UL Mission-based Sustainability Framework 2030

UNIVERSITY OF LIMERICK
OLLSCOIL LUIMNIGH

Speculative vision of
UL Campus 2030

This document has been co-created by **UL Sustainability Working Group** in collaboration with strategic design partner **Saol.** It was created through an open and participatory process, ensuring the diverse range of perspectives and disciplines within our university were included at each stage of development. This document is intended to be used as a 'living document' – its contents will evolve as we embark on the collective journey toward becoming a Sustainable University.

www.ul.ie/sustainability

www.studiosaol.com

www.un.org

What this document *is*

This document was created to shape UL's holistic response to sustainable development. It seeks to illustrate the value of adopting a mission-oriented approach to systems innovation, and the need for universities to play their role in exploring, envisioning, and experimenting across and within all sectors of society. Ultimately, this document is intended to:

- Inspire the collective vision of UL as a Sustainable University.
- Provide a set of ambitious UL Missions to guide our strategic actions.
- Illustrate an initial portfolio of Mission Projects that aim to positively intervene across all areas of our campus and community.
- Outline the starting points for the postures and mindsets, theories of change, and new ways of designing required to ensure organisational and community-wide participation.

What this document *is not*

Although specific intentions are presented throughout the document, its role is to act as a guide – ensuring sustainability will sit at the core of all subsequent strategic planning processes. In line with this intention, all future visualisations presented within the document were created to spark discussion regarding possible futures (i.e. "what could be") – they are speculative by design, and are not to be viewed as literal proposals (i.e. "what should be").

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“ It is our responsibility to take bold action – to have the courage to explore the unknown and collectively pioneer a better path forward.”

Professor Kerstin Mey
President
University of Limerick

Foreword

The rapid pace of societal growth has caused us to exceed many of Earth’s planetary boundaries. We are now living in a deficit – consuming resources at a rate at which they cannot be replenished. By prioritising economic growth, we have disregarded the needs of the natural world. In the process, we have also created unprecedented rates of inequality and social injustice. The impact of this on the well-being of people and the planet is now evident. The defining challenge of the 21st century will be to balance social progress with these environmental boundaries: to learn how all life on Earth can flourish as one.

The more we learn about the challenges of our time, the more we come to understand that they are systemic. They are interconnected and related in ways that can seem invisible to us. Action is being taken around the world to address these systemic challenges. For many, it has led to the realisation that we must reconsider the very fundamentals of society that we have taken for granted. While many transformative innovations will be required to overcome these systemic challenges, our first step must be to restore our relationship with the natural world and heal the divisions that pervade our society. We are all part of the web of life, and until this understanding is instilled within the core of our institutions, we will continue down our current path towards ecological and social decline.

UL has always been committed to enabling our students to become engaged and socially responsible citizens – individuals who can create positive impact both within the region and internationally. We are now building on this commitment by wholly aligning ourselves to the UN Sustainable Development Goals.

This commitment brings with it three central responsibilities:

1. To provide the space and mentorship for our students to develop into citizens who act as stewards of sustainability, both in their personal and professional lives.
2. To double-down on sustainability-led research and knowledge generation to support the shaping of our transitioning societal structures.
3. To fulfil our role as custodians of social and environmental responsibility through leading by example within our grounds and communities.

To deliver on these responsibilities, I promise to ensure that sustainable development lies at the heart of everything UL strives to become. From today onwards, sustainability should be evident across all aspects of our campus. It should be an integral part of our ethos, our governance and our leadership. It should guide our research and shape our students’ experiences. It should exist at the core of our partnerships and collaborations. Most importantly, it should become an integral part of our home and community life – allowing us to lead the way and inspire the next generation of leaders to come. Ambitious goals such as these cannot be achieved in isolation; they are too grand for any single individual, team or discipline to tackle alone. Instead, they require a commitment to fostering meaningful collaboration so we can envision the world we wish to create and spark the desire to act in solidarity for the good of all life on Earth.

It is our responsibility to take bold action – to have the courage to explore the unknown and collectively pioneer a better path forward.

I invite you to join me in making this our story; the story of how UL became a leader within the transformation towards an equitable and sustainable society. A world where people and planet thrive together.

UL Sustainability Journey To Date

The following is a historic timeline of the key sustainability milestones UL has achieved to date. We have always aspired to create positive social and environmental impact; each milestone conveys how our commitment to sustainable development has grown over time.

1972
- UL predecessor institution founded: National Institute for Higher Education

1989
- University Status

1993
- Signed Copernicus Charter

1999
- Set up Environmental Committee
- Access Office

2008
- Join PRME

2009
- President Volunteer Program

2011
- UL Green Metric

2012
- Limerick Smarter Travel

2015
- An Taisce Green Campus
- Joined UN Global Compact
- UL Engage

2016
- UL Green IT Project

2017
- University of Sanctuary

2018
- Healthy UL Framework

2019
- Expanded Charter Athena SWAN Bronze Award
- Sunday Times University of the Year
- Ranked World No.2 for Student Happiness
- UL ranked with in Top 75 EU for THE excellence in T&L

2020
- National Pollinator Plan
- UN SDG Strategic Integration
- UN SDG Systems-wide approach
- UN SDG Steering Committee and Working Groups

01 Introduction

"Isn't there a way to break the patterns of the past and tune into our higher future possibility – and to begin to operate from that place?"
– C. Otto Scharmer

Photo Credit:
Tom Spencer

Introduction

This section outlines the scale of the challenges before us, how we might reframe them to make them actionable, and the novel approaches required to address them.

Photo Credit:
Gerti Gjuzi

UN Sustainable Development Goals

The United Nations Development Goals (2015) provide "a shared blueprint for peace and prosperity for people and planet, now and into the future". At their heart, the 17 SDGs are an urgent call for action by all countries in a global partnership. They acknowledge that eliminating poverty and human deprivations must go hand-in-hand with improving access to quality health and education, reducing social and financial inequality, and raising economic prosperity – all while tackling climate change and working to preserve the health of the natural world.

One way of understanding the SDGs is to see them as an acknowledgment of the gravity of our collective situation – by mere virtue of the amount of goals that need to be met. Another perspective is to use them as a mechanism to reflect on how we arrived at our current situation, across each identified dimension of planetary life. Irrespective of the many ways in which they can be interpreted, the one aspect that cannot be ignored is the interconnected, interdisciplinary, cross-boundary and cross-cultural nature of what must be made operational to address them.

The implications on the role of learning and education across society are central to any meaningful conversation relating to societal and environmental change; specifically, the implications on the institutions and individuals who serve these social and natural functions. For higher education institutions (HEIs), as producers of both knowledge and talent, there is a transversal infrastructural responsibility that must be risen to.

To meet this great need, HEIs will need to play three interdependent roles:

- Foster change agents that can act to realise transformation towards the complex sustainability challenges of the 21st century.
- Develop sustainability-based research and knowledge to guide the transition of our societal institutions and structures.
- Transform higher education institutions into pioneering exemplar models of sustainable development.

The complexity of transitioning to a sustainable world means no single institution or sector can complete this journey in isolation. Our societal challenges are fundamentally a collective action problem – their resolution will be characterised by the recognition and realisation of our deep interdependence, with place and within our communities.

"Global problems are systemic problems. They are all interconnected and interdependent. Therefore, the Sustainable Development Goals also need to be seen as a systemic set which is interconnected and interdependent. You can't deal with them in isolation."
– Fritjof Capra

Diagram Reference
United Nations Development Goals (2015)

Understanding the SDGs as Wicked Problems

The SDGs are a valuable attempt at defining the characteristics of a world where many collective problems have been overcome or eradicated entirely. However, their scale and nature makes them difficult to cohere around – let alone make real progress towards them.

In this way, the SDGs are a set of resonant examples of 'wicked problems'; those issues deemed intractable due to their complexity. In contrast to 'tame problems', which can be solved using traditional, linear problem solving processes and methods, wicked problems have a dynamic, living quality (due to their inherent socially complex nature). This requires an fundamentally different framing, posture, analysis and action-bias from those who wish to engage with them.

By viewing the SDGs as wicked problems, they can be reframed as specific nested challenges, making them more tangible, and as a result, inspiring greater collective action toward addressing them. Additionally, expressing the SDGs as wicked problems aids in the acceptance of their intrinsic 'messiness', and counters the prevailing posture which aims to simplify the framing of the goals for the sake of easier translation.

Features of Wicked Problems:

- **Wicked problems are difficult to clearly define:** different stakeholders have different views of what the problem is and appropriate responses
- **Wicked problems have many interdependencies and are often multi-causal:** there may be conflicting goals for those involved
- **Attempts to address wicked problems often lead to unforeseen consequences:** wicked problems exist in complex systems that exhibit unpredictable, emergent behaviour
- **Wicked problems are often not stable:** understanding of the problem is constantly evolving
- **Wicked problems usually have no clear solution:** there is no right or wrong response, although there might be worse or better responses
- **Wicked problems are socially complex and often manifest as 'hidden harms':** it is social complexity, rather than technical complexity, that is overwhelming
- **Wicked problems never sit conveniently within the responsibility of any one organisation:** these problems cross governance boundaries at all scales
- **Wicked problems involve changing behaviour:** and accepting the difficulties that comes with it

"The ability to solve wicked problems will call for new ways of thinking about design, our world and the human presence in it."
- Terry Irwin

Diagram Reference
Based upon Rittel, H.W.J. and Webber, M.M. (1973)

Grand Challenges & Mission-oriented Innovation

In addition to accepting that the SDGs must be reframed as wicked problems (acknowledging their nested complexity and moving beyond high-level abstractions), there also exists a need to further frame these problems in a strategically actionable way. This is why UL is adopting a 'mission-oriented' approach to innovation.

A high-level societal goal (e.g. SDG 15 "Life On Land") becomes more tangible when reframed as a specific wicked problem (e.g. 'Biodiversity Collapse'). However, while more distinct, it remains void of outcome-based thinking. Mission-oriented innovation is an approach to tackling the SDGs that puts outcome-based thinking at its core; it leverages the power of societal missions as a coordination strategy to catalyse transformative collective action. On the surface, it is a deceptively simple framework that proposes reframing the SDGs as 'societal grand challenges' (understood as wicked problems) so that we might then declare missions in service of those grand challenges.

An innovation can be considered 'mission-oriented' when there is a clear outcome or overarching objective the innovation aims to achieve. It must have clear strategic direction, even if the specifics of how it will manifest remain uncertain. Implicit in the model is the acceptance that cross-sectoral and cross-disciplinary action must be coordinated through a portfolio of mission projects.

A renowned example of adopting a mission-oriented approach to innovation was the 1969 Moon Landing. With its bold yet clear objective, there was a top-down shaping force that guided the relevant ecosystem of collaborators as they worked together to drive new learning and knowledge to achieve the overarching goal. This particular example was a 'complicated' challenge driven by geopolitical and technological problems. The SDGs are 'complex' challenges and require a socio-ecological, socio-technical and socio-economic impetus.

Importantly, the clarity provided by as top-down objective assists in gaining commitment from the stakeholders needed to achieve our missions; the clarity of a well-framed mission and related research and innovation projects bring confidence to what could otherwise be a broad and ill-defined collaboration.

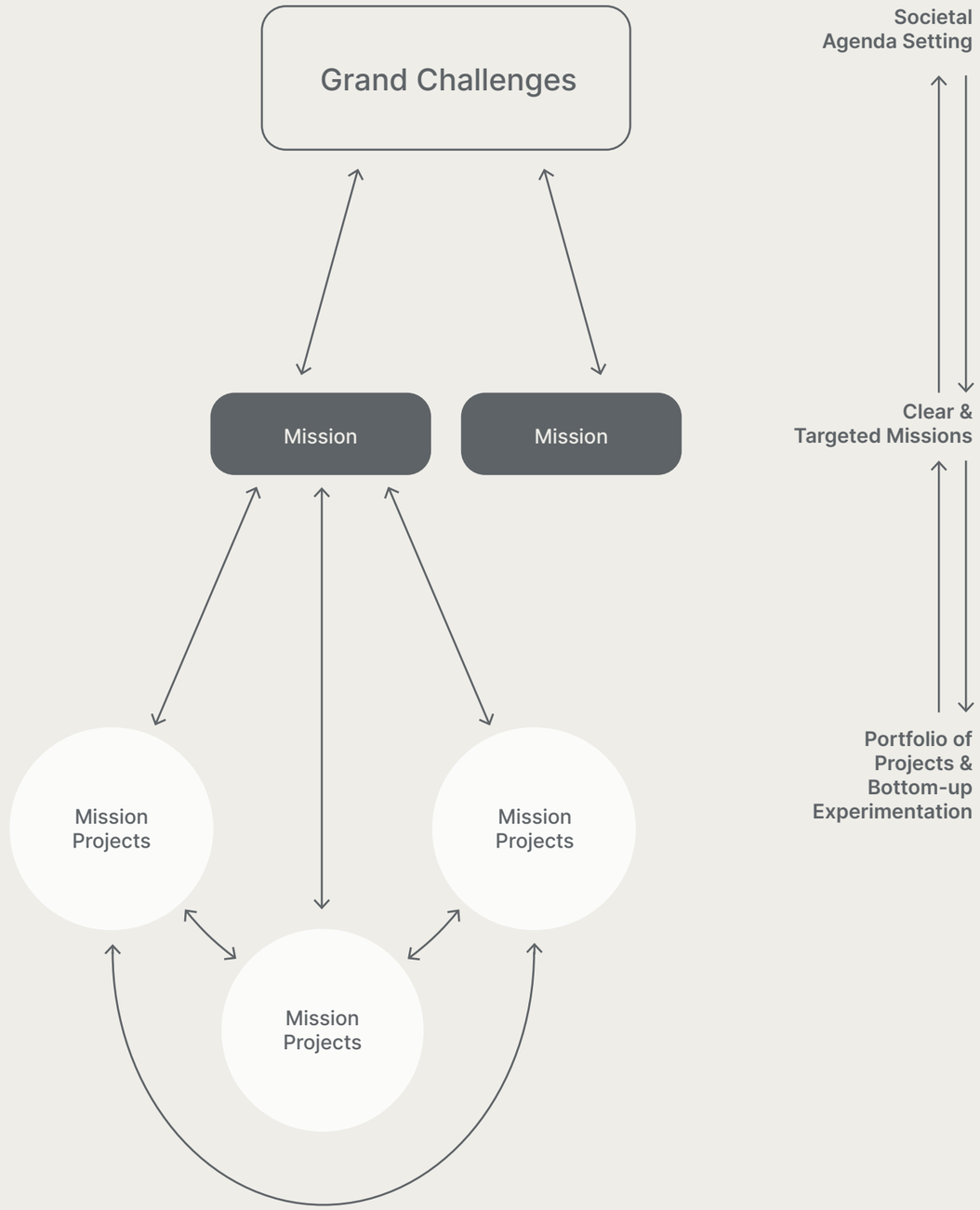


Diagram Reference
Mazzucato, M. (2018)

Role-Modelling Systems Change

Before we can act within complexity, we must first learn how to perceive it. Systems thinking involves seeing the world around us as family of interconnected and interdependent wholes, rather than collections of independent parts; creating 'wholes that are greater than the sum of their parts'.

