

UniMoReGreen

**Report from the Pioneers into Practice
group project for Unimore Sostenibile //
November 2019**

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Sara Cortesi
Marcello Favalli
Luca Famooss Paolini
Serena Piselli
Michal Riha**

Coach: Giulio Allesina

**Challenge owner: Prof.ssa Grazia Ghermandi,
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The Pioneers into Practice programme

The EIT Climate-KIC (Knowledge and Innovation Community) was established in 2010 by the European Institute for Innovation and Technology (EIT) to gather organizations focused on climate change, working on topics such as decarbonization, adaptation and climate change mitigation. It involves more than 350 partners from 25 countries: big companies and SMEs, research institutes and universities, public authorities NGOs, startups, students and researchers. In Italy is present in the Emilia-Romagna region with a branch office in Bologna at Consiglio Nazionale delle Ricerche and gathers more than 35 partners (<https://italy.climate-kic.org/>).

Pioneers into Practice (PIP) is the European programme for professional mobility organized by the Climate-KIC which aims at promoting the development of new skills and the birth of innovative and effective projects to fight climate change. Each year a group of selected experts coming from different fields (Pioneers) receives a training on Transition and System Thinking, new business models, climate change mitigation and adaptation.

Among other activities, the Pioneers have to take part in a group project which aims at applying the topics and tools which are the object of the programme to a specific theme (Challenge) presented by an institution (Challenge Owner) interested to climate change and sustainability.

The Green Campus Challenge

The challenge owner, i.e. UniMoRe Sostenibile (US), the team within Università di Modena e Reggio Emilia (Unimore) which works on sustainability in the university, challenged us to make their campus in Modena and Reggio Emilia more sustainable, from different points of view. The final objective is not only teaching sustainability through lectures and courses but also inspiring students and, more in general, campus users to live and experience sustainability, by making the Campus itself a virtuous example of integrated sustainability.

The Pioneers who accepted the Challenge

Francesca, Luca, Marcello, Michal, Sara, and Serena met for the first time in Modena on May 2019, during the three-day Introductory Workshop organized by the PiP programme. They have quite different educational and professional backgrounds, and here you can find something about them:

Francesca Calzolari is graduating Urban Planning previously graduated in Political Science. She is specializing in the circular economy, participatory processes and urban regeneration. She has travelled widely for academic reasons (study and training) and this has led her to have a slightly more global vision. She loves reading, listening to music, going for a run and being outside in the open air!

Luca Famooss Paolini - Environmental Engineer, he worked for about three years in the field of remediation of contaminated sites, following technical-legal proceedings for giants in the

chemical industry. Nowadays he is PhD student at Ca' Foscari University and CMCC (Euro-Mediterranean Center on Climate Change) in Bologna in the international program called "Science and Management of Climate Change". What else? Great lover of heterogeneousness of life in general, he is a guitar artist, tennis teacher, novice climber and an enthusiastic explorer of far lands.

Marcello Favalli - He has a heterogeneous background, modeled attending and working at very different institutions and companies: a Political Science degree, the environment of the Air Force Academy, the international context of Erasmus student in Norway and of the Italian Embassy in Sweden. He is a football referee, and he has a great passion for the sailboat, because of the sense of freedom it inspires. Professionally he grew up as sales manager in different companies and finally SiWeGO: today he is the founder and CEO of this innovative startup, which can really change the world of logistics and transport.

Michal Řiha Has a bachelor degree from chemical engineering school in Prague and masters degree from data science department at Bocconi University. He has learned creativity through composing music as a guitar player and is now trying to apply that knowledge in start up environment.

Sara Cortesi is a researcher, working since 2012 for ENEA (the Italian National agency for new technologies, energy, and sustainable economic development) in the Bologna research centre. She has a background in Industrial Design and her research, dissemination, and teaching activity is focussed on Life Cycle Assessment and Product Environmental Footprint, eco-design, and eco-innovation, specifically targeting Small and Medium Enterprises (SMEs).

Serena Piselli is a building engineer and a PhD student with a passion for innovative and strategic sustainable development. She has gained skills in the sustainable conversion of the built environment, in project management and green procurement. She is involved in a charity project for homeless rehabilitation. She nurtures a great passion for writing, which has taken shape through her blog, "The Zoom Out Theory". She loves running and practicing yoga.

They accepted the Green Campus Challenge and formed the UniMoRe Green group.

From June till October 2019 they worked remotely from different European countries to contribute to Unimore Sostenibile efforts towards sustainability. They are the authors of this report.

Phase 1 - Collecting information

The group activity started by collecting information about the challenge, browsing the UniMoRe Sostenibile website (<http://www.unimoresostenibile.unimore.it/>) and reading the reports on mobility which are presented there.

Getting in touch with Francesca Despini, a team member of UniMoRe Sostenibile, provided additional information about the activities of UniMoRe Sostenibile, and more in general about sustainability actions and perceptions in UniMoRe, as well as a master thesis on by Davide

Marcheselli on carbon dioxide emissions related to building and mobility within the university¹ and reports from the UI Green Metric - World University Rankings.

US works in accordance with Rete delle Università per lo Sviluppo sostenibile (RUS), the first experience of sharing and coordination amongst Italian universities actively involved on environmental sustainability and social responsibility.

The RUS Manifesto (end of May 2019) urges for the realization of concrete and diversified actions to realize the United Nations Sustainable Development Goals 2030 (SDGs), considering universities as great agents for social and economic transformation.

The main RUS objectives are:

- To spread sustainability culture and good practices, both inside and outside the universities, sharing competencies and experiences, in order to increase the positive impacts of actions implemented by single universities;
- To promote SDGs and contribute to their realization;
- To make the Italian experience stronger and more recognizable at international level;
- To become a good practice to be extended also to other sectors of public administration, education, and the territory in general, promoting the development of collaborations between universities and cities, spreading social innovation on the territory and providing cultural stimuli for the entire nation.

National RUS working groups are focussed on: climate change, food (since end of 2018), education (since 2017), energy, mobility, and waste.

According to Professor Grazia Ghermandi, head of the US team, all lines of action reported in the RUS Manifesto are important for Unimore and it's necessary to pursue all of them, also because there could be administrative and organizational issues which can prevent to move forward on each one at the same speed.

Nevertheless, for this activity the "energy" topic was excluded, since UniMoRe is already working and investing on that. Furthermore, "climate change" was considered as a transversal theme, since reducing the impact of Unimore on climate change could be part of actions related to any of the other topics.

Thus, the topics on which the group activity focussed were:

- food,
- education
- mobili
- waste

¹ "Inventario delle emissioni di anidride carbonica dell'università degli studi di modena e reggio emilia per gli anni 2015 e 2016: stima del contributo degli edifici dell'ateneo e del settore della mobilità", Tesi di laurea del candidato Davide Marcheselli, Relatore: Prof.ssa Grazia Ghermandi, Anno Accademico 2016/2017

Phase 2 - Applying System Thinking tools

Systems thinking approach does not aim to provide quantifiable answers to specific problems, but rather provides a range of options and a better understanding of the implications of those options. System thinking is part of the concept of System Innovation. Indeed, there are three main features connected to System Innovation: system thinking, innovation and complex system.

System thinking is a way to look at the world, a holistic perspective. This method helps to look, think, talk, design about all the system not only its components.

The second aspect is innovation. Innovation is really related to creativity which is the ability to generate original ideas that provide value. The innovation is the capacity to turn original ideas into successful projects. With innovation, we mean something that can change the system introducing something new.

Finally, the context is a complex system, composed of many interdependent parts. So, system innovation is a system of thinking a transformative change in a complex organization.

Climate-Kic² suggests through the toolbox different tools to be used for each phase. These specific tools help to overcome the various stages more efficiently: from the analysis of the stakeholders to the idea test.

