metric Tons of CO2 Equivalent						
						If performance year emissions reductions attributable to purchased RECs/GOs are greater than zero, provide:						

						A brief description of the purchased RECs/GOs including vendor, project source and verification program					
						Adjusted net Scope 1 and 2 GHG emissions	Performance year	Baseline year			
						Adjusted net Scope 1 and 2 GHG emissions, Unit Metric Tons of CO2 Equivalent					
						Figures needed to determine " Weighted Campus Users"	Performance year	Baseline year			
						Number of students resident on-site					
						Number of employees resident on-site					
						Number of other individuals resident on-site and/or in-patient hospital beds					
						Total full-time equivalent student enrollment					
						Full-time equivalent of employees (staff + faculty)					
						Full-time equivalent of students enrolled exclusively in distance education					
						Weighted campus users					
						Adjusted net Scope 1 and 2 GHG emissions per weighted campus user	Performance year	Baseline year			
						Adjusted net Scope 1 and 2 GHG emissions per weighted campus user, Unit Metric Tons of CO2 Equivalent					

						Percentage reduction in adjusted net Scope 1 and Scope 2 GHG emissions per weighted campus user from baseline (0-100)						
					Part 3	Gross floor area of building space, performance year						
						Floor area of energy intensive building space, performance year						
						Laboratory space						
						Healthcare space						
						Other energy intensive space						
						EUI-adjusted floor area, performance year						
						Adjusted net Scope 1 and 2 GHG emissions per unit of EUI-adjusted floor area, performance year, MtCO2e / GSF						
					Optional fields	Scope 3 GHG emissions, performance year	Emissions					
						Business travel, Unit Metric Tons of CO2 Equivalent						
						Commuting, Unit Metric Tons of CO2 Equivalent						
						Purchased goods and services, Unit Metric Tons of CO2 Equivalent						
						Capital goods, Unit Metric Tons of CO2 Equivalent						
						Fuel- and energy-related activities not included in Scope 1 or Scope 2, Unit Metric Tons of CO2 Equivalent						

						Waste generated in operations					
						Other categories, Unit Metric Tons of CO2 Equivalent					
						The website URL where information about the programs or initiatives is available					
						Additional documentation to support the submission	add files				
						Notes: Data source(s) and notes about the submission :					
						Responsible Party					

Source: own work based on STARS Model

Category	Subcategory	Credit Number and Title of Sub-subcategory		Points available	Section	Questions	Input data		Applicable to:	Minimum requirement:	Requires completion of a separate inventory, assessment or survey?	Timeframe
Operations (OP)	Waste	OP 19	Waste Minimization and Diversion	**8**	Parts 1 and 2: Waste Minimization	Figures needed to determine total waste generated (and diverted)			All institutions	Institution has data on the weight of materials recycled, composted, donated/re-sold, and disposed in a landfill or incinerator; and numbers of campus users.		Most recent data available from the three years prior to the anticipated date of submission and data from a baseline year.
							Performance Year	Baseline Year				
						Materials recycled						
						Materials composted						
						Materials donated or re-sold						
						Materials disposed through post-recycling residual conversion						
						Materials disposed in a solid waste landfill or incinerator						
						If reporting post-recycling residual conversion, provide:						
						A brief description of the residual conversion facility, including affirmation that materials are sorted prior to conversion to recover recyclables and compostable materials	Add description here					
						Start and end dates of the performance year and baseline year (or three-year periods)						
							Start Date	End Date				
						Performance Year	month/day/year	month/day/year				
						Baseline Year	month/day/year	month/day/year				
						If end date of the baseline year/period is 2004 or earlier, provide:						
						A brief description of when and why the waste generation baseline was adopted (e.g. in sustainability plans and policies or in the context of other reporting obligations)	Add description here					

Figures needed to determine " Weighted Campus Users"

	Performance Year	Baseline Year
Number of students resident on-site		
Number of employees resident on-site		
Number of other individuals resident on-site and/or in-patient hospital beds		
Total full-time equivalent student enrollment		
Full-time equivalent of employees (staff + faculty)		
Full-time equivalent of students enrolled exclusively in distance education		

Part 3: Waste Diversion

In the waste figures reported above, has the institution recycled, composted, donated and/or re-sold the following materials?

	Yes	No	Unknow
Paper, plastics, glass, metals, and other recyclable containers			
Food			
Cooking oil			
Plant materials			
Animal bedding			
White goods (i.e. appliances)			
Laboratory equipment			
Furniture			
Residence hall move-in/move-out waste			

						Scrap metal							
						Pallets							
						Tires							
						Other (please specify below)							
						A brief description of other materials the institution has recycled, composted, donated and/or re-sold	Add description here						
					Optional Fields	**Active Recovery and Reuse**							
						Materials intended for disposal but subsequently recovered and reused on campus, performance year (e.g. materials that are actively diverted from the landfill or incinerator and refurbished/repurposed)	(Tons)					
						Recycling Management	Yes	No	Unknow				
						Does the institution use single stream recycling (a single container for commingled recyclables) to collect standard recyclables (i.e. paper, plastic, glass, metals) in common areas?							
						Does the institution use dual stream (two separate containers for recyclables, e.g. one for paper and another for plastic, glass, and metals) to collect standard recyclables (i.e. paper, plastic, glass, metals) in common areas?							
						Does the institution use multi-stream recycling (multiple containers that further separate different types of materials) to collect standard recyclables (i.e. paper, plastic, glass, metals) in common areas?							

						Contamination and Discard Rates					
						Average contamination rate for the institution's recycling program (percentage, 0-100)					
						A brief description of any recycling quality control mechanisms employed, e.g. efforts to minimize contamination and/or monitor the discard rates of the materials recovery facilities and mills to which materials are diverted	Add description here				
						Programs and Initiatives					
						A brief description of the institution's waste-related behavior change initiatives, e.g. initiatives to shift individual attitudes and practices such as signage and competitions	Add description here				
						A brief description of the institution's waste audits and other initiatives to assess its materials management efforts and identify areas for improvement	Add description here				
						A brief description of the institution's procurement policies designed to prevent waste (e.g. by minimizing packaging and purchasing in bulk)	Add description here				
						A brief description of the institution's surplus department or formal office supplies exchange program that facilitates reuse of materials	Add description here				
						A brief description of the institution's platforms to encourage peer-to-peer exchange and reuse (e.g. of electronics, furnishings, books and other goods)	Add description here				

						A brief description of the institution's limits on paper and ink consumption (e.g. restricting free printing and/or mandating doubled-sided printing in libraries and computer labs)	Add description here				
						A brief description of the institution's initiatives to make materials (e.g. course catalogs, course schedules, and directories) available online by default rather than printing them	Add description here				
						A brief description of the institution's program to reduce residence hall move-in/move-out waste	Add description here				
						A brief description of the institution's programs or initiatives to recover and reuse other materials intended for disposal	Add description here				
						The website URL where information about the programs or initiatives is available	Add website URL				
						Additional documentation to support the submission	ATTENTION - it is a voluntary section so you can add doc, pdf or exl format if you want to				
					Notes	Data source(s) and notes about the submission :	voluntary				
					Responsible Party	Responsible party	Must be added				

Source: own work based on STARS Model