Living systems are characterised by traits such as emergence and evolution – whereby new qualities manifest from within the system over time. This view opposes linear and reductionist thinking, which aims to reduce systems into isolated parts. Unfortunately, the latter has become the mainstream worldview of our modern societies.

However, shifting how we perceive and conceptualise systems is not enough. To create true systems change, this new way of seeing and thinking must be embodied in UL's actions. Learning how to act in ways that foster positive systems change will require a deep understanding of the nature of how systems evolve. Our actions must be made in awareness of what levels of the system they are manifesting (see Meadows, D.H. (2008) diagram). As such, adopting a systems approach to addressing the SDGs requires the recognition of the fact that progress on one goal will directly affect the status of all other goals. The interactions and feedbacks among them can be both negative (producing trade-offs or diminishing efforts) and positive (producing synergies or reinforcing efforts).

This entangled nature requires humility and a focus on learning by doing – both at the individual and institutional level. Research and experimentation at the appropriate scale and 'lever of change' is essential, as it is the most effective way for us to learn while minimising unintended consequences.

HEIs are uniquely positioned to act as platforms for the embodiment of said experimentation; from our research laboratories to our expansive campus grounds, universities offer the ideal test-bed for experimentation at different scales.

The complexity of working within wicked problems means that siloed interventions are ineffective at catalysing true systems change. What is required is multidisciplinary research-led inquiry and experimentation, orchestrated to increase their collective impact across the layers of the systems in question.

For these reasons, UL aims to become a platform for sustainability-led experimentation; acting as a test-bed for the exploration and validation of interventions across the higher education system.

Leverage Points: Places to intervene in a system

1. **Power to transcend paradigms:** awareness of fundamental assumptions and being able to choose among value sets at will.
2. **Mindset / paradigm:** the shared unstated assumptions that create the foundations of complex social structures.
3. **Goals of the system:** the intended outcomes the chosen system is designed to produce.
4. **Structure of the system:** the systems ability to change itself by altering its intrinsic characteristics.
5. **Rules of the system:** the incentives, punishments and constraints that guide the systems behaviour.
6. **Information flows:** the channels and pathways given to the flow of information within the system.
7. **Positive feedback loops:** the structures that speed up the existing flows within the system.
8. **Negative feedback loops:** the structures that slow down the existing flows within the system.
9. **Relative delays:** the length of delays within the system relative to its intrinsic rate of change.
10. **Material stocks & flows:** the amount and rate of exchange of materials across and through the system.
11. **Buffer sizes:** the size of buffers that stabilise stocks relative to their flows.
12. **Constants, parameters & numbers:** the quantitative measures by which the systems state is measured.

Diagram Reference
Meadows, D.H. (2008)

Roadmaps vs. Innovation Portfolios

Orchestrating a series of connected experiments across multiple levers of change – and for multiple parallel missions – will require highly flexible management methodologies and tools. Traditionally, such large undertakings are coordinated through the micro-management of complicated roadmaps. However, roadmaps aren't fit for a complex world.

Roadmaps often fail at the level of wicked problems as their inherent characteristics contradict the properties of the systems they seek to change. Most roadmaps suggest that development pathways are linear and assume that contexts are static across time. As a result, we are often left with roadmaps that are unable to account for non-linear change, nor do they have the capacity to respond to emergent phenomena. For roadmaps to remain useful to us in addressing the most daunting challenges of our time, it is necessary to re-imagine how UL design and utilise them.

We must first begin by letting go of the illusion that we can control how complex systems evolve. Instead, we must learn how to embrace uncertainty, unpredictability, and serendipity. We need to accept and embrace these as normal features of the world we live in. It is also essential to resist the temptation to define outcomes, predict results, or prescribe interventions on the basis of historic precedents or anecdotes. If we are to manifest the unprecedented transformations that society is calling for, we need to shift paradigms from traditional development roadmaps to mission-led innovation portfolios.

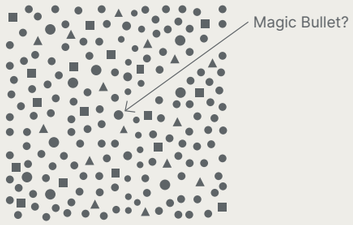
Mission-led innovation portfolios catalyse systems change by revealing the connections between traditionally siloed and disconnected projects. A systemic orientation is highlighted in their purpose: enhancing the synergy of activities and actors, while maintaining congruence across the portfolio as a whole. In terms of their utility, innovation portfolios will allow us connect multiple initiatives to maximise their potential impact and enhance mutual learning.

Innovation portfolios will strengthen UL community ties by enhancing collaboration and creating a shared understanding of the bigger picture we aspire toward. In doing so, colleagues can recognise that they may be focusing on different parts of the same problem, aligning individual efforts with coherent collective action. With each mission requiring interventions at multiple levers of change, the projects that are integrated into our portfolio should be selected on the basis of both their individual impact and by assessing the synergies they create within the portfolio as a whole.

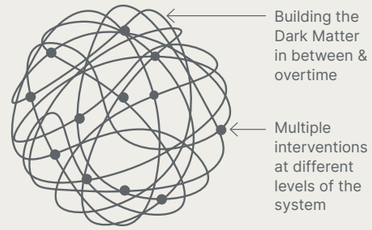
To embed a portfolio approach to mission-led innovation requires more than the adoption of new management methodologies and tools. It invites the entire UL community to reconsider the legacy mindsets, outdated principles and rigid postures that have dictated how innovation has been approached in the past. Ultimately, they call for us to double down on putting learning at the core of how we lead and manage. With a learning mindset as the default requirement, one must ask: who is better suited to lead the adoption of innovation portfolios than us?

When do we need a portfolio approach?

Confetti Single Point Solutions



Spaghetti Systems Transformation



Stage	Strategic Portfolio Management	Innovation Portfolios for Systems Transformation
Purpose	Executing strategy & developing business models using programmes & projects	Ecosystemic collaboration to encourage systems transformation in relation to issues & phenomena outside the actors organisations
Innovation Types	Improving current core activities or expanding to adjacent possibilities	Developing mission-oriented or anticipatory innovations.
Challenge Types	Complicated & simple	Transformative & adaptive
Nature of the challenge	Certain & definable	Uncertain & open
Tackling the challenge	The challenge can be analysed to plan for solutions up front	The challenge is identified and solutions are explored
Actors	Teams & organisations	Networks & ecosystems (multiple organisations)
Usage of Projects	Projects are the means of planning & implementing solutions	Projects are the interconnected means of learning about the challenge & tackling it through experimentation
Time Spans	Budgeting & planning define the time spans of activities	Financial planning supports the time spans of the intervention approaches needed to achieve systems transformation

Diagram Reference
Seppälä, M. (2021).

Adaptive Approach & Mindset

The nature of pursuing bold missions will require us to adopt novel approaches and mindsets. While there may be a clear sense of what needs to be achieved, our path to achieving them is filled with uncertainty. With this in mind, we must acknowledge that new insights and evolving contexts will alter our missions and their related projects as they are being worked towards.

Principles for systems change

Include diverse perspectives

Recognise that complex challenges are perceived differently depending on the individual. No single viewpoint can accurately make-sense of the big picture, and by lacking in certain perspectives we will significantly reduce the impact of our efforts.

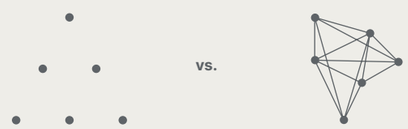
Who could bring new perspectives to our work and how could processes be designed to facilitate that?
What might the blind spots be in our work and how might we illuminate and address them?
What might the challenging the core assumptions of the existing higher education system unlock?

Create space for emergence

Bias toward testing and iteration, rather than once-off planning and scaling of solutions. Recognise that this is the best way to understand possible impacts, opportunities and downfalls. Share insights widely and experiment at multiple scales simultaneously.

How might new measures of success change how we intervene within the higher education system?
How might cross-organisational ecosystems experiment and learn together?
How might we cultivate a culture of experimentation and create space for testing our assumptions?

Diagram Reference
Warden, J. (2021)



Begin with place and context

Appreciate that people, places and communities have uniques qualities. Question the assumption that solutions that are designed top-down and context-agnostic will be successful. Instead, explore what it would look like to work from the potential that is latent within specific contexts.

How might the cultures, religions, relationships and identities of our communities be sources of change?
How might we see differently if we sought context and appropriateness rather than scale?
How might starting with our campus, local community and international relationships bring different qualities of conversation?

Create conditions for open innovation

Ensure that information, value, power, and resources can flow freely across and between layers of the system. Enable deep participation and ensure all voices are heard and included. Actively create spaces for the exchange of diverse ideas.

Might doing our work in a participatory way help others engage with, and improve upon, the outcome?
Where can we improve, rather than constrain, access to information and resources?
How might increasing awareness of the nature of the higher education system impact our work?

Build capability and reciprocity

Collaborate with people and places to create shared ownership of challenges and discover shared solutions. Focus on creating conditions where others can continue to evolve the work long into the future.

How might focusing on projects as catalysts, rather than end points, change the quality of our work?
What relationships need to be nurtured to ensure self-organisation across our community?
Could generosity and kindness be a direct objective of our work?

Design from a hopeful vision of the future

There is no singular future; there are many possible futures. Backcasting from a preferable future can help move beyond short-term inertia and barriers. Working from a place of hope can spark energy and commitment for the work that needed to manifest it.

How might starting from 'what if' rather than 'what is' alter our path forward?
How might taking a long-term view offer different insights into who we could become?
What might we do to help ourselves step outside day-to-day patterns and enhance our creativity?

02 Higher Education Grand Challenges & UL Missions

"We have to create miracles. A miracle is not the intersession of an external divine agency in violation of the laws of physics. A miracle is simply something that is impossible from an old story but possible from within a new one. It is an expansion of what is possible."
- Charles Eisenstein

Photo Credit:
Tom Spencer

The Role of Higher Education

This section explores the role of Higher Education Institutions in leading the sustainability transition. It outlines how appropriate grand challenges have been defined and expanded into an actionable mission portfolio.

Photo Credit: Sophia Hopkins

Becoming a Sustainable University

“The challenge of creating a more sustainable future for Ireland is a collective responsibility on all of us” (Project Ireland 2040, 2019). It is our responsibility as a HEI to contribute to the transition toward a sustainable society and become a ‘Sustainable University’.

To become a Sustainable University, we must start by acknowledging that true sustainability will require permanent adaptive responsiveness to on-going change. The prerequisite of adaptability and responsiveness is embodiment. It ensures ideas and intentions are rooted in action. Consequently, embodiment can be seen as the central characteristic of a Sustainable University; a title for institutions that go beyond traditional curricula and research programmes, and actively explore change within their own ethos, practices and operations.

A sustainable world is not a foregone conclusion – our actions today will determine the future we manifest. The gravity of this responsibility necessitates that we do not drift along with the tides of change. Instead, we are called to intentionally open our mind, heart, and hands to the possibilities that can only be revealed by moving bravely into the unknown. If we become trapped by dogma and incremental innovation, we will find ourselves sustaining a world characterised by the faults of the present. The success of our collective transition will largely depend on the degree to which HEIs claim a role in advancing the critical gaps in our knowledge and nurturing the vital shifts in our culture. To fully leverage the potential for change that HEIs hold, this role must play out across all aspects of our institutions: from boardrooms, to lecture halls, and campus grounds alike.

As a result, UL recognises that success is to be found in the union between the thoughtful reimagination of both the tangible aspects (e.g. educational spaces) and intangible aspects (e.g. governance models) of our institution. To do so requires a whole university approach, underpinned by a model that takes the main areas of the modern university into account. These areas provide platforms for experimentation – and ultimately transformation – in service of the journey toward becoming a Sustainable University.

Deep sustainability is radically a learning process that means ‘permanent adaptive responsiveness to a permanently changing, ever-emergent set of circumstances.
- John Foster

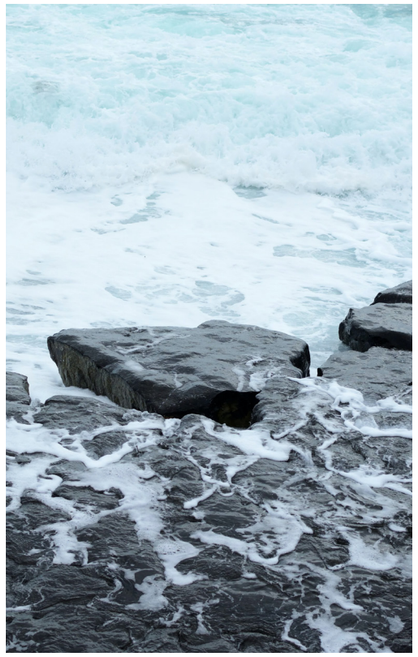
Diagram Reference
Inspired by UNEP - UN Environment Programme (2022)

Higher Education Grand Challenges

Our Higher Education Grand Challenges are derived from the four key areas of a Sustainable University: Goverance; Economy; Society; and Planet. They are outcome-driven, while remaining at the scale of societal-wide issues. This framing sets the stage for satisfying the most important step in addressing society's wicked problems: to envision a preferable future that we wish to transition towards. Without this vision, there is no tangible state to measure the impact of interventions being made in the present.

Governance: Stewarding the Transition

As a leading HEI, it is UL's duty to become a steward of higher education's sustainability transition. Ultimately, this role requires the adoption of new approaches to leadership and governance. By embracing transformative innovation and interdisciplinary collaboration, we can re-imagine the structures, policies, rules and metrics that will guide the action necessary for UL to become a Sustainable University.

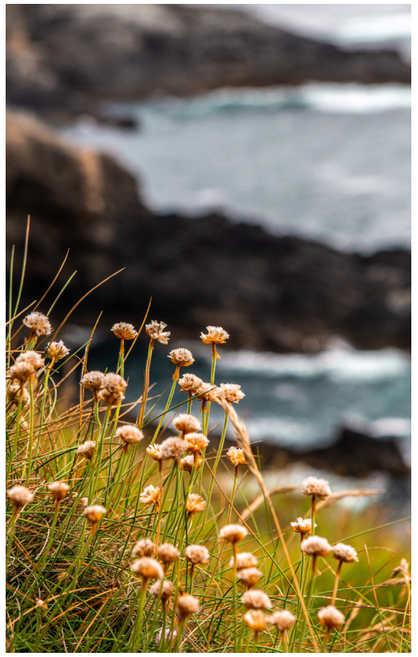


Economy: Cosmopolitan Localism

As a regional university with deep international ties, UL is primed to embrace a 'cosmo-local' approach to social innovation. Doing so will encourage the development of an ecosystem of sustainable communities, achieved through the sharing of ideas, skills, technology, culture and resources. Ultimately, adopting this approach will allow UL to cultivate a creative and reciprocal relationship between the local and the global.