These tools allow you to visualize the complex situation on which to work through the canvas. Through models and post-it is possible to dissect the situation and make it as clear and legible as possible. In our specific case what was more complex was to understand the stakeholders and the connections between them, so as to be able to create powerful synergies later. Our group started to analyze stakeholders and their interrelations through the pentagonal problem tool, then the actor tree tool and finally the stakeholder's universe tool. In the following paragraphs, these tools will be explained specifically, based also on the description they are presented through in the Climate KIC toolbox.

The Pentagonal Problem tool

What is it and why is it used?

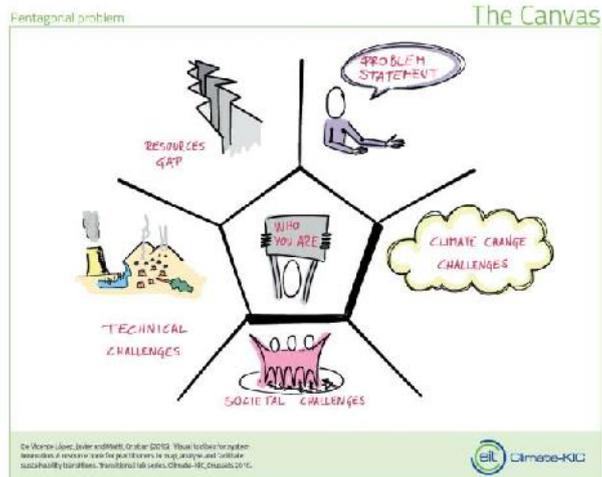
Pentagonal Problem is a visual tool to help nail down the problem, identify its different components and details, getting to a common ground for future actions.

It aims at obtaining a comprehensive and visual depiction of the main systemic components of the challenge by:

- defining the perspective the team is using to look at the challenge (Who you are);
- writing in a simple and forward way what the challenge is (Problem statement);
- identifying climate change, societal, and technical issues related to the challenge (Climate change challenges, Societal challenges, and Technical challenges);
- identifying missing resources (Resources gap).

The canvas to be used is the following:

² Free course at <https://learning.climate-kic.org/en/courses/system-innovation>



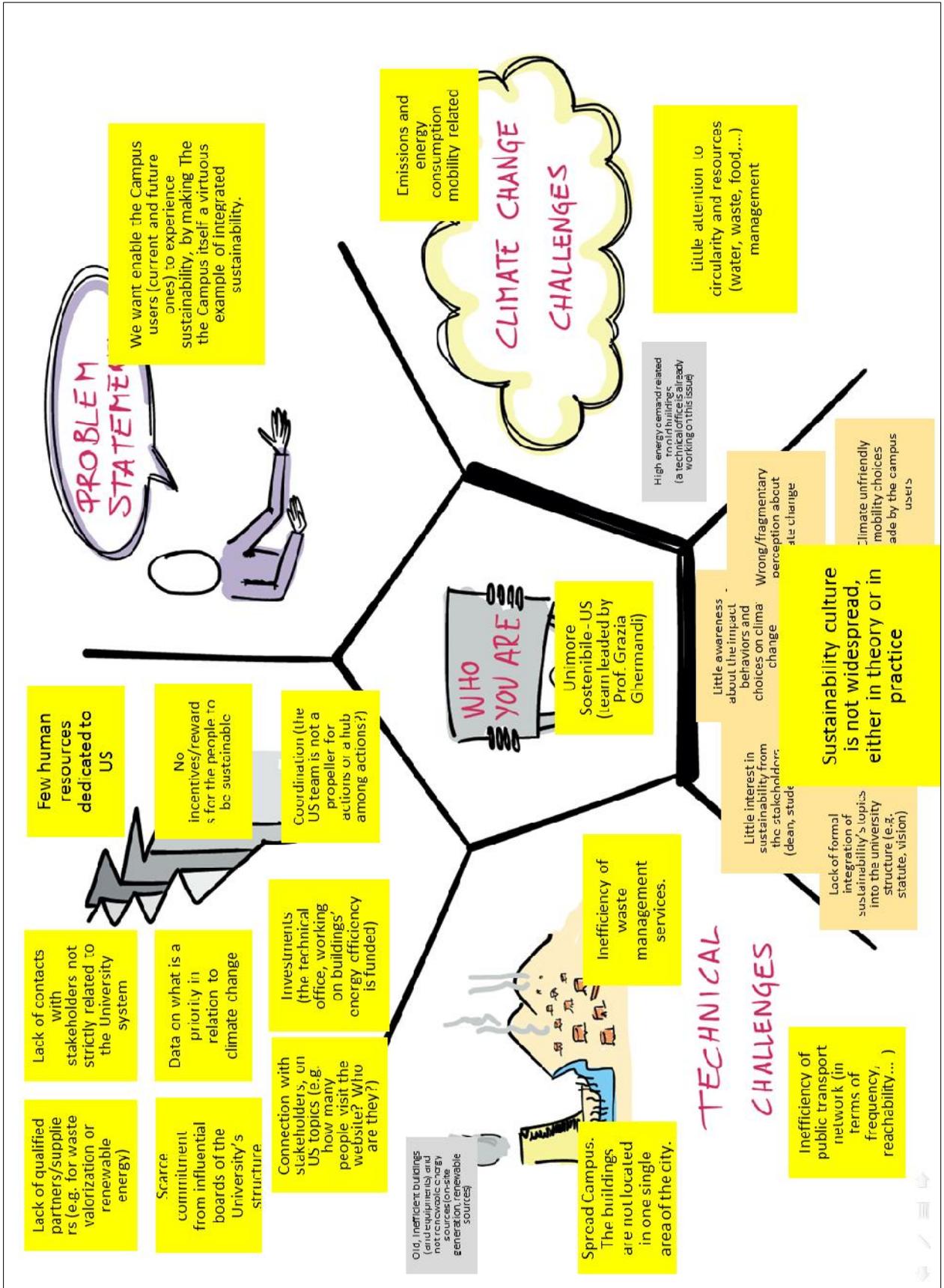
How was applied in relation to the challenge?

The following is the result of applying the Pentagonal Problem tool to the challenge, taking into consideration the UniMoRe Sostenibile team perspective.

Boxes with a grey background are related to the energy topic, which was excluded from the topics to be tackled by this group project.

Boxes with a light orange background are specifications of the more general concept of “sustainability culture” (e.g. as awareness, knowledge, perception).

This result has been discussed also with Francesca Despini, which confirmed the analysis and provided further elements and clarifications.



What is the main take away?

The Pentagonal Problem tool allowed to highlight "Social Challenges" dimension as the main obstacle to overcome. In order to achieve the objective of the project, i.e. transforming the Campus as a virtuous example of sustainability, it is essential that sustainability culture becomes wider spread, especially within people that live directly university spaces. Indeed it emerged that, even if environmental issues and climate change are such actual important topics (newspapers, scientific works, tv programs and so on), in reality there is little interest on it and little awareness about impacts that daily behaviour and choices have. This is completely in contrast with the scope of project itself. Sustainability means not only proposing actions but also putting virtuous behaviours into practice and this is a matter of everyone (from dean to students level).

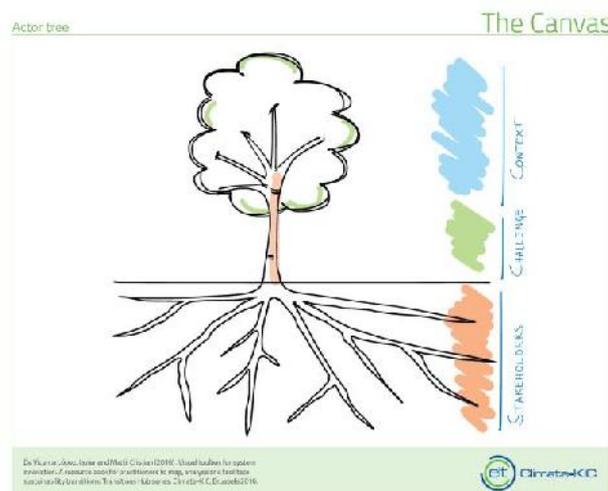
Furthermore the tool allowed to highlight a lacking of the resources dedicated to the project, both under human and economic point of view, as another very critical dimension.