Society: Thriving Communities

As a university with a diverse and growing campus community, UL has the opportunity to pioneer approaches to co-creating 'thriving communities'. We acknowledge that the interdependence between humans and natural ecosystems is the basis for sustainable living. UL will aspire to provide equitable access to meaningful opportunity, sustainable accommodation, active mobility, healthy food, quality education, and foster a deep sense of belonging.



Planet: Resilient Bioregion

As a university renowned for its natural beauty, UL has the responsibility to ensure its physical presence does not negatively impact the health of the surrounding Shannon bioregion. We understand that our ecological systems act as the bedrock for the flourishing of all life on earth. Their safekeeping requires UL to take on the role of custodians; restoring the local natural environment to optimal health and protecting it from any future damage.

Mission Criteria

Missions should be framed to satisfy the following criteria:

1. **Bold, inspirational with wide societal relevance:** missions should make clear that they are intending to address large social challenges that impact citizen's daily lives. To do so, missions must be framed as exciting opportunities for transformative innovation – while being connected to the central issues of the time.
2. **A clear direction:** missions need to be framed so that they are targeted, measurable, and time bound. Without specific targets and timing, it not possible to determine success (or failure), or to measure progress towards success.
3. **Ambitious, but with realistic research & innovation actions:** mission projects should focus on research and innovation activities across the entire innovation chain, and bridge core and applied research. Ambitious objectives will ensure that researchers and innovators are challenged to deliver what would otherwise not be pursued.
4. **Cross-disciplinary, cross-sectoral, and cross-actor innovation:** missions should be framed to spark activities across, and among, multiple scientific disciplines (including social sciences and humanities), across different industrial sectors (e.g., transport, nutrition, health, and services), and different types of actors (public, private, third sector, and civil society organisations).
5. **Multiple, bottom-up solutions:** missions should not be achievable by a single development path, or technology – they must be open to multi-variate solutions. A bottom-up approach of multiple solutions is essential, with the awareness that some experiments will fail or have to be adjusted along the way.

Reference
Mazzucato, M. (2018)

Logic Chain

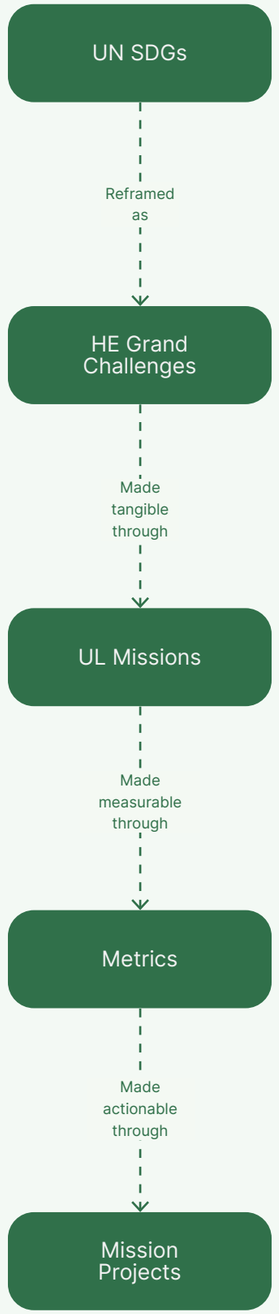


Diagram Reference
UL Sustainability Working Group Logic

UL Sustainability Missions

Governance:
Stewarding the Transition

01. Mission Lab
By 2030, UL's Mission Lab will have orchestrated and led its extended community to achieve the UL Mission Portfolio.

02. Transition Governance Framework
By 2030, UL will have piloted a sustainability-led governance model and have shaped HE policy within Ireland.

03. Citizen Mission Council
By 2030, UL's Mission Lab will have fostered active citizenship through robust civic engagement and participatory innovation processes.

04. Digital Campus Commons
By 2030, UL will have transparently reported on and shared its sustainability journey through a university digital twin.

Economy:
Cosmopolitan Localism

05. Fab Campus
By 2030, UL will act as a test bed for the development and scaling of circular production & consumption systems.

06. Mission Impact Hub
By 2030, UL's startup incubator will incorporate principles of sustainability into its startup programs and work to commercialise opportunities identified by the Mission Lab.

07. Earth Guild
By 2030, UL will have co-developed a trade school that supports the growth of sustainability-based vocations within local communities.

08. Open Loop University
By 2030, UL will provide access to the mission lab process and learning content to its alumni and offer them opportunities to engage with the mission portfolio.

Society:
Thriving Communities

09. Active Mobility Campus
By 2030, UL will only provide sustainable forms of transport within and between campuses, with a focus on physical mobility where possible.

10. Student LiveLearn
By 2030, UL will build student accommodation that integrates the practices, behaviours and infrastructure of sustainable development into the everyday lives of students.

11. Agrihood Campus
By 2030, the majority of food consumed on UL campus will be healthy and sourced from within the bioregion and/or from the university grounds.

12. Biophilic Campus
By 2030, UL will have integrated nature and natural materials within all campus buildings and environments.

13. Campus Tribe
By 2030, UL will foster a place-based identity anchored in a program of nature-based rituals that embody a culture of connectedness.

14. Mission-Driven Learning
By 2030, UL will have pioneered mission-driven curriculum to support the transition.

15. Egalitarian University
By 2030, UL will be the national leader for the embedding of equality & inclusion in our structures, opportunities and community.

Planet:
Resilient Bioregion

16. Self-Powered Campus
By 2030, UL will act as a test bed for the development and scaling of sustainable energy systems.

17. Circular Campus
By 2030, UL will act as a test bed for the development of circular material flows and material usage.

18. Carbon Neutral Campus
By 2030, UL will have achieved carbon neutral status.

19. Biodiverse Campus
By 2030, UL will increase the biodiversity and volume of plant and animal life on campus and maintain ecologically healthy levels.

20. Revitalised River Shannon
By 2030, UL will have significantly contributed to the ecological health of the River Shannon and its associated natural ecosystems.

21. Clean Water Campus
By 2030, UL will optimise campus water accessibility and water management & protection.

Governance:
Stewarding the Transition

As a leading HEI, it is UL's duty to become a steward of higher education's sustainability transition. Ultimately, this role requires the adoption of new approaches to leadership and governance. By embracing transformative innovation and interdisciplinary collaboration, we can reimagine the structures, policies, rules and metrics that will guide the action necessary for UL to become a Sustainable University.

Photo Credit:
Mark De Jong

SDG Focus

HEI Grand Challenge

Stewarding the Transition

UL Mission

Mission Lab

By 2030, UL's Mission Lab will have orchestrated and led its extended community to achieve the UL Mission Portfolio

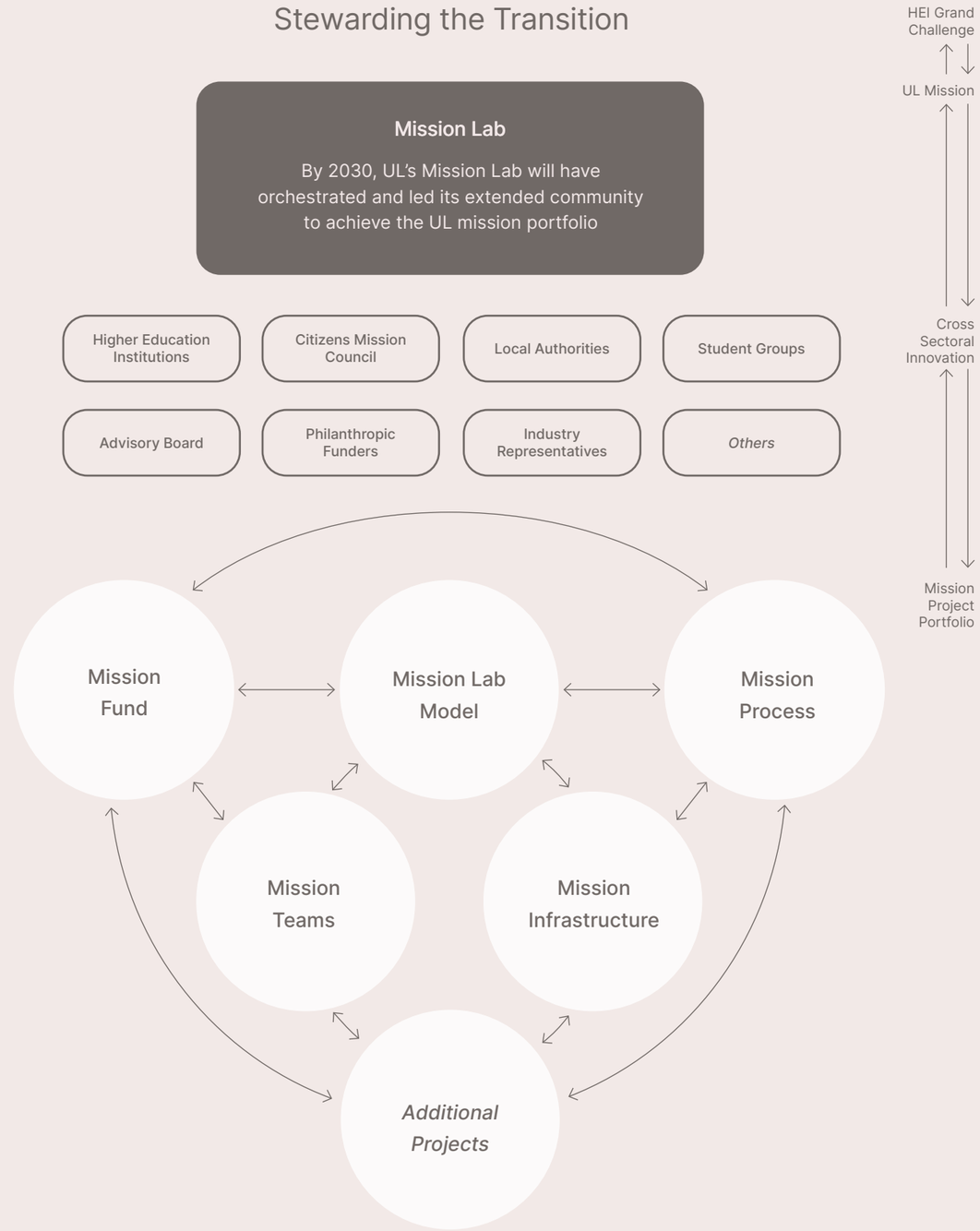
Successfully completing missions requires a hub that can shape and manage such a grand set of challenges. This mission sees UL establish a Mission Lab that will be responsible for leading the orchestration and progression of the mission portfolio. In doing so, collaborators and partners will have a central lab that supports their mission projects through research and education, design, funding and collaboration processes.

Outcomes

+ sustainability research
+ sustainability education
+ international collaboration
+ open innovation
+ knowledge transfer
+ place-based interventions
- siloed research
- decontextualised solutions
- knowledge hoarding
- disconnected strategies

Metrics

Official metrics are yet to be defined by the mission team and additional key stakeholders. This will occur upon commencement of the mission projects and will be influenced by data derived from baseline studies of the systems relevant to each mission.



SDG Focus

HEI Grand Challenge

Stewarding the Transition

UL Mission

Transition Governance Framework

By 2030, UL will have piloted a sustainability-led governance model and have shaped HE policy within Ireland

Transitioning to a sustainable society requires new postures and mindsets to leadership. This mission sees UL explore and adopt new approaches to governance and organisational structure, all in service of the realisation of the sustainable university vision. In doing so, the university will act as a working model that can support the transformation of HEI's globally.

Outcomes

+ openness to change
+ shaping HE policy
+ staff sustainability education
+ new governance models
+ open innovation
+ posture and mindset shifts
+ transparency and accountability
- experimentation reluctance
- innovation stagnation
- barriers to change

Metrics

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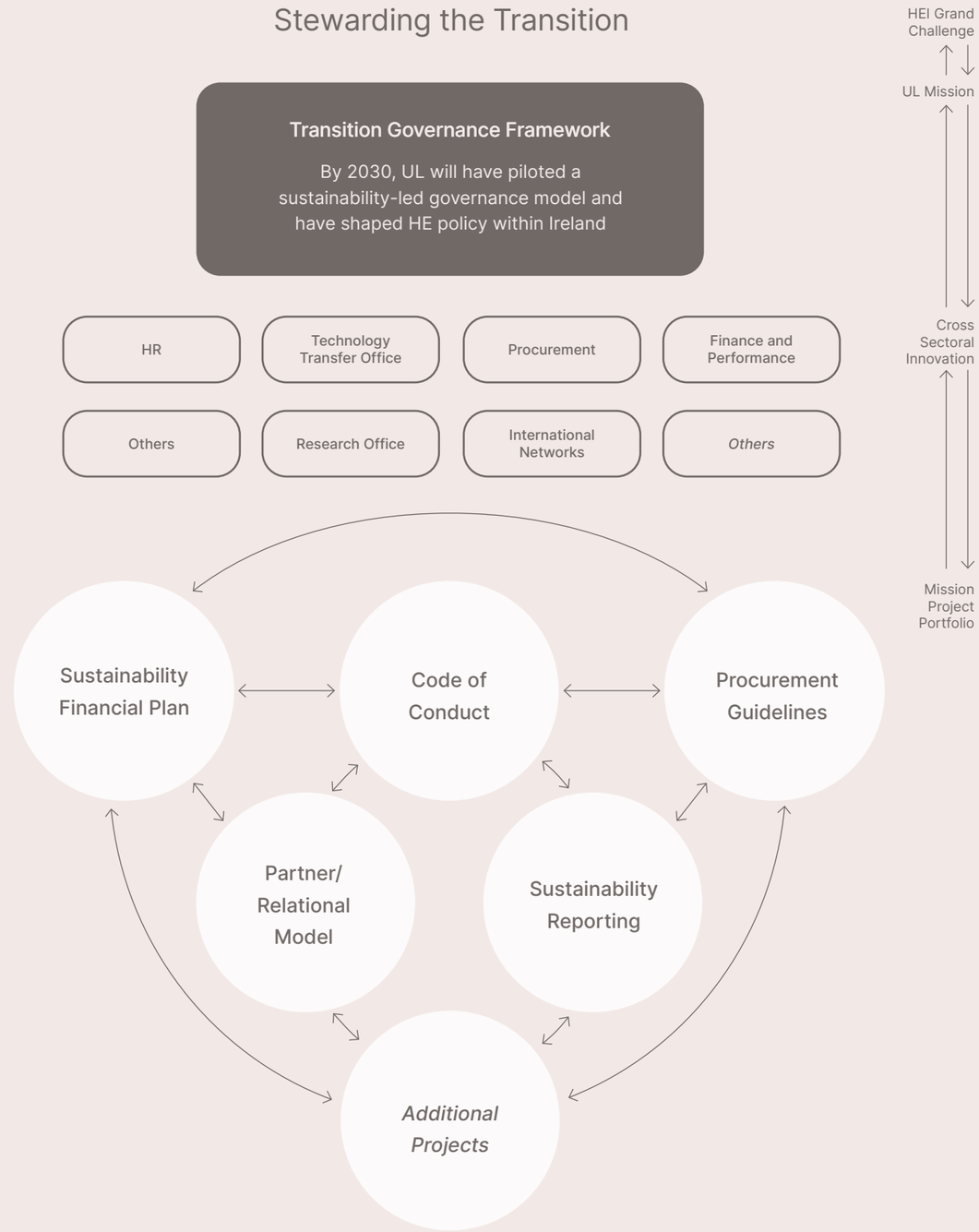

SDG Focus

HEI Grand Challenge

Stewarding the Transition

UL Mission

Citizens' Mission Council

By 2030, UL's Mission Lab will have fostered active citizenship through robust civic engagement and participatory innovation processes

Active citizens ensure a community's unique perspectives are included in our understanding of today's challenges and tomorrow's opportunities. This mission sees UL pioneer new ways of engaging citizens through transparent, open and participatory innovation processes. In doing so, UL will ensure that the diverse needs and opinions to be found within our community play a key role in all decision making.