The Actor Tree tool

What is it and why is it used?

The Actor tree canvas is a visual tool that helps you identify, list and categorise the stakeholders around the project. Stakeholders are depicted as the roots of a tree that will feed and carry out the process of system innovation, represented by the crown of the tree. The trunk accounts for the challenge.

The canvas to be used is the following:

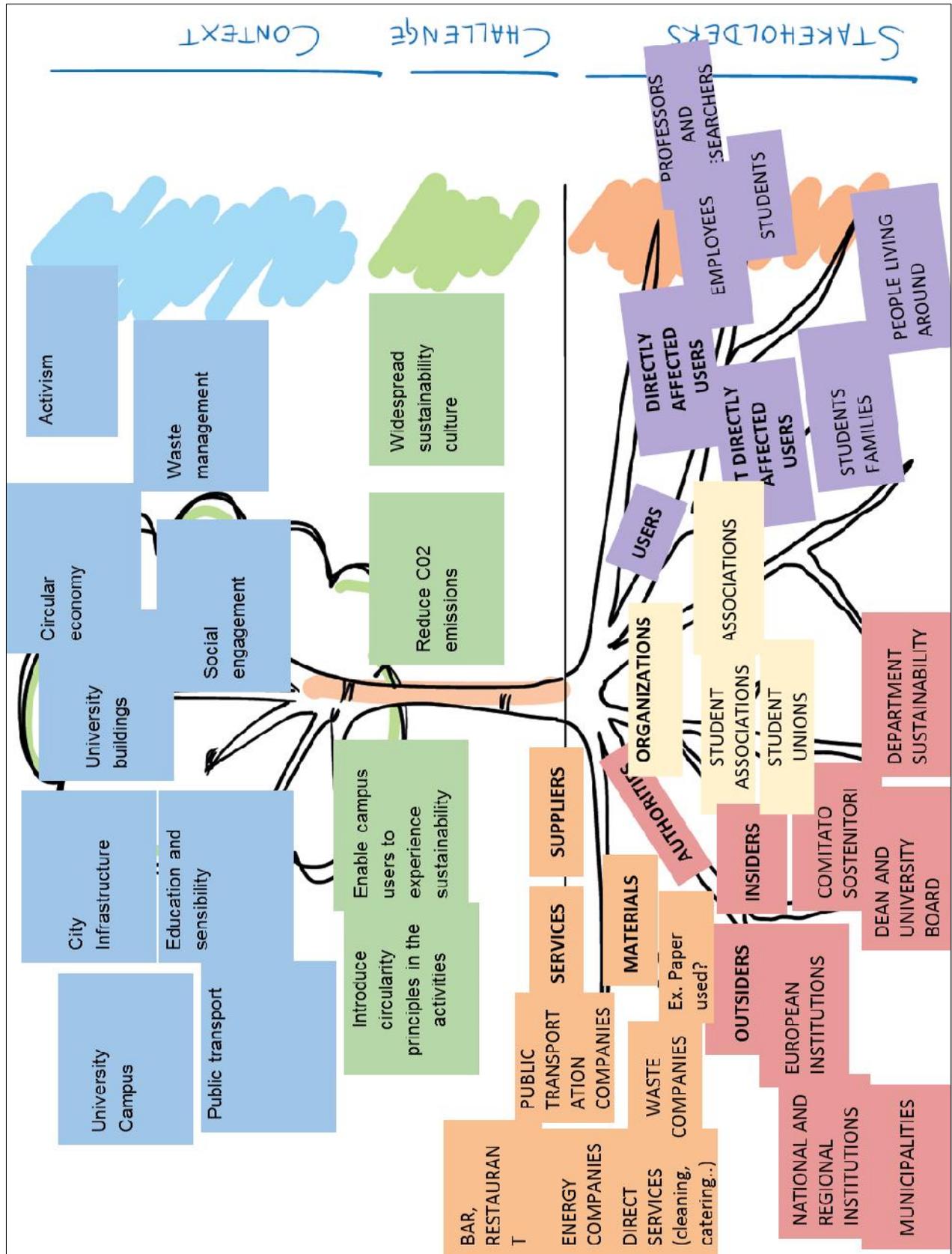


How was applied in relation to the challenge?

As a first step, a list of stakeholders has been drafted. The list has been refined, adding new stakeholders and better defining the initial ones. Then the stakeholders have been grouped, based on their role, influence and activity within the Campus, in the following categories: Suppliers, Authorities, Users, and Organizations.

After this step we have framed the Context: university campus, city infrastructure, university buildings, circular economy, activism, public transports, education and sensibility, social engagement, waste management.

And the Challenge we wanted to face: Introduce circularity principles in the activity, enable campus users to experience sustainability, reduce CO2 emissions, widespread sustainability culture.



What is the main takeaway?

The main takeaway related to this activity has been the possibility to create a list of stakeholders potentially related to the challenge. Through different researches we have found a plethora of actors and in the roots points of connections we have defined possible contacts among the different groups.

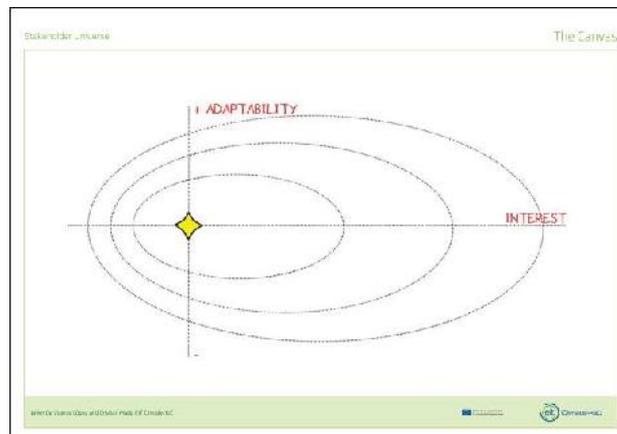
Another fact that has been noticed is that the challenges have found an essential derivation from behavioural changes.

The Stakeholder Universe tool

What is it and why is it used?