Outcomes

+ citizen engagement
+ student participation
+ place-based interventions
+ open innovation
+ transparency
+ accountability
- siloed initiatives
- opaque decision making
- collaboration avoidance

Metrics

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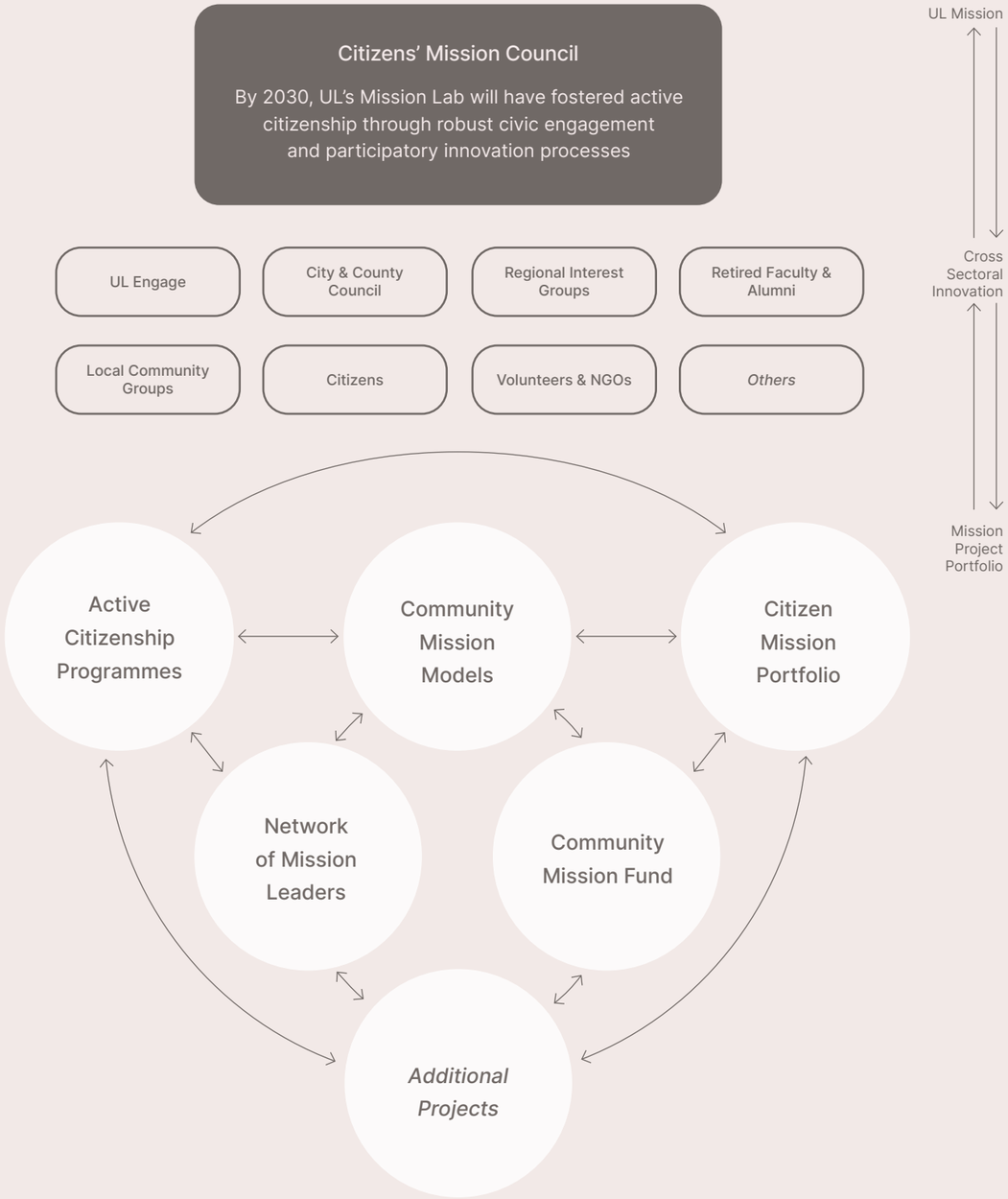
Stewarding the Transition



SDG Focus

HEI Grand Challenge

Stewarding the Transition

UL Mission

Digital Campus Commons

By 2030, UL will have transparently reported on and shared its sustainability journey through a university digital twin

The complexity of achieving sustainability-led missions requires new forms of data-capture and insight generation. This mission sees UL adopt a data-driven approach to baselining, monitoring and reporting on the university's sustainability status. In doing so, mission progress will become more accurately measured and decisions supported by real-time intelligence.

Outcomes

+ sustainability-related data
+ data-capture frequency
+ data-capture reliability
+ insight and intelligence
+ effective decision-making
+ return on investment
- missing or inaccurate data
- mission progress stagnation
- reporting inaccuracy
- data-silos

Metrics

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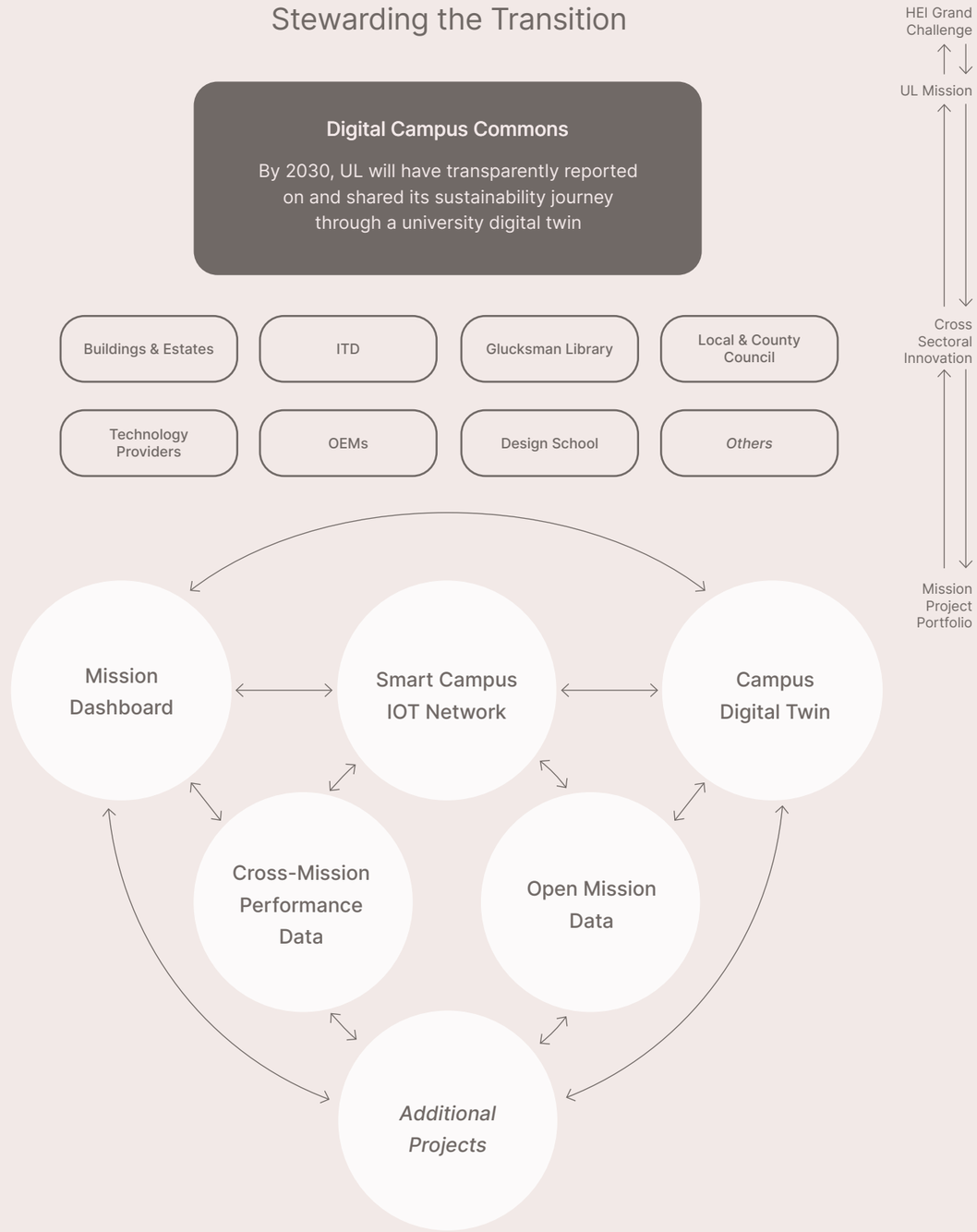

Economy:
Cosmopolitan Localism

As a regional university with deep international ties, UL is primed to embrace a ‘cosmo-local’ approach to social innovation. Doing so will encourage the development of an ecosystem of sustainable communities, achieved through the sharing of ideas, skills, technology, culture and resources. Ultimately, adopting this approach will allow UL to cultivate a creative and reciprocal relationship between the local and the global.

Photo Credit:
Svetlana Sinitsyna

SDG Focus

HEI Grand Challenge

Cosmopolitan Localism

UL Mission

Fab Campus

By 2030, UL will have developed a maker culture across its campuses, where repair, reuse and local production is widespread

Mass production and planned obsolescence has eroded the presence of traditional crafts, leading to overconsumption and products designed for short lifespans. This mission sees UL nurture a campus maker culture that prioritises the reuse, repair and re-purposing of products. In doing so, the campus community will reduce its consumption rate and restore demand for high-quality and locally made goods.

Outcomes

+ sharing economy
+ material efficiency
+ systems innovation
+ economic prosperity
+ community relations
+ supply-chain resilience
- material waste
- supply-chain length
- ecological damage
- carbon emissions
- food waste and packaging

Metrics

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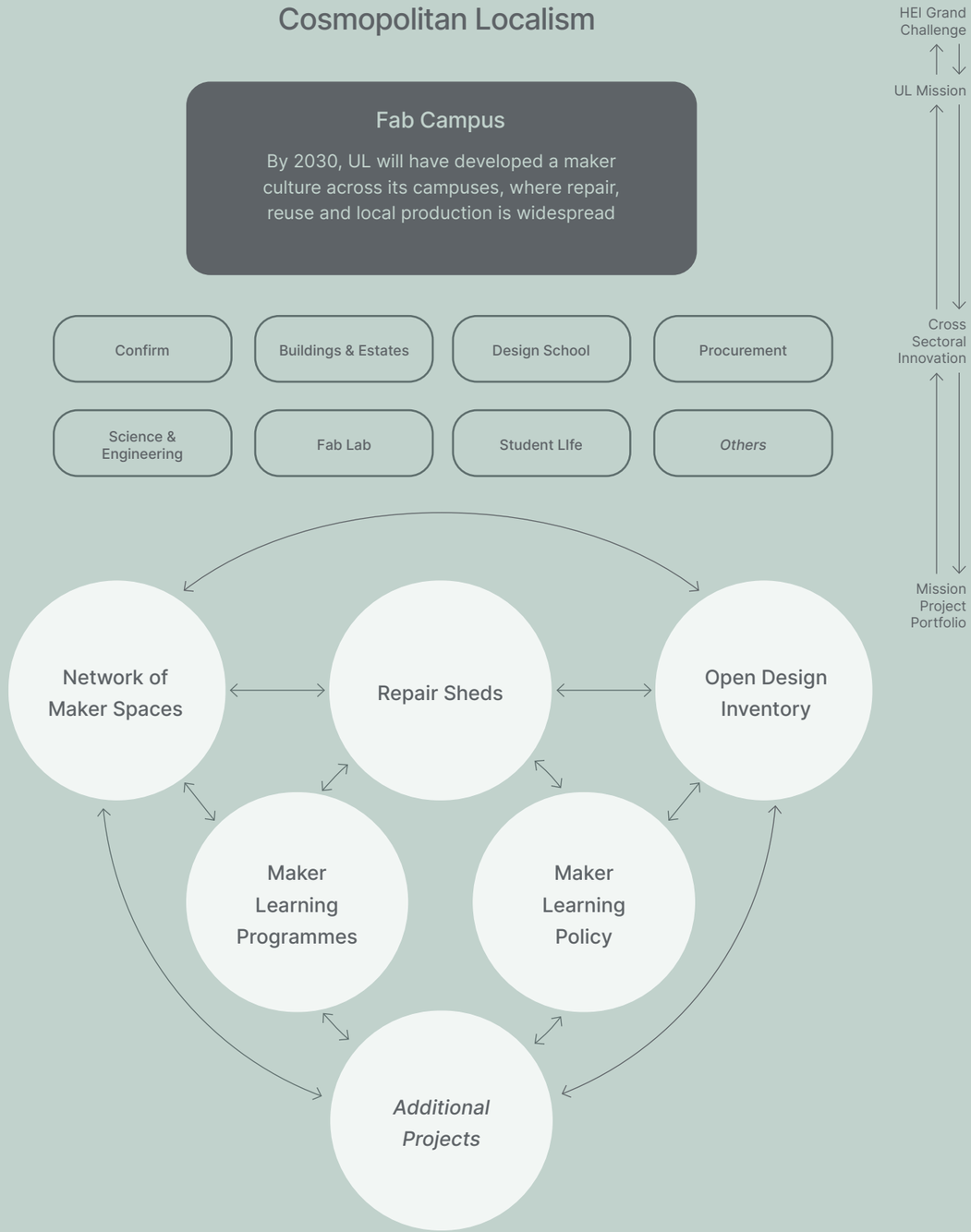

SDG Focus

HEI Grand Challenge

Cosmopolitan Localism

UL Mission

Mission Impact Hub

By 2030, UL's startup incubator will incorporate principles of sustainability into all of its startup programs and work to commercial opportunities identified by the Mission Lab

Successful sustainability-led innovation requires a commitment to creating a positive impact for people and planet. This missions sees UL orient its venture incubator toward the nurturing of sustainability-led startups. In doing so, aspiring entrepreneurs will be supported by expert mentors on their journey to creating maximum social and ecological impact.

Outcomes

+ entrepreneurship
+ societal value creation
+ sustainability-led ventures
+ social innovation and impact
+ public entrepreneurship
+ economic prosperity
- unemployment
- reliance on FDI
- innovation stagnation
- food waste and packaging

Metrics

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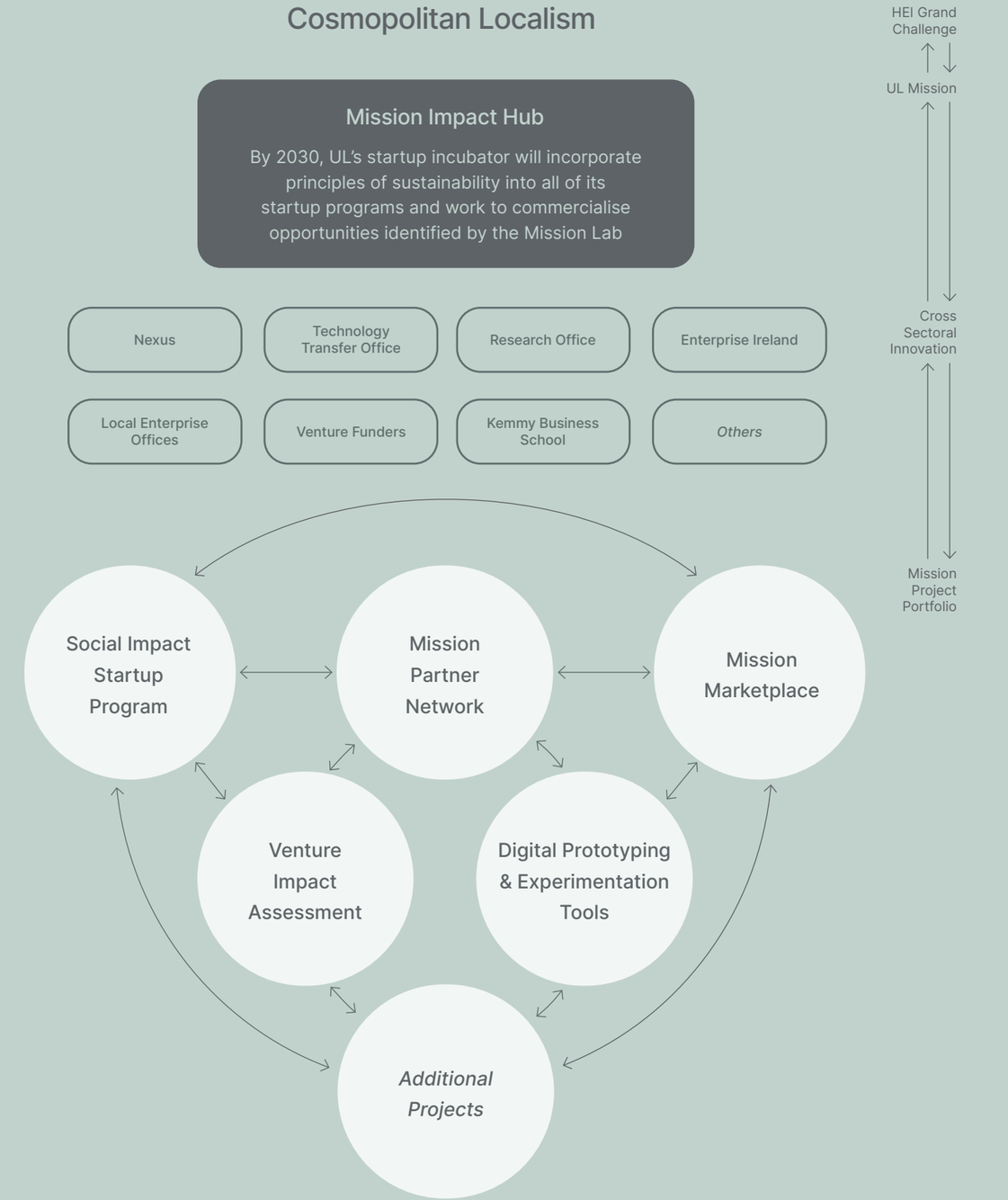

SDG Focus

HEI Grand Challenge

Cosmopolitan Localism

UL Mission

Earth Guild

By 2030, UL will have co-developed a trade school that supports the growth of sustainability-based vocations within local communities

The work of those in trade-based roles is foundational to the thriving of our community. This mission sees UL play an active role in propagating sustainability-led trade education within the region. In doing so, the local community will experience both an increase in educational opportunities and an increase in capacity to deliver trade-based services.

Outcomes

+ employment opportunities
+ access to education
+ craft & trade skills
+ community resilience
+ sustainability-based trade
- financial inequality
- education avoidance
- social barriers
- lack of trade supply
- career change reluctance
- food waste and packaging

Metrics

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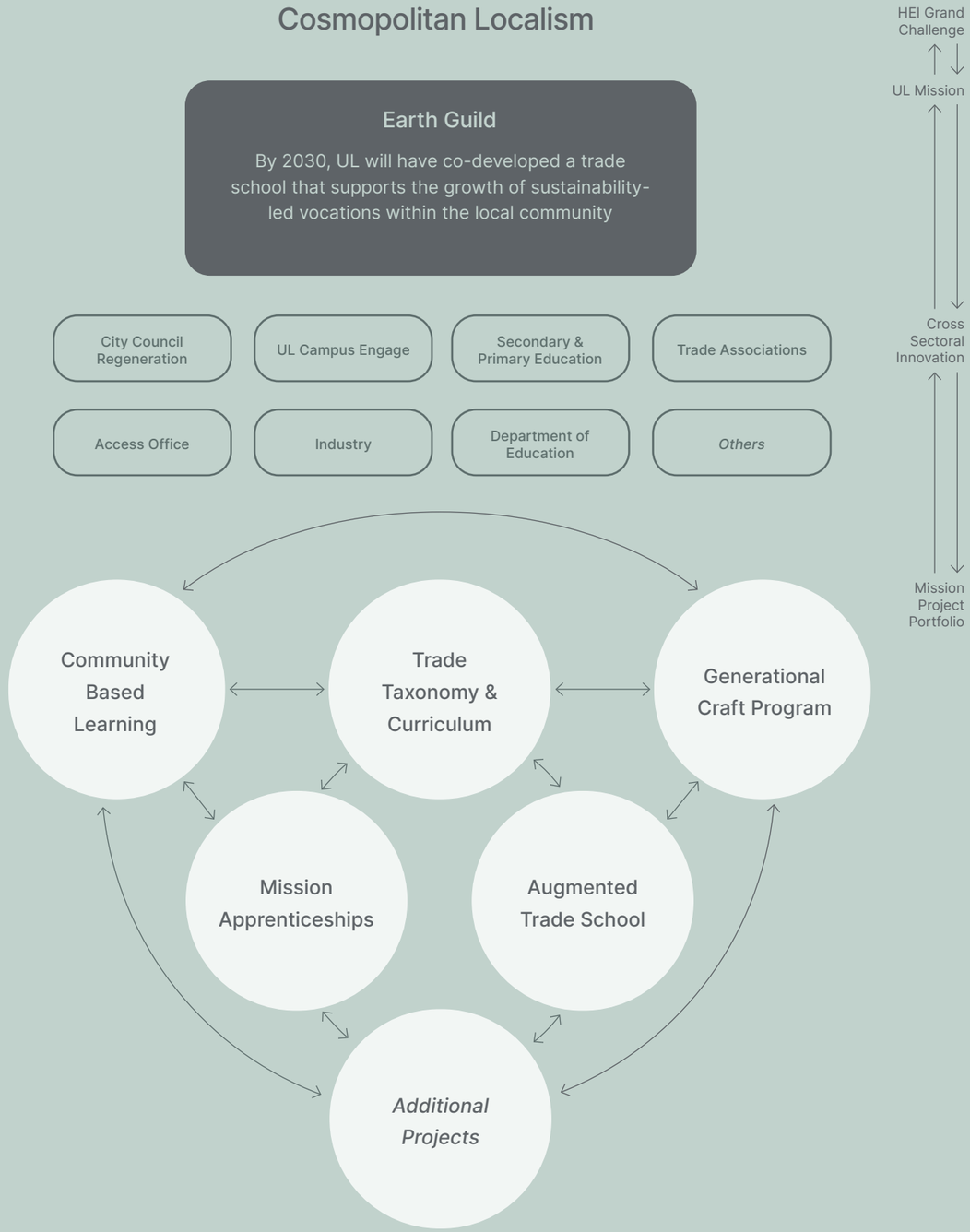

SDG Focus

HEI Grand Challenge

Cosmopolitan Localism

UL Mission

Open Loop University

By 2030, UL will provide access to the mission lab process and learning content to its alumni, and offer them opportunities to engage with the mission portfolio

In a world of exponential change and unprecedented challenges, engagement with societal missions is more important than ever before. This mission sees UL offer mission-based educational content and experiences to its alumni, available both online and in-person. In doing so, alumni will be able to engage missions at a point in their life-long learning journey that meets their needs.

Outcomes

+ life long learning
+ alumni engagement
+ resilience to change
+ pathways into education
+ access to education
+ education innovation
- education avoidance
- demographic inequality
- siloed accreditation
- reluctance to return to study
- food waste and packaging

Metrics

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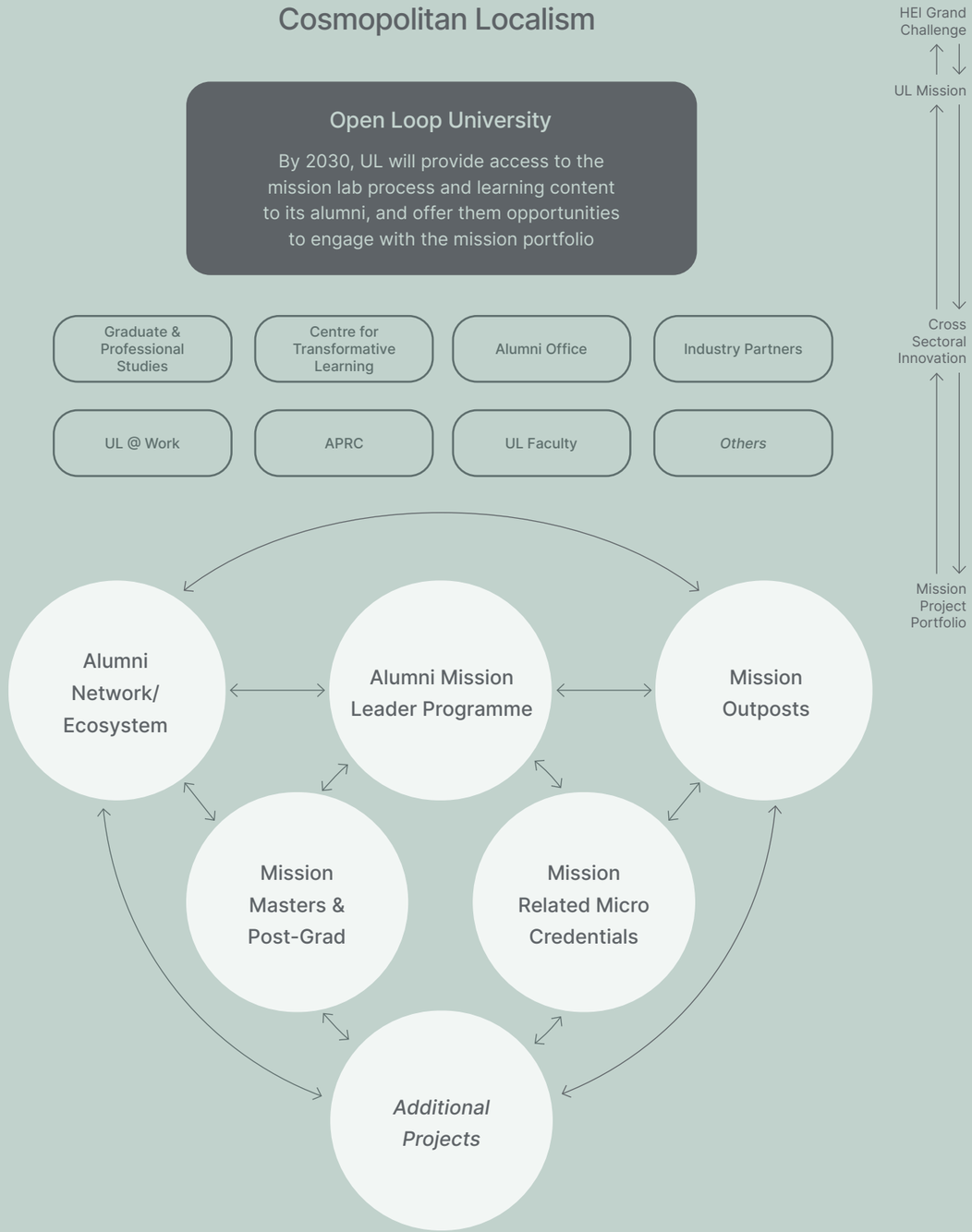

Society:
Thriving Communities

As a university with a diverse and growing campus community, UL has the opportunity to pioneer approaches to co-creating ‘thriving communities’. We acknowledge that the interdependence between humans and natural ecosystems is the basis for sustainable living. UL will aspire to provide equitable access to meaningful opportunity, sustainable accomodation, active mobility, healthy food, quality education, and foster a deep sense of belonging.

Photo Credit:
Lauren McConachie

SDG Focus

HEI Grand Challenge

Thriving Communities

UL Mission

Active Mobility Campus

By 2030, UL will only provide sustainable forms of transport within and between campuses, with a focus on physical mobility where possible

The means of transport available within communities has a direct impact on their health, resilience and ecological footprint. This mission sees UL ensure all mobility infrastructure and services available on campus grounds are sustainable and encourage active mobility. In doing so, individuals will have guaranteed access to sustainable forms of transport and active travel when moving on and between campus grounds.