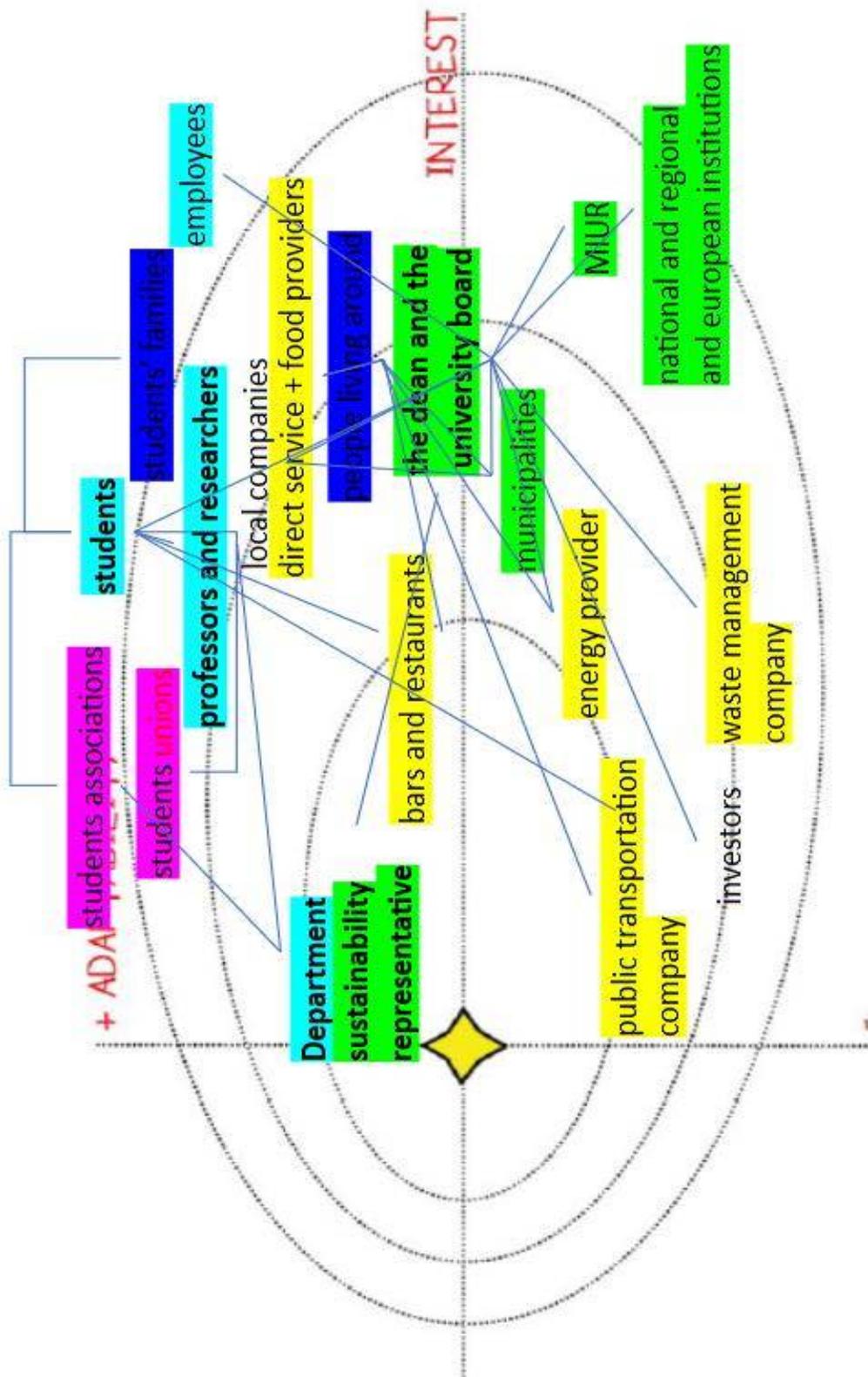
Stakeholder universe is a quick visual network analysis tool in which the challenge is in the core of where the stakeholders revolve. The focus is on the connections among actors and how these connections work and might evolve, affecting system innovation.

The canvas to be used is the following:



How was applied in relation to the challenge?

We put the stakeholders we identified with the Actor Tree tool on the canvas, placing them in relation to the interest we thought they could have for the challenge and related topics and to the possible adaptability they could show in time. We then tried to see how stakeholders in the universe are linked to define the ones with more connections, possible clusters, isolated ones.



What is the main take away?

The main outcome we obtained is the identification of the most powerful and interconnected stakeholders, among which we found the dean and the administrative board have a predominant role, being able to act as a bridge in between the inside and the outside of the university. Furthermore they have the responsibility to take decisions that can support the successful realization of improvement actions and to decide the overall strategy in line with which those actions can be implemented.

Phase 3 - Generating ideas

Based on the information collected in Phase 1 and the analysis performed in Phase 2, ideas for actions have been generated for each one of the considered topics, i.e. food, education, mobility, and waste, and a selection is presented in the following pages.

For each action, the following elements are presented:

- description of the action
- stakeholders to be involved
- possible sources for funding, if investments are needed
- suggestions for communication and for ways to involve stakeholders
- expected results, underlining possible impacts on the territory
- good practices, national and international existing examples

In addition, each action is identified by:

- the scope (i.e. if it's a management, policy, or practical action)
- the need for investment (i.e. no investment, small investment, or large investment needed)
- the timeframe in which the action is expected to produce results (i.e. short, medium, or long term)

A foreword focussed on the most effective framework to be created in order to make the actions as successful as possible is presented as well

A framework for acting towards sustainability in UnMoRe

To create the best conditions to make sustainability actions flourish in UniMoRe, the university has to formally and publicly commit to sustainability in all its dimensions (i.e. environmental, social, and economic).

To achieve this goal the drafting of a sustainability policy could be helpful. This could be a short document where the university defines e.g. the most relevant topics in relation to sustainability, the role and responsibilities of different actors to be involved, its goals, and indicators to measure success. The policy can include transversal principles as well as more topic-specific goals and guidelines, e.g. the plastic-free goal or the integration of sustainability among the criteria to select suppliers.

Also integrating sustainability in the Statue of UniMoRe can be a strong statement that adds the topic to the funding values and guiding principles for the university activities, which could also lead to the use of sustainability as one of the criteria to evaluate Faculties/Schools within the university, e.g. in accessing fundings.

Since the engagement of users is necessary, a key element of the university strategy towards sustainability is communication, to present to the users the goals that UniMoRe has set (and maybe also to involve the users in setting them) and to keep them updated about the results in different areas, e.g. food, education, waste, mobility. An idea to create a connection among and add strength to the actions can be the creation of a “green logo” (a green version of the official logo or a purpose-designed one) which could be used for all sustainability actions.

Ideas for actions on Food

Introduction

The theme of food is becoming increasingly interesting. Its direct link with climate change has recently been underlined by the UN scientific committee on climate (Repubblica, 2019)³. Intelligent and sustainable use of resources is more and more a necessity, which must not be understood as a luxury, but a substance of people's daily lives. It was decided to focus on the theme of food within the campus, understanding the campus as an environment able to persist in the life of users and able to send a message to the outside. During the first approach to this topic on campus, he made different speculations possible. First, there are not many data on the subject. Second, the conformation of the campus makes integrated policies difficult. Third, there is perhaps a lack awareness of the subject and therefore a discussion of it. These deductions have allowed a search towards what the examples from the outside could be.

Starting from the analysis and the examples, it is possible to think of integrated policies within the campus and good practices for resource consumption. The most important premise for the realization of what is proposed is the inclusion of an efficient Food Policy in the University Statute. This could guarantee a facilitation in the process of permeability and realization of ideas. For instance, one of the idea discussed by the group regarding the Food Policy is the inclusion of an article that help the University to choose the most sustainable food suppliers based on the food which is provided and the way it is provided.

Food Action 1 – What am I eating?

Description	Make users ask themselves questions about the food they eat and provide information about the process to get the food, the related real environmental, social and economic impact and value of the food.
Scope	Practical action
Investment	Low Investment

³

https://www.repubblica.it/ambiente/2019/08/08/news/ipcc_cambiamento_clima_aumentera_fame_e_migrazioni-233137455/

Timeframe	Long Term
Stakeholders	<ul style="list-style-type: none"> - Primary users; - Food providers (e.g. restaurants, cafeterias, bars); - Municipalities; - Comitato dei Sostenitori; - The Dean, the Academic Senate and the university Administrative Board
Funding	<ul style="list-style-type: none"> - Internal University funds; - Municipalities
Communication	Promoting the app, putting posters near where the food is purchased and consumed, organize a small exhibition on the topic
Expected results	<ul style="list-style-type: none"> - Careful use of resources within the campus; - Awareness on food production and consumption; - To encourage slightly more "inconvenient" choices.
Good practices	https://www.elvalordelsaliments.cat/calcula-el-valor-del-que-menges/

Food Action 2 – Become a champion for the world

Description	Engage the users in buying more sustainable food with a competition (e.g. buy 10 sustainable food items and you get an award from the university)
Scope	Practical Action
Investment	Basic Investment
Timeframe	Long Term
Stakeholders	<ul style="list-style-type: none"> - Primary users - The Dean, the Academic Senate and the university Administrative Board - Food providers (e.g. restaurants, cafeterias, bars) - Students unions/associations
Funding	Internal University funds
Communication	<ul style="list-style-type: none"> - Publicity Campaign around University; - Publicity Campaign through Social Media Profile - Sustainable Merchandise
Expected results	<ul style="list-style-type: none"> - Careful use of resources within the campus - To encourage slightly more "inconvenient" choices
Good practices	Recycle mania contest - America.