Outcomes

+ sustainable mobility systems
+ physical and mental health
+ walking and foot traffic
+ v-mobility density
+ public transport availability
+ electric vehicle usage
- traffic and car park footprint
- air and noise pollution
- fossil fuel usage
- carbon emissions

Metrics

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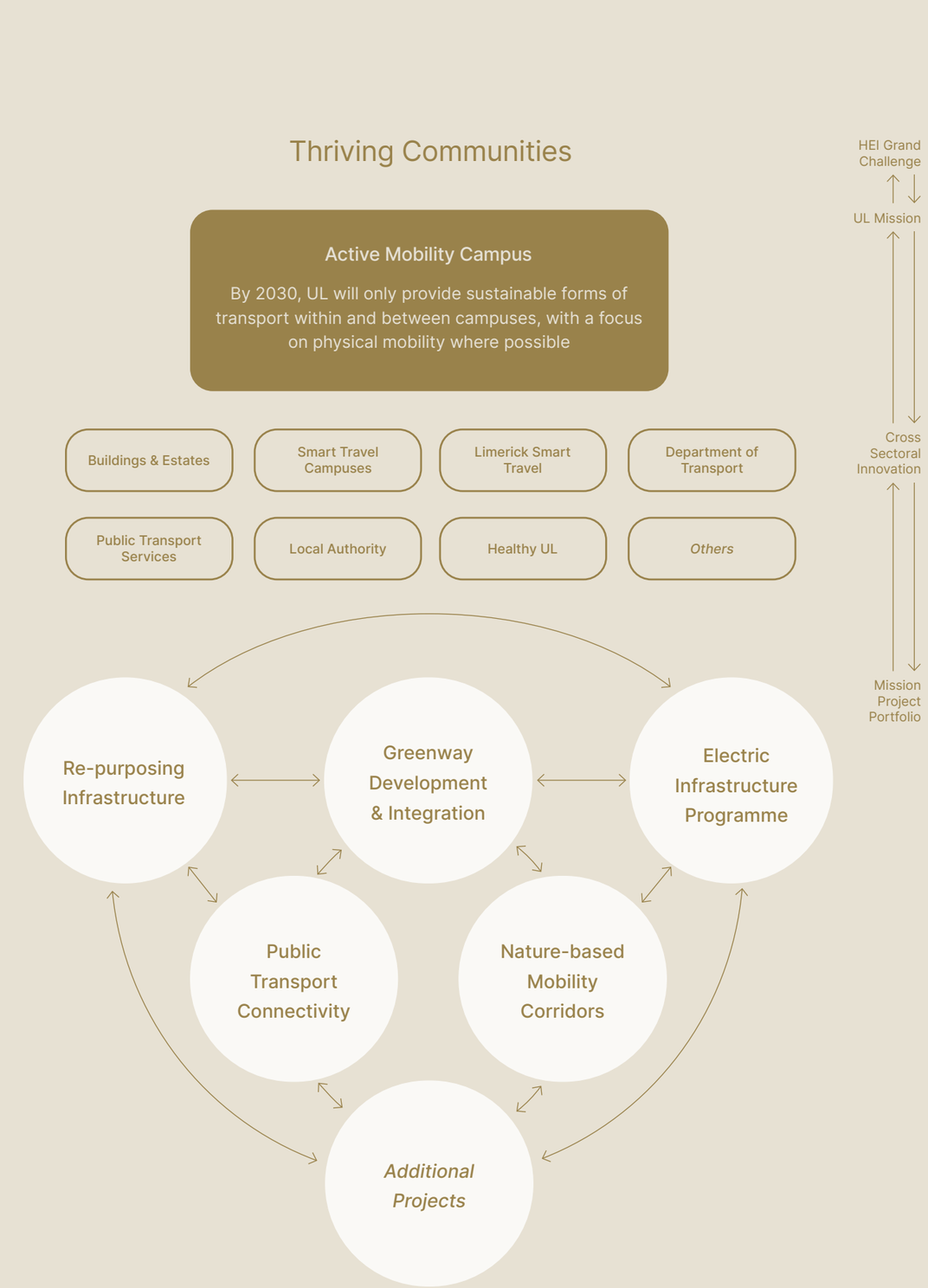

SDG Focus

HEI Grand Challenge

Thriving Communities

UL Mission

Student LiveLearns

By 2030, UL will build student accommodation that integrates the practices, behaviours and infrastructure of sustainable development into the everyday lives of students

Having a safe and healthy place to live is a foundational human need – it affects all others aspects of our lives. This mission sees UL strive to provide access to high-quality accommodation to learners who seek to learn how to live a sustainable lifestyle. In doing so, learners will be given the opportunity to adopt sustainable behaviours during their time studying at UL.

Outcomes

+ accommodation availability
+ sustainable new builds
+ sustainable education
+ international learners
+ quality of life
+ sustainability stewards
- unsustainable behaviours
- waste and emissions

Metrics

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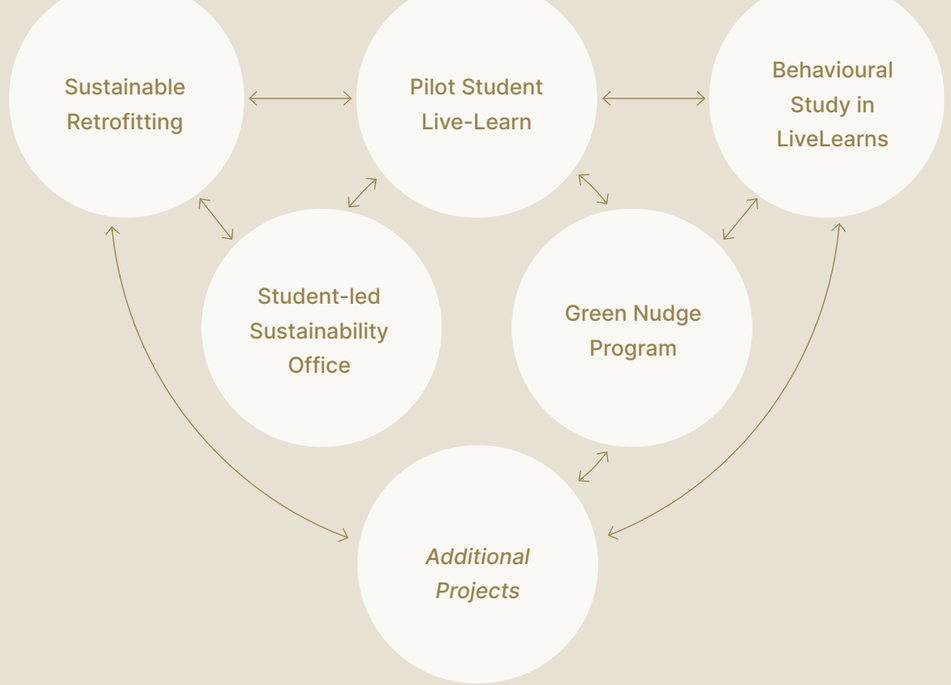
Thriving Communities

Student LiveLearns

By 2030, UL will build student accommodation that integrates the practices, behaviours and infrastructure of sustainable development into the everyday lives of students

Student Life | Student Sustainability Group | Buildings & Estates | Student Affairs Division

Design School | UL PSU | Campus Life Services | *Others*



HEI Grand Challenge ↕ UL Mission ↕ Cross Sectoral Innovation ↕ Mission Project Portfolio

SDG Focus

HEI Grand Challenge

Thriving Communities

UL Mission

Agrihood Campus

By 2030, the majority of food consumed on UL campus will be healthy and sourced from within the bioregion and/or from the university grounds

High-quality and sustainably-sourced foods are essential to the health and wellbeing of our community. This mission sees UL act as both a producer and consumer of healthy food, all grown within the Shannon bioregion. This will enable all areas of the campus grounds to promote and provide an abundant selection of nutritious food and drink.

Outcomes

+ food system resilience
+ organic food access
+ healthy food access
+ local food suppliers
+ community relations
+ health & wellbeing
+ supply transparency
- unhealthy food supply
- food supply-chain length
- food waste and packaging
- reliance on imports
- food waste and packaging
- reliance on imports

Metrics

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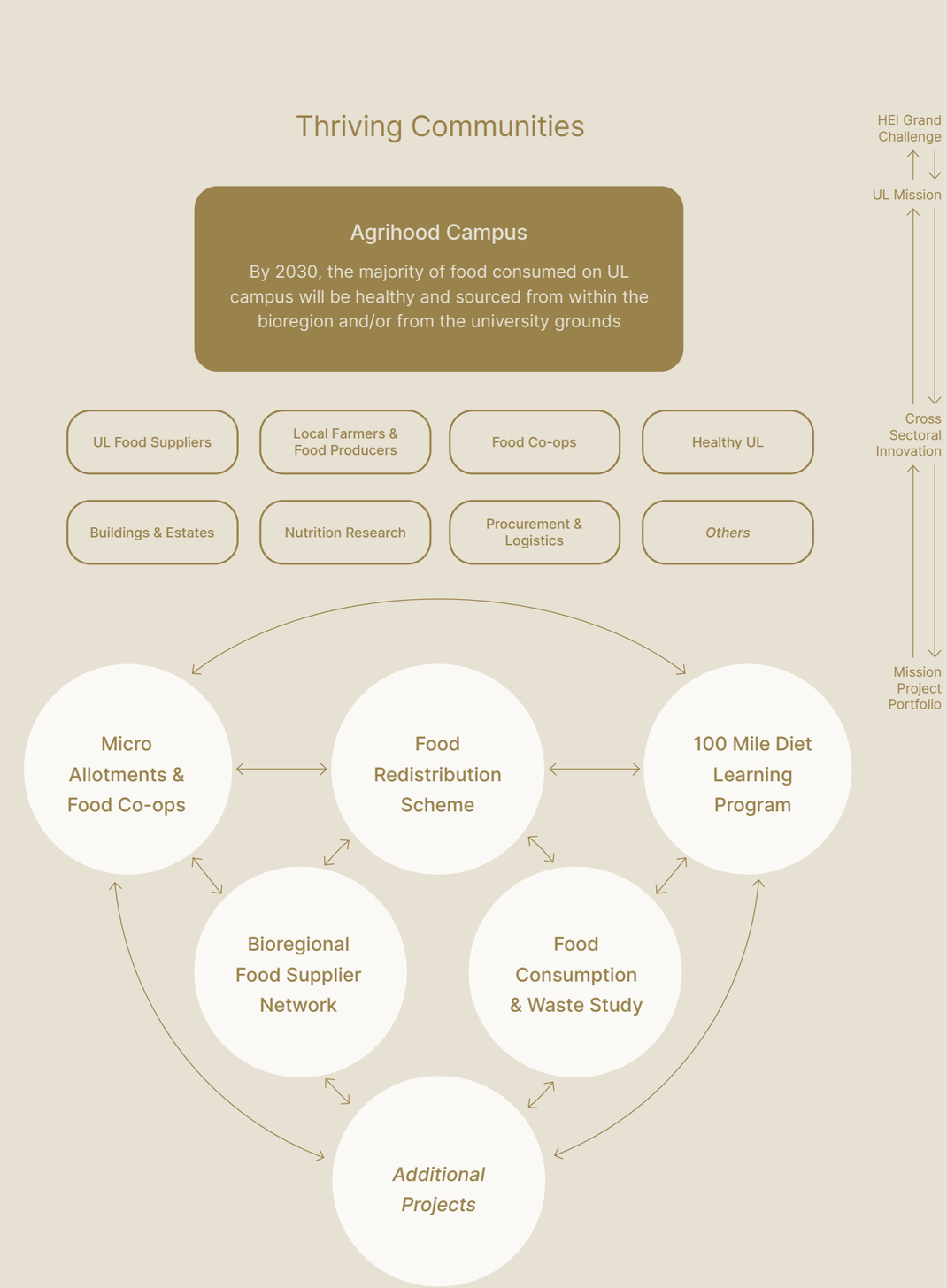

SDG Focus

HEI Grand Challenge

Thriving Communities

UL Mission

Biophilic Campus

By 2030, UL will have integrated nature and natural materials within all campus buildings and environments

A connection with nature is deeply nourishing for both our body and mind. This mission sees UL continue to strengthen the embodiment of biophilic design principles within the built environment on campus. In doing so, spending time within the diverse spaces on campus will positively impact ones mental and physical health.

Outcomes

+ quality of life
+ mental health
+ physical health
+ connection to nature
+ prospect and refuge
+ air and light
- carbon footprint
- fear and stress
- placelessness
- nature alienation

Metrics

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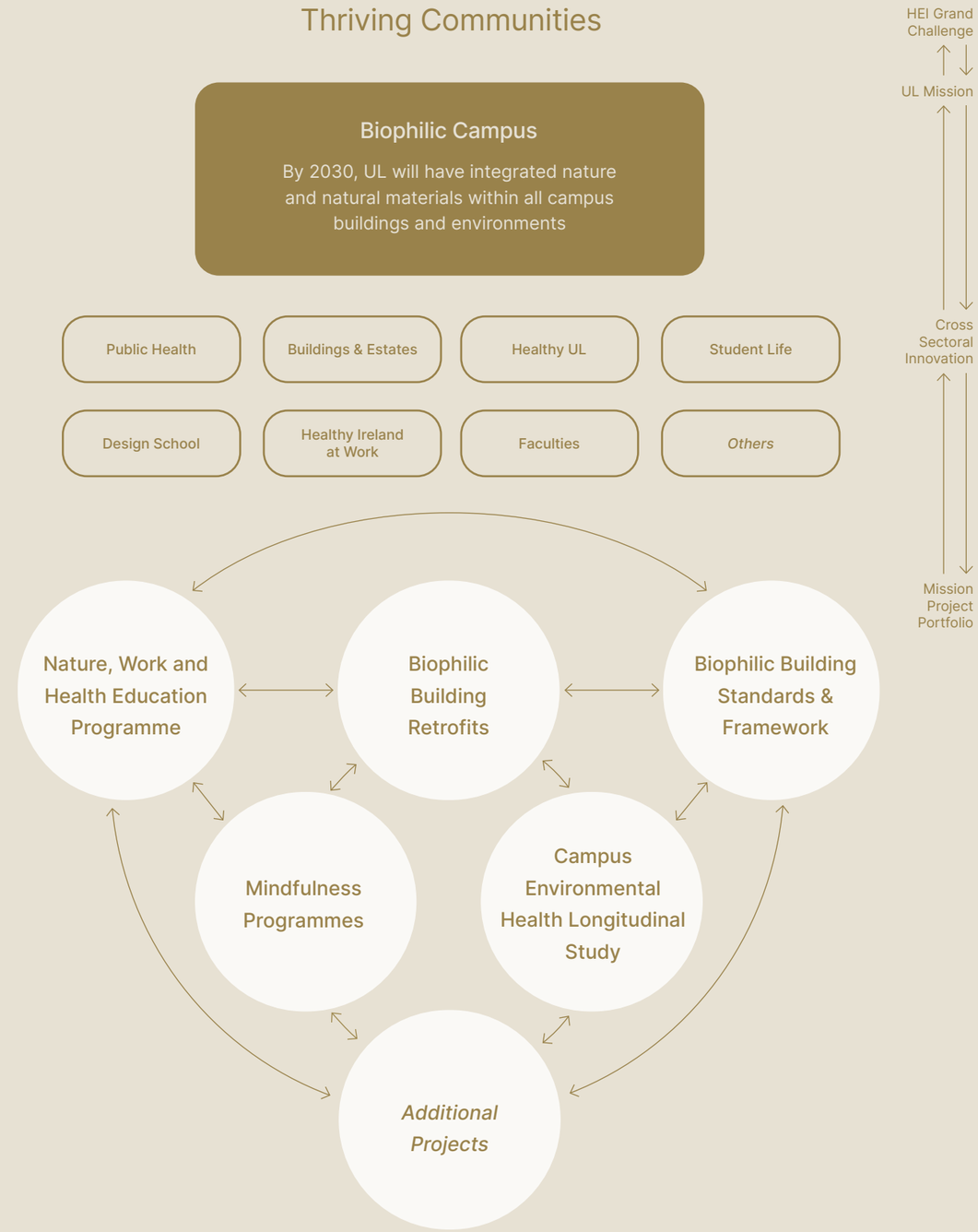

SDG Focus

HEI Grand Challenge

Thriving Communities

UL Mission

Egalitarian University

By 2030, UL will be the national leader for the embedding of equality & inclusion in our structures, opportunities and community

By taking a whole-institutional approach to inclusion in UL, this mission aims to bring together the entire university community to achieve the goal of becoming a fully accessible, inclusive and diverse institution. To do so, UL will provide an inclusive educational experience through international best practice and attract, retain and develop an excellent and diverse cohort of students, faculty and staff.