Ideas for actions on Education

Introduction

Topics such as sustainability and climate change are nowadays priorities in all human aspects (transportation, industrial activity, daily behaviour, etc etc) and, requiring deep system changes, they are strictly connected with education. It is just through a reconstruction of values that it can be possible to obtain a real transformation of present system and this starts from specific education actions. Basing on Green Metric Report for the year 2018, Unimore obtained good results under the dimension Education, especially for the indicator relative to number of sustainability courses towards total courses/modules (it resulted lacking just for the indicator relative to sustainability report).

Despite the results in 2018, starting from the analysis described in previous chapters, it is possible to highlight some improvements. Specifically it is proposed to enlarge the consciousness among campus users about efforts sustained by University in terms of sustainability and climate change. The final scope is to get more attention especially by students (the more numerous group of campus users) on themes such as sustainability and climate change, not just through general courses but also through the sharing of effective results obtained through real actions/politics within the campus frame. Finally, the initialization of practical extra-curricular activities is proposed, where students pass from “reading” to “making” sustainability.

Education Action 1 – Do it but Let us know!

Description	<p>Doing direct actions in order to improve the Sustainability of Unimore Campus is a fundamental step in such a modern world. But it is not less important to communicate it.</p> <p>In this context, organizing an Annual Conference about Sustainability within Unimore Campus can be an optimal solution.</p> <p>Indeed the conference could be the perfect “vis-à-vis” moment where share background ideas, sustained efforts and results reached during academic year within the whole Campus Area, in terms of implemented actions and avoided environmental impacts.</p> <p>The Conference could be organized in the Aula Magna of University, in order to give it as much accent as possible.</p>
Scope	Policy Action
Investment	Basic
Timeframe	Medium Term – Long term

Stakeholders	Dean and University Board, Professors and Researchers, Students, Students Association, RUS and Reference Work Group within UNIMORE composed by Prof. Ghermandi and Francesca Despini
Communication	<ul style="list-style-type: none"> - Communication on University Website and mailing list; - Insertion of the Annual Conference Date within the Study Plan of each student; - Oral communication during class lessons by professors; - Communication on boards spread around University departments
Expected Results	<ul style="list-style-type: none"> - Increasing consciousness about efforts sustained by University in terms of Sustainability topics in general; - Spreading consciousness about the existence of RUS and the effort sustained by the work Team composed by Prof. Ghermandi and Francesca Despini; - Spreading awareness and consciousness about Sustainability in all its aspects; - Increasing interest, especially among students, in Sustainability topic; - Increasing direct participation, especially among students, in the application of sustainable behaviour and actions, not only in the University context but also outside
Good Practices	<p>With the scope to make the Conference as much participated as possible, it could be a good idea to make it compulsory for all students.</p> <p>The students should attend all Annual Conferences in order to receive n. 1-2 CFU necessary for the conclusion of the entire course of study</p>

Education Action 2 – Hands on Climate

Description	<p>Hands on Climate give the students to get in touch with the topic of sustainability by extra-curricular activities. Students don't just read about sustainability, they make it happen.</p> <p>This action consists in the activation of short practical courses to make the students in contact with practical sustainable action, to let them experience technologies behind sustainable tools and give them the opportunity to make sustainability happen in their daily life.</p> <p>These courses are open to UNIMORE students for free (and they get CFU by participating) and to locals (that pay a fee).</p> <p>They will be involved in planting green roofs, testing solar arrays, tracking transportation systems or tending organic gardens.</p>
Scope	Practical Action

Investment	Basic Investment
Timeframe	Short Term
Stakeholders	Students (undergraduate, graduate, and PhD students, students attending lifelong learning, master, and short courses), students unions, students associations (especially those interested in sustainability e.g. Engineers without Borders), students' families, professors and researchers, employees, people living around, Department sustainability representatives, the dean and the university board, waste management company, public transportation company, energy provider.
Funding	
Communication	Official Channels: website, social networks, email. Drette facebook. Instagram channel of the courses. Contacting the associations of the students. Putting advertisement.
Expected results	<ul style="list-style-type: none"> - Increase the engagement because the students can apply theory and skills linking the conceptual to the practical; - Gain formal experience to add to their CVs; - New connections at UNIMORE and in the community
Good practices	Living LAB @HARVARD Living LAB @Leeds University

Ideas for actions on Mobility

Introduction

In a world where the propensity to move is always growing, where people move every day to work, to study and for leisure, where the goods and products of all kinds cover massive distances, a new and more sustainable mobility is increasingly necessary, and the UniMoRe Green is an opportunity to explore the topic and understand what we can do to make the world *MoRe Green*, starting from our most important Institutions. Sustainable mobility is generally defined as that mobility compatible with human and environmental health. If unsustainable transport significantly contribute to climate changing and have a negative effect on people's health, trains, buses, bicycles, and electric cars significantly reduce CO2 emissions and make our cities more livable.

We find out in detail three reasons why sustainable mobility must necessarily be our future:

1) Sustainable Mobility to save the planet

The transport sector consumes huge amounts of energy, is responsible for a third of energy consumption in the European Union. The energy used is currently produced mainly using non-renewable sources, such as oil and gas. Of these emissions so harmful to the environment, 90% is given by the road transport, while rail and water travel and are responsible for only 10%. Our planet is no longer able to withstand the pollution from transport, a change towards sustainability is urgent.

2) Sustainable Mobility and Healthier lifestyles

Choose to move on foot or by bicycle to reach their jobs is to live more healthily, combat sedentary lifestyle and maintain good physical shape. Leaving the car in the garage even improve your mental health. Going by bicycle is less stressing, and those traveling by public transport is more relaxed and found again precious time that gives the chance to read or socialize. In addition, the emissions produced by the cars of our city can cause many different types of chronic diseases.

3) Smart Mobility, Strong Economy: Sustainable Mobility impacts on Economic progress

The impact on the economy of sustainable mobility is amply demonstrated and of great importance. While the smart planning and the use of public transport is a source of savings both for the public administration and citizens, all green mobility is beneficial for economic growth. Suffice it to say, cycling has created 650,000 jobs in Europe, invoicing 44 billion euros. But there's more: studies conducted in areas closed to motorized traffic, accessible only to pedestrians or cyclists, have noted a significant increase in business activities and related incomes. Finally, the profitable high-tech sector, such as web and mobile App, and the whole heterogeneous and dynamic world of innovative startups, offer concrete solutions and make possible a virtuous circle between Institutions, Citizens and Companies.

Mobility Action 1 – The Winning Mobility

Description	<p>It is possible to stimulate and motivate the use of multiple applications, in order to fully exploit the technology to optimize travel, reduce consumption, and therefore costs and pollution.</p> <p>A specific chapter has deserved by a new kind of mobility applications we found out during our research, that we believe could be a new benchmark to achieve our goals. The most important innovation of this kind of Apps is that it become possible to reward users with the best virtuous behavior.</p> <p>In fact, users, can participate in a great and healthy competition, and in this way they are encouraged to use public transport, bicycles, or to walk. That's why already many public institutions are going to "spread" this new generation App in their urban areas.</p> <p>It is important to underline, moreover, that these awards can be provided not necessary by the Public Institution, as our University, but by local companies and shops, which in this way could be able to advertise their products, in a more cheap and smart way.</p> <p>An example we found out after our research is the App called "Play & Go", developed by the Bruno Kesler Foundation (FBK), and already live in the whole Provincia Autonoma di Trento. Here you could download it:</p> <p>http://www.smartcommunitylab.it/apps/viaggia-trento-e-rovereto-playgo/</p> <p>Our research, for the 2018-2019 edition, shows great outcomes:</p> <ul style="list-style-type: none"> ● The competition started from 27 of October 2018 and finished 26 of April 2019, ● 9 Awards, ● Numbers of active users: 590, ● Numbers of trips: 64.065 ● Numbers of trips in sustainable way: <ul style="list-style-type: none"> ○ Walk: 32.364 ○ Bike: 12.876 ○ Bus: 14.417 ○ Train: 4606 ● Numbers of km in trips: 251.508 ● Numbers of km in sustainable way: <ul style="list-style-type: none"> ○ Walk: 60.841 ○ Bike: 43.048 ○ Bus: 55.493 ○ Train: 92.127 ● Km/user: 426 (vs 327 previous year à + 30%) ● Trips/user: 109 (vs 70 previous year à + 50%) ● 70% of new users compared with the previous year ● User experience valuation: <ul style="list-style-type: none"> ○ 86%: very positive ○ 11%: neutral ○ 3%: negative ○ 67% states to have adopted more sustainable mobility habits ○ 20% started to try public transportation ○ 86% will participate to the next year competition ● Considering our most important target (students), a specific attention deserves the user age: <ul style="list-style-type: none"> ○ From 0 to 20: 13% ○ From 20 to 35: 40%
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- From 35 to 50: 26%
- From 50 to 70: 19%
- More than 70: 2%

That means it is reasonable to expect a great participation by the student population.

Scope	Management action
Investment	Basic Investment
Timeframe	Short / Medium Term
Stakeholders	University board University Users: Students (undergraduate, graduate, and PhD students, students Professors and researchers Employees People living around Department sustainability representatives Local Companies
Funding	Could be zero
Communication	1. Website 2. National and Local Newspaper 3. Guerrilla Marketing: big campus tablet, with all the green outcome. It would be "catching" to divide users into 3 categories, so that a kind of competition arises. Every day, based on the results, the board could carry the sentence: "Students / Professors / Workers do it better". 4. Involving similar departments: the Communication and Economics department, where they have a degree in digital marketing. Prof. Maria Cristiana Martini is the contact person and should be involved.
Expected results	1. Increase the percentage of campus residents who use green mobility App. 2. Promote campus awareness of sharing economy in a green vision. 3. Promote data collection to motivate everybody to be green in a concrete way. 4. Increase sociality between different university category users. 5. Promote a create partnership with local companies.
Good practices	App "Play & Go", developed by Bruno Kesler Foundation (FBK)

Ideas for actions on Waste

Introduction

Waste management within the campus has been identified as another of the priorities for the UniMoReGreen. During the analysis phase, attention was focused on the UniMoRe Sostenibile web page and the Green Metric Report for the year 2018. The state of the art concerning this topic is on the whole positive. A satisfactory capacity to manage the waste produced within the university structures and general awareness of separate collection was recognized. With this in mind, the working group considered that there were general and specific issues that could be improved.

As already underlined for the Food issue, the importance of the policy was emphasized above all to improve resource management. It would be interesting to design a sustainability policy

for the university as a container for all specific actions (e.g. good samaritan). The inclusion of users in the monitoring and communication of the results obtained is considered fundamental for the generation of awareness and to have tangible contact with the dynamics in progress. Finally, we think that a policy of disincentivizing the use of plastic could be very effective (though vending machines, increasing water sources and sustainable merchandising).

Waste Action 1 – A new sustainable image for UniMoRe!

Description	Design and sell university merchandising which promote sustainable choices/lifestyles (e.g. water bottles, cups)
Scope	Practical Action
Investment	High Investment
Timeframe	Short Term
Stakeholders	<ul style="list-style-type: none"> - The Dean; - The Academic Senate; - The university Administrative Board; - Department sustainability representatives; - Primary users; - Local companies (designing and producing merchandising); - Investors.
Funding	<ul style="list-style-type: none"> - Selling table / vending machines around campus - Communication through official website or social pages -unimore sostenibile could work on social campaign? - Sale during events or conferences
Communication	<ul style="list-style-type: none"> - Publicity Campaign around University; - Publicity Campaign through Social Media Profile - Sustainable Merchandise
Expected results	<ul style="list-style-type: none"> - Reduction in the use of plastic - Greener image of the campus and its institutions - Spread of sustainable methods of consumption - Refusal to sell plastic bottles or cup in the long term
Good practices	https://fairware.com/blog-organic-cotton-pencil-case-university-alberta/ https://pittsburgh.cbslocal.com/2012/03/28/chatham-university-bans-sale-of-bottled-water/

Waste Action 2 – Know your strategy! & Progress!

Descript ion	Study possible valorization of waste, write a policy on its reduction and show the interim results on the campus
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Scope	Practical Action & Policy
Investment	Basic Investment
Timeframe	Long Term
Stakeholders	<ul style="list-style-type: none"> - Primary users of campus - The Dean, the Academic Senate and the university Administrative Board - Students unions/associations - Waste management companies
Funding	Internal University funds
Communication	<ul style="list-style-type: none"> - Publicity Campaign around University; - Publicity Campaign through Social Media
Expected results	<ul style="list-style-type: none"> - bigger feeling of involvement of users in environmental protection - more frequent exposure to the facts about recycling - easier setting of goals for future
Good practices	https://www.strath.ac.uk/media/ps/estatesmanagement/sustainability/waste/Waste_Management_Policy.pdf https://policies.northwestern.edu/docs/sustainable-waste-management-FINAL.pdf https://www.researchgate.net/publication/317988522_Sustainable_waste_management_strategy_for_a_campus_a_case_study_of_JUET_Guna

Waste Action 3 – Use your resources!

Description	Use rainwater (e.g. for toilets and/or irrigation) + Consider recycling water, looking for good practices in other universities
Scope	Practical Action
Investment	High Investment
Timeframe	Short Term
Stakeholders	<ul style="list-style-type: none"> - The Dean; - The Academic Senate; - The university Administrative Board; - Department sustainability representatives; - Local companies; - Professors and researchers; - Technical department/office.

Funding	<ul style="list-style-type: none"> - Internal University funds; - Local Investors; - Local companies; - Municipalities; - European funds.
Communication	<ul style="list-style-type: none"> - To increase the attention, in terms of research, on the subject ; - Publicity Campaign around University.
Expected results	<ul style="list-style-type: none"> - Reduce University-wide water use (goals?) - Monitoring the actual system of irrigation
Good practices	<ul style="list-style-type: none"> - examples of stormwater management in Pittsburgh https://www.cmu.edu/environment/energy-water/stormwater.html - Harvard University, the school saves nearly 25,000 gallons of water each year by simply saving rainwater https://green.harvard.edu/topics/water

What next?

This report is meant to be a starting point for a discussion within UniMoRe about actions to tackle climate change and, more in general, to improve the sustainability performance of the university. The report shows how the involvement of different stakeholders, inside and outside the campus, is key to identify the most effective and feasible solutions and to implement them.

That is why, as a first step, the authors of this report suggest to use this document as an “ice breaker” during the next sustainability representatives meeting, maybe presenting it through few slides, underlying mainly the process which could be used again within the sustainability representatives group to refine and improve the results.

The first part of the work was mainly focused on the identification of the different stakeholders that can be involved in the green transition process of the Campus and the different levels of interaction among them. From the output of this analysis the user of the report can take advantage of a preliminary list of potential partners to involve in future actions.

The posters presented in the Annex, which aims at presenting the ideas in a quick and catchy way, could be printed and hung in strategic spots within the campus, in order to raise curiosity and awareness from a much bigger number of campus stakeholders.