Outcomes

+ socio-economic diversity
+ racial and ethnic diversity
+ equality of opportunity
+ gender diversity
+ accessibility
+ international presence
- inequalities
- exclusion
- structural bias

Metrics

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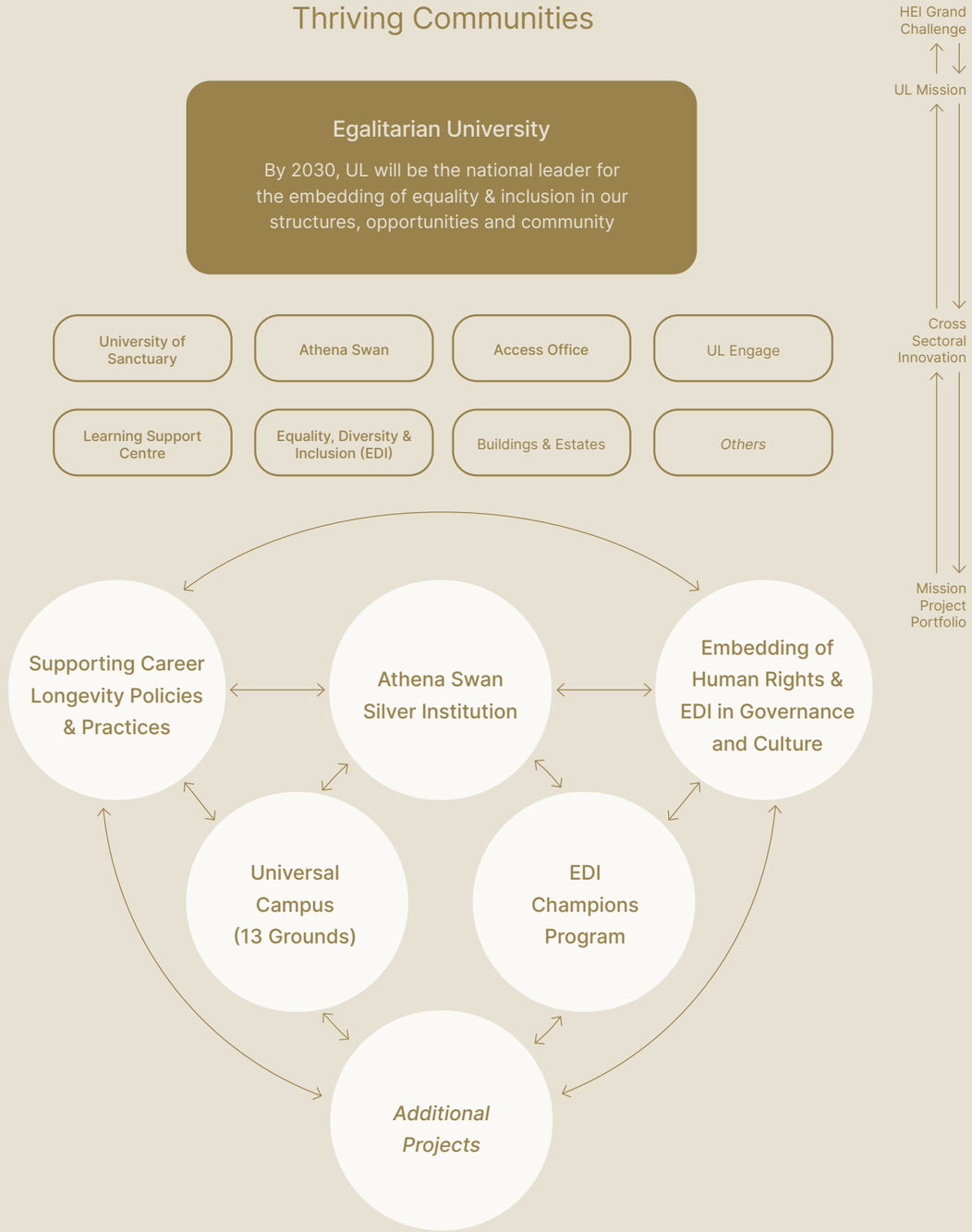

SDG Focus

HEI Grand Challenge

Thriving Communities

UL Mission

Mission-Driven Learning

By 2030, UL will have pioneered mission-driven curriculum to support the transition

Transitioning to a sustainable society will require a new generation of change-makers. This mission sees UL ensure that relevant sustainability-led theory and associated practices are included in all curriculum. In doing so, each learner that studies at UL will graduate with a sustainability mindset and the capacity to contribute to a more sustainable world.

Outcomes

+ mission focus
+ citizen engagement
+ social-impact
+ experimentation
+ curriculum redesign
+ sustainability literacy
+ interdisciplinary collaboration
+ problem-solving
- unsustainable social-practices
- siloed and linear education

Metrics

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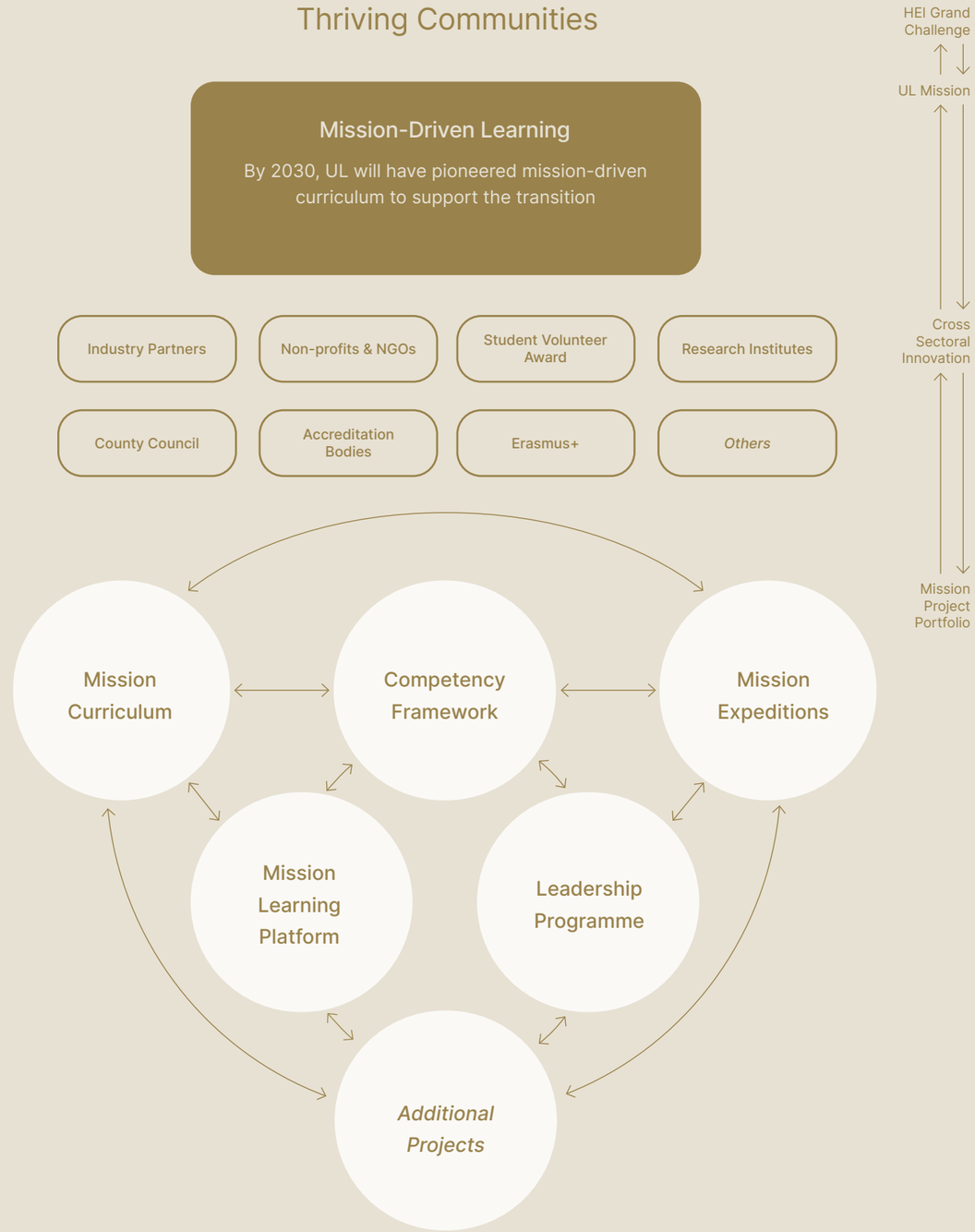

SDG Focus

HEI Grand Challenge

Thriving Communities

UL Mission

Campus Tribe

By 2030, UL will foster a place-based identity that embodies a culture of connectedness

A strong community culture is an essential source of belonging and social connection, and provides the foundation for meaningful collective action. This mission sees UL foster a shared identity that is rooted in a connection to the heritage, culture and vision of the university. In doing so, the UL community will feel united by a core set of values and future aspirations.

Outcomes

+ connectedness
+ campus engagement
+ meaningful relationships
+ positive role models
+ soul
+ rituals and ceremonies
+ interdisciplinary collaboration
+ sense of belonging
+ collective imagination
- isolation

Metrics

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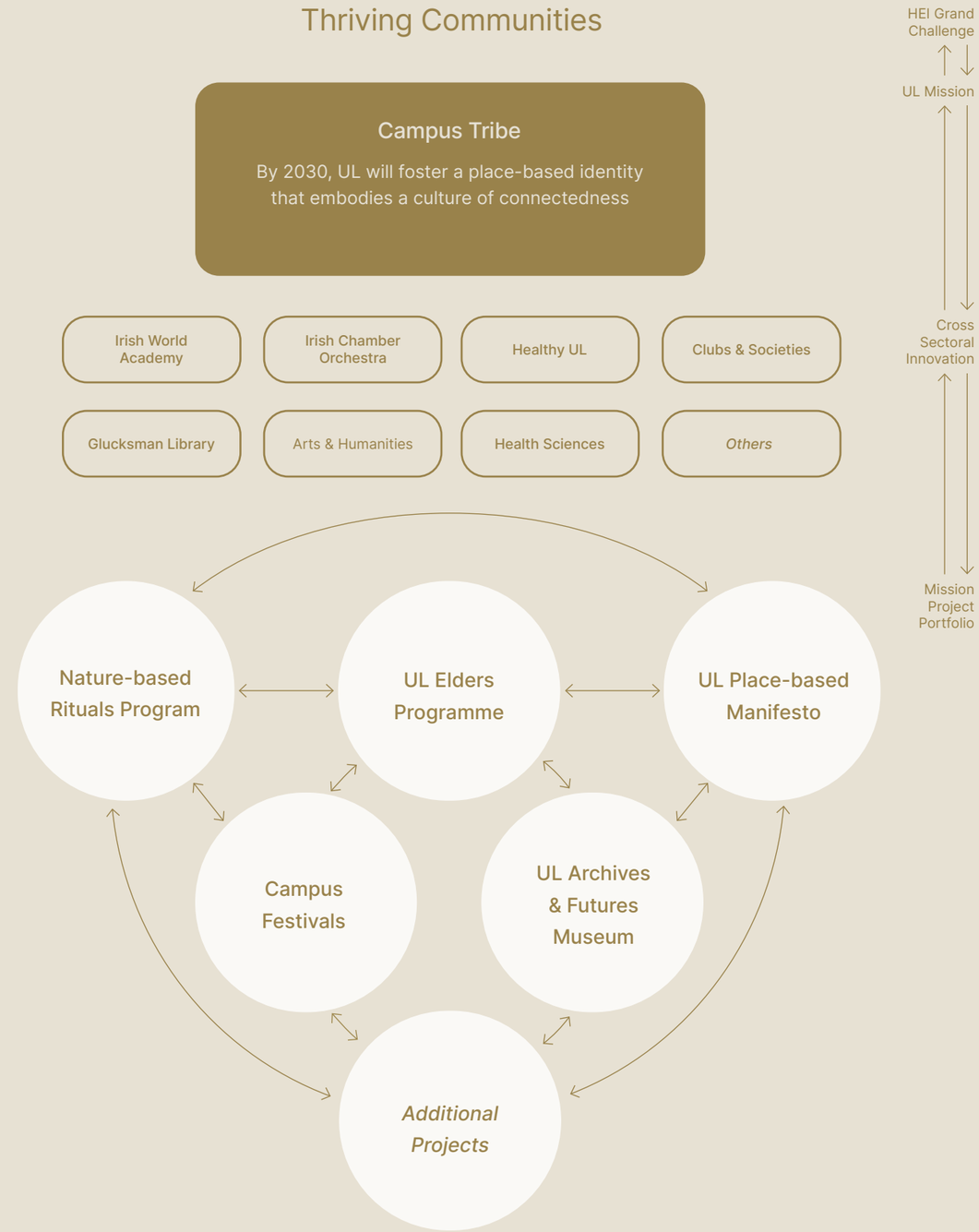

Planet:
Resilient Bioregion

As a university renowned for its natural beauty, UL has the responsibility to ensure its physical presence does not negatively impact the health of the surrounding Shannon bioregion. We understand that our ecological systems act as the bedrock for the flourishing of all life on earth. Their safekeeping requires UL to take on the role of custodians; restoring the local natural environment to optimal health and protecting it from any future damage.