The report as well as the posters could be also put on-line, on the UniMoRe or UniMoRe Sostenibile website.

Within the presented ideas, the authors think that the most feasible and promising ones could be the following:

- “What am I eating?” (Food Action 1), as a way to push as many people as possible to look beyond their plate, make them ask themselves questions and adopt a life cycle perspective when thinking about food;

- “Do it but Let us know!” (Education Action 1), as a structured and scientific-based way to represent the UniMoRe commitment inside and outside the Campus;
- “Hands on Climate” (Education Action 2), as a way to integrate the challenge towards a more sustainable and climate friendly campus deep into the university “core business”;
- “The True Winning Mobility” (Mobility Action 1), as a way to contribute to improvements on an area which is one of the leading contributors to climate change within the campus.

The ideas suggested in this report are intended as a first attempt to “get real”, trying to take into consideration the specific characteristics of the UniMoRe Campus and possible real constraints, but are based on a limited investigation and knowledge about the UniMoRe Campus. As said, a further discussion within Unimore will for sure led to the identification of even more customized and detailed proposals for action that a shared commitment of all relevant stakeholders could turn into a more sustainable UniMoRe Campus, being in turn a leading example for the whole UniMoRe universe.

Annex - Ideas posters

Annex 1 - What Am I Eating?

Annex 2 - Hands On Climate

Annex 3 - Do It But Let Us Know!

Annex 4 - The Winning Mobility

What Am I Eating?

Make users ask themselves questions about the food they eat and provide information about the process to get the food, the related real environmental, social and economic impact and value of the food.



Practical Action

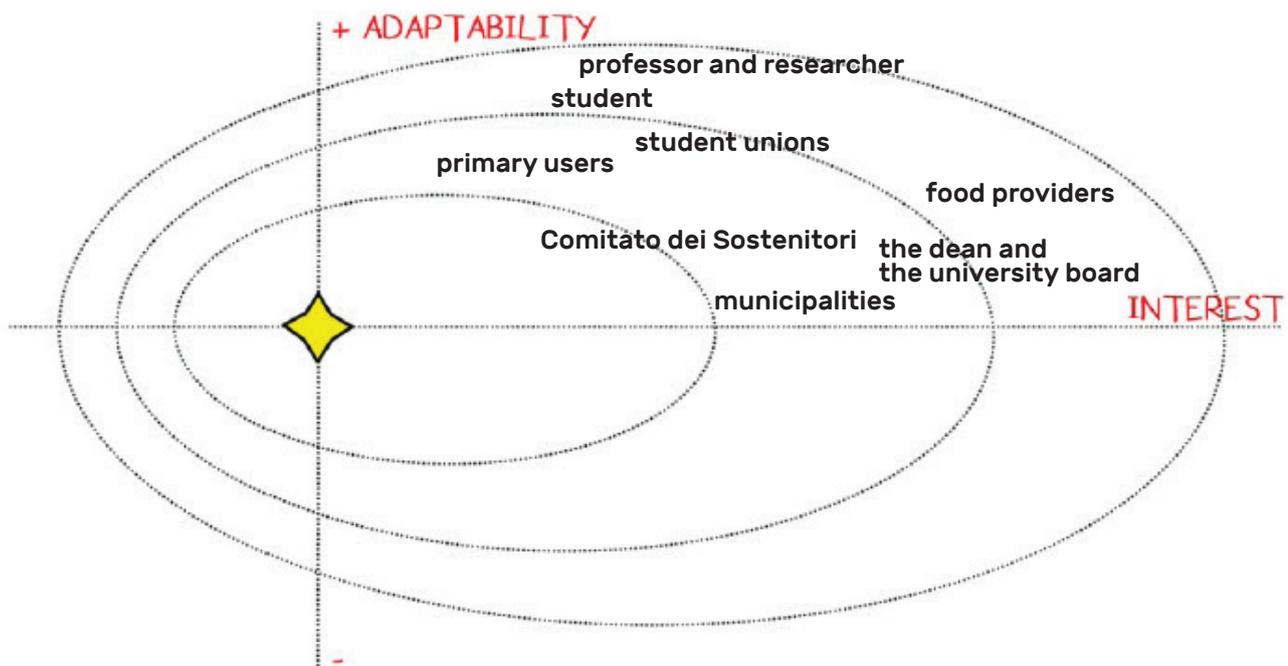
Timeframe



Basic Investment



Stakeholders



Expected Results

1. Increase the percentage of campus residents who use green mobility App.
2. Promote campus awareness of sharing economy in a green vision.
3. Promote data collection to motivate everybody to be green in a concrete way.
4. Increase sociality between different university category users.
5. Promote a create partnership with local companies.



Climate-KIC

Pioneers

Hands On Climate

Hands on Climate give the students to get in touch with the topic of sustainability by extra-curricular activities. Students don't just read about sustainability, they make it happen.

This action consists in the activation of short practical courses to make the students in contact with practical sustainable action, to let them experience technologies behind sustainable tools and give them the opportunity to make sustainability happen in their daily life.

These courses are open to UNIMORE students for free (and they get CFU by participating) and to locals (that pay a fee).



Practical Action

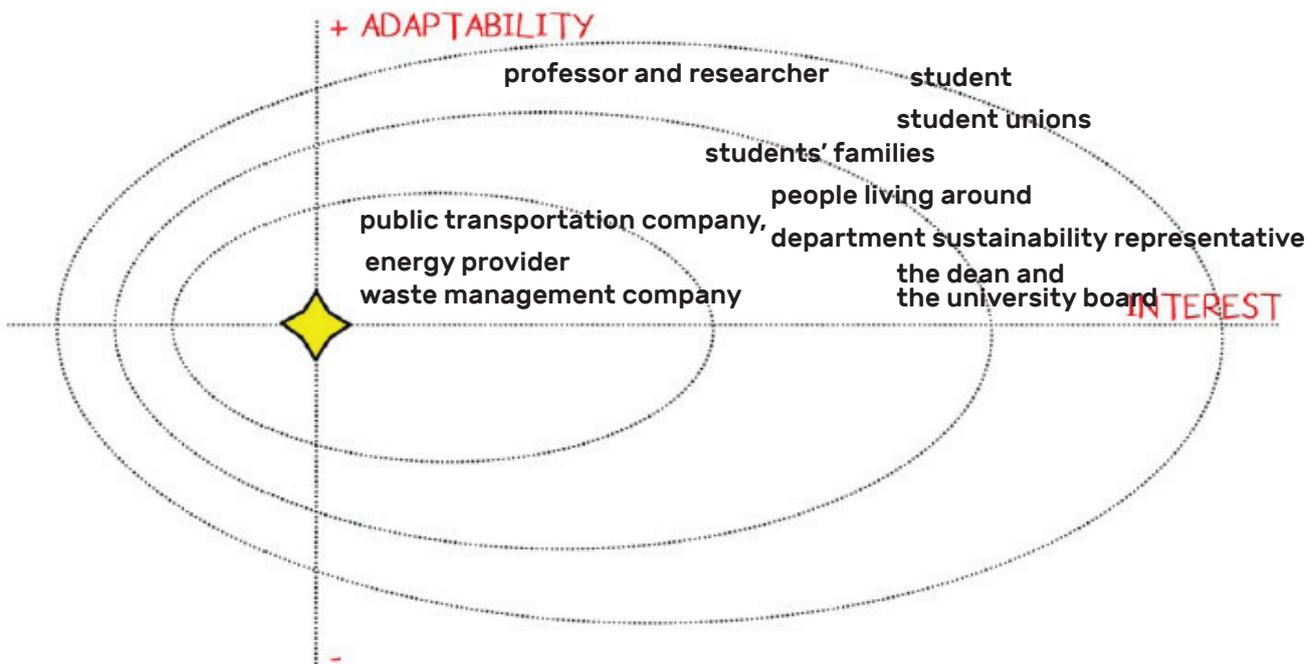
Timeframe



Basic Investment



Stakeholders



Expected Results

1. Increase the engagement because the students can apply theory and skills linking the conceptual to the practical;
2. Gain formal experience to add to their CVs;
3. New connections at UNIMORE and in the community



Climate-KIC

Pioneers

Do It But Let Us Know!

Doing direct actions in order to improve the Sustainability of Campus UNIMORE is a fundamental step in such a modern world. But it is not less important to communicate it.

In this context, organizing an Annual Conference about Sustainability within Campus UNIMORE can be an optimal solution. Indeed the conference could be the perfect "vis-à-vis" moment where share background ideas, sustained efforts and results reached during academic year within the whole Campus Area, in terms of implemented actions and avoided environmental impacts.

The Conference could be organized in the Aula Magna of University, in order to give it as much accent as possible.



Practical Action

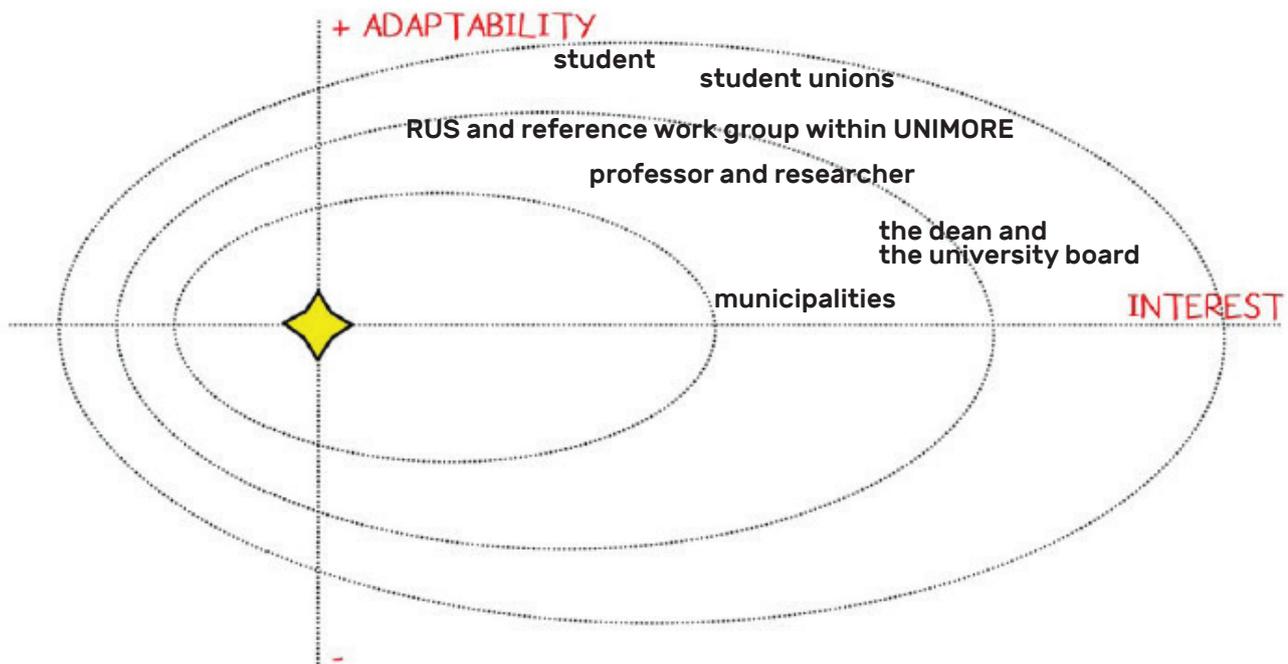
Basic Investment



Timeframe



Stakeholders



Expected Results

1. Increasing consciousness about efforts sustained by the University ;
2. Spreading consciousness about the existence of RUS
3. Spreading awareness and consciousness about Sustainability in all its aspects;
4. Increasing interest, especially among students, in Sustainability topic;
5. Increasing direct participation, especially among students, in the application of sustainable behaviour and actions, not only in the University context but also outside



Climate-KIC

Pioneers

The Winning Mobility

It is possible to stimulate and motivate the use of multiple applications, in order to fully exploit the technology to optimize travel, reduce consumption, and therefore costs and pollution.

A specific chapter has deserved by a new kind of mobility applications we found out during our research, that we believe could be a new benchmark to achieve our goals. The most important innovation of this kind of Apps is that it become possible to reward users with the best virtuous behavior.

Users, can participate in a great and healthy competition, and in this way they are encouraged to use public transport, bicycles, or to walk. An example we found out after our research is the App called "Play & Go" (FBK).



Management Action

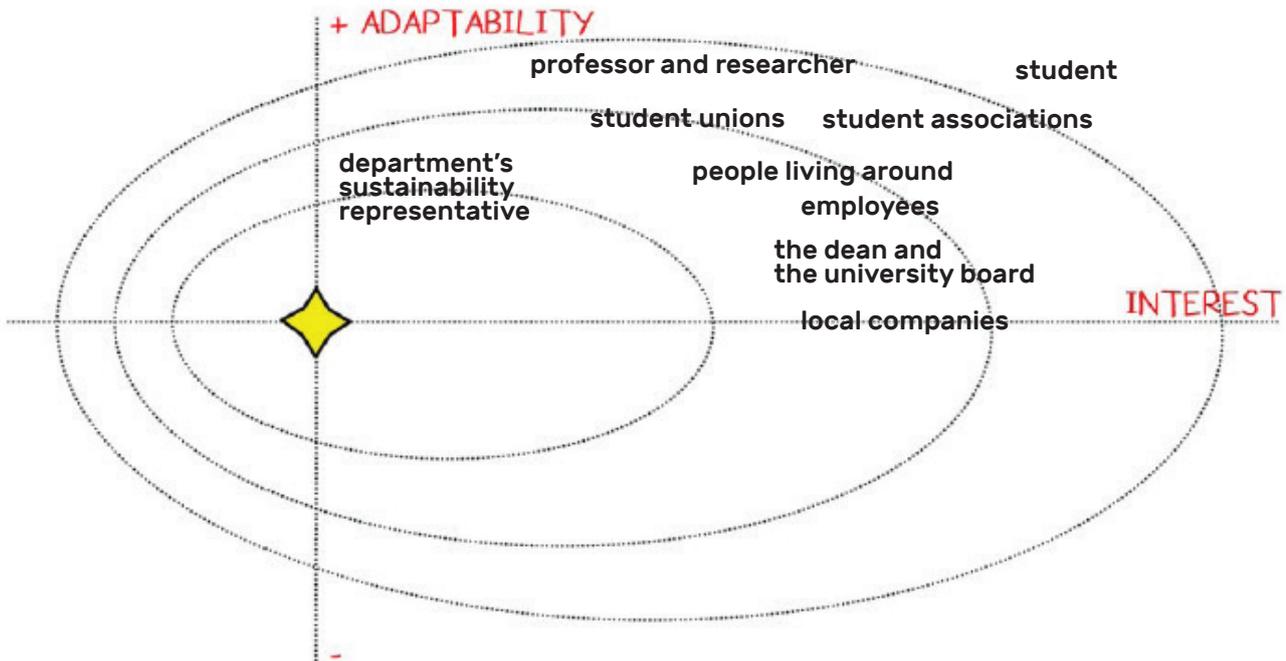
Basic Investment



Timeframe



Stakeholders



Expected Results

1. Increase the percentage of campus residents who use green mobility App.
2. Promote campus awareness of sharing economy in a green vision.
3. Promote data collection to motivate everybody to be green in a concrete way.
4. Increase sociality between different university category users.
5. Promote a create partnership with local companies.



Climate-KIC

Pioneers