Photo Credit:
Mark De Jong

SDG Focus

HEI Grand Challenge

Resilient Bioregion

UL Mission

Biodiverse Campus

By 2030, UL will increase the biodiversity and volume of plant and animal life on campus to maintain ecologically healthy levels

A balance of plant and animal species, in combination with diverse microorganism populations, is how natural ecosystems maintain their health. This mission sees UL increase the levels of biodiversity on our campus grounds and surrounding areas to ecologically healthy levels. Doing so will protect and support the invaluable presence wildlife has on our university, and increase the areas ecological resilience.

Outcomes

+ biodiversity
+ natural habitats
+ native species
+ biomass
+ green spaces
+ tree cover
+ wild flowers
- pollutants
- habitat destruction
- tree felling
- brownfield development

Metrics

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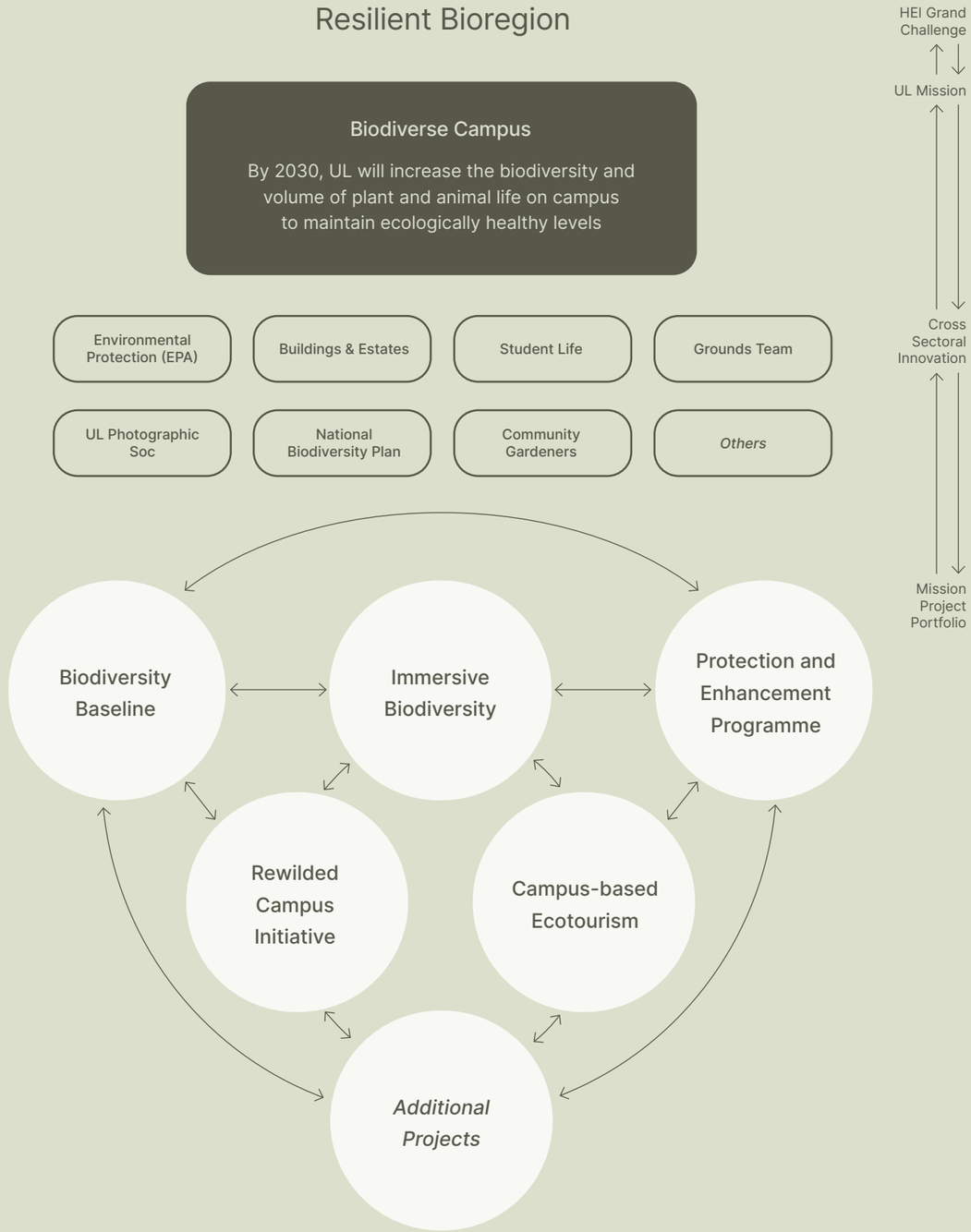

SDG Focus

HEI Grand Challenge

Resilient Bioregion

UL Mission

Self-Powered Campus

By 2030, UL will act as a test bed for the development and scaling of sustainable energy systems

New forms of energy production and storage are essential to the transition toward a clean energy society. This mission sees UL act a test-bed for the development of sustainable energy systems. In doing so, the campus will become a hub for innovation partners to research and demonstrate an array of clean energy solutions.

Outcomes

+ energy efficiency
+ energy generation
+ energy system resilience
+ energy conservation
+ technology transfer
- fossil fuel use
- carbon footprint
- campus operational costs
- reliance on external sources
- energy waste

Metrics

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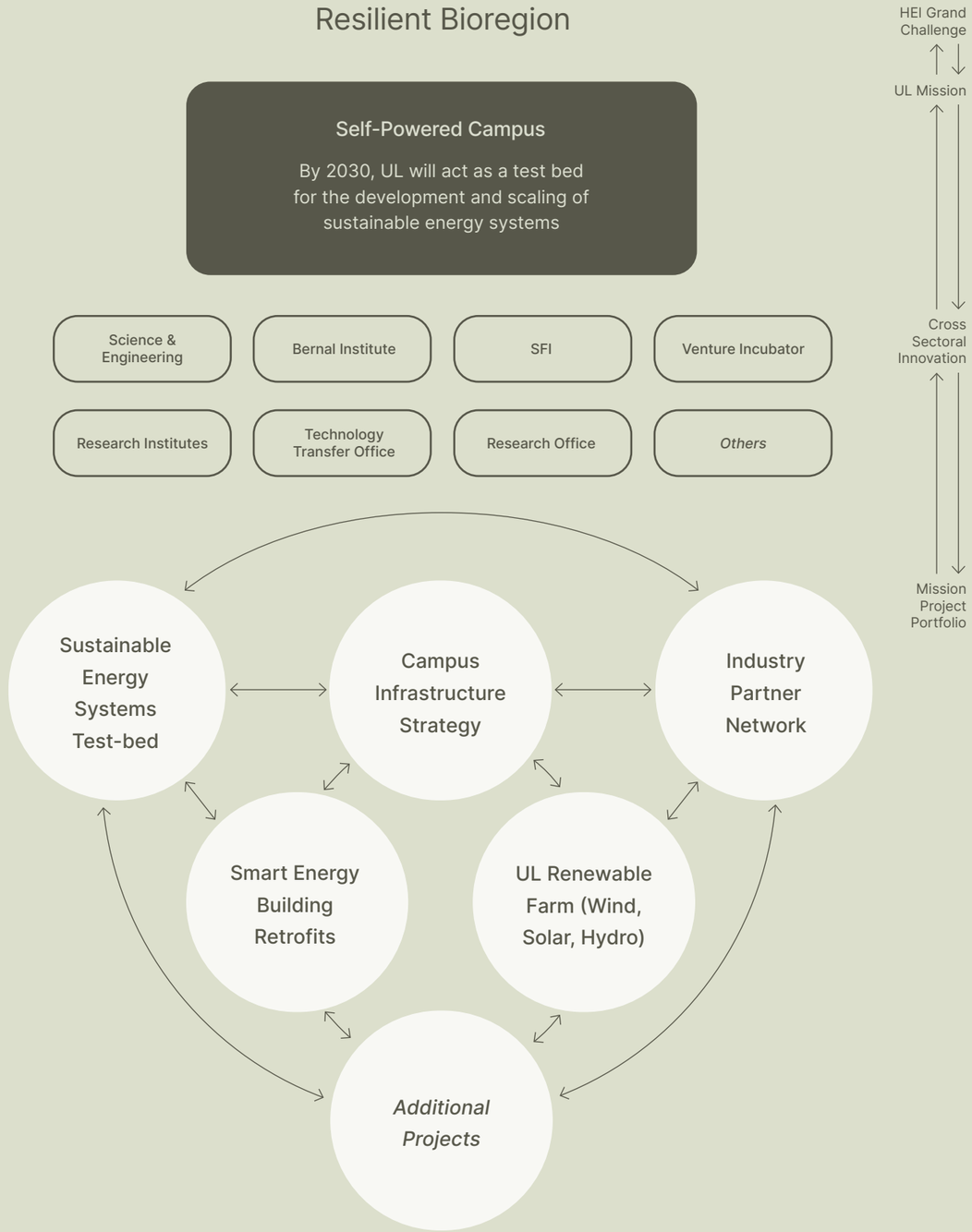

SDG Focus

HEI Grand Challenge

Resilient Bioregion

UL Mission

Circular Campus

By 2030, UL will act as a test bed for the development of circular material flows and material usage

New ways of making and consuming are essential to the transition toward a circular economy. This mission sees UL act a test-bed for the development of circular systems. In doing so, the campus will become a hub for innovation partners to research and demonstrate an array of circular production and consumption solutions.

Outcomes

+ waste prevention
+ recycling and reuse
+ repair and repurposing
+ biodegradable materials
+ energy efficiency
- single use plastics
- food waste
- materials waste
- energy waste
- pollution

Metrics

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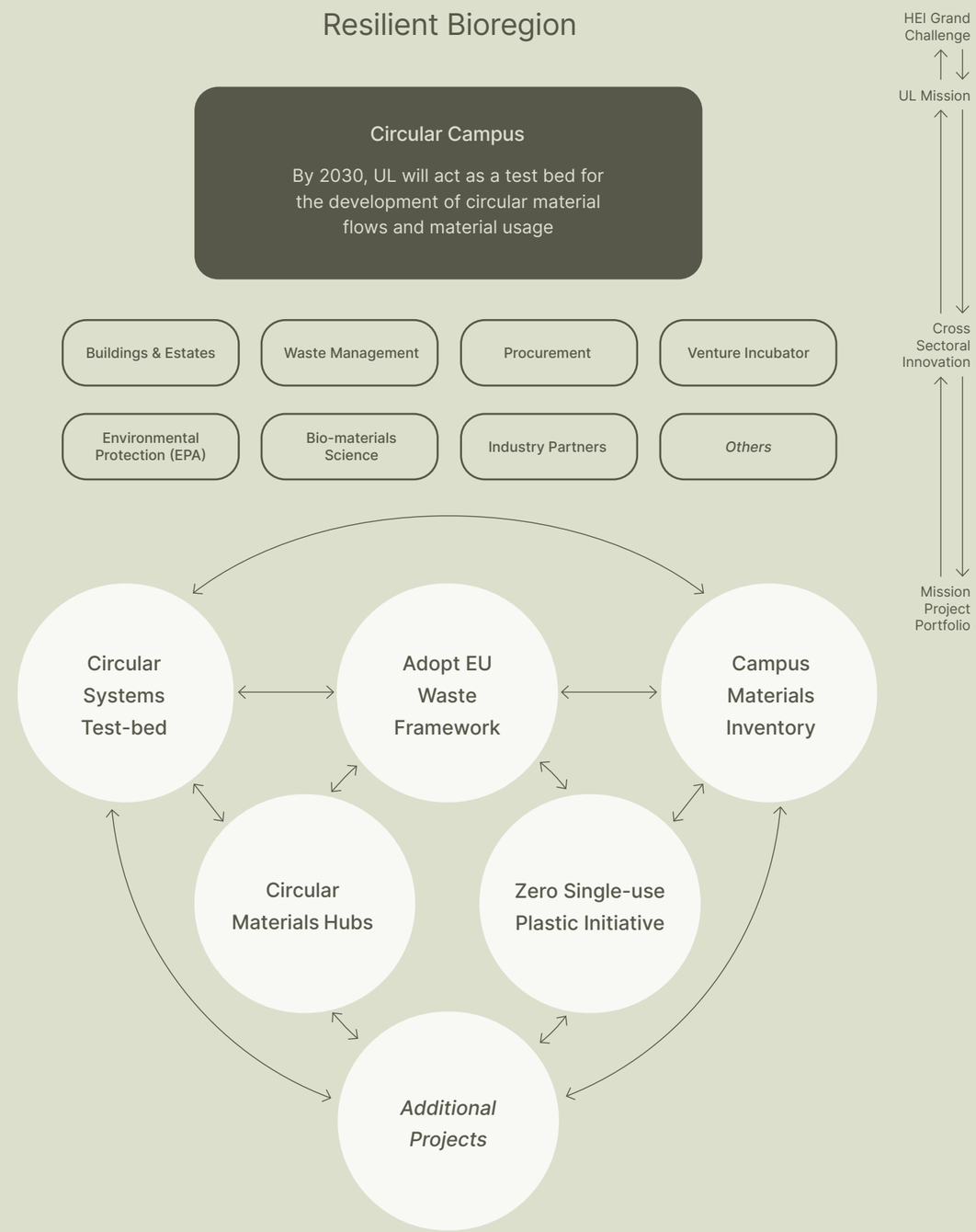

SDG Focus

HEI Grand Challenge

Resilient Bioregion

UL Mission

Carbon Neutral Campus

By 2030, UL will have achieved carbon neutral status

The dramatic reduction of carbon emissions is essential to achieve our climate goals. This mission sees UL transform our campus into one which has no net release of carbon dioxide into the atmosphere. To do so, the campus carbon footprint will be eliminated through reduced emissions, carbon sequestration, and carbon offsetting.

Outcomes

+ carbon reduction
+ carbon sequestration
+ carbon offsetting
+ energy efficiency
+ building retrofits
+ repair and repurposing
+ rewilding and green space
- carbon emissions
- energy leakage and waste
- fossil fuel usage

Metrics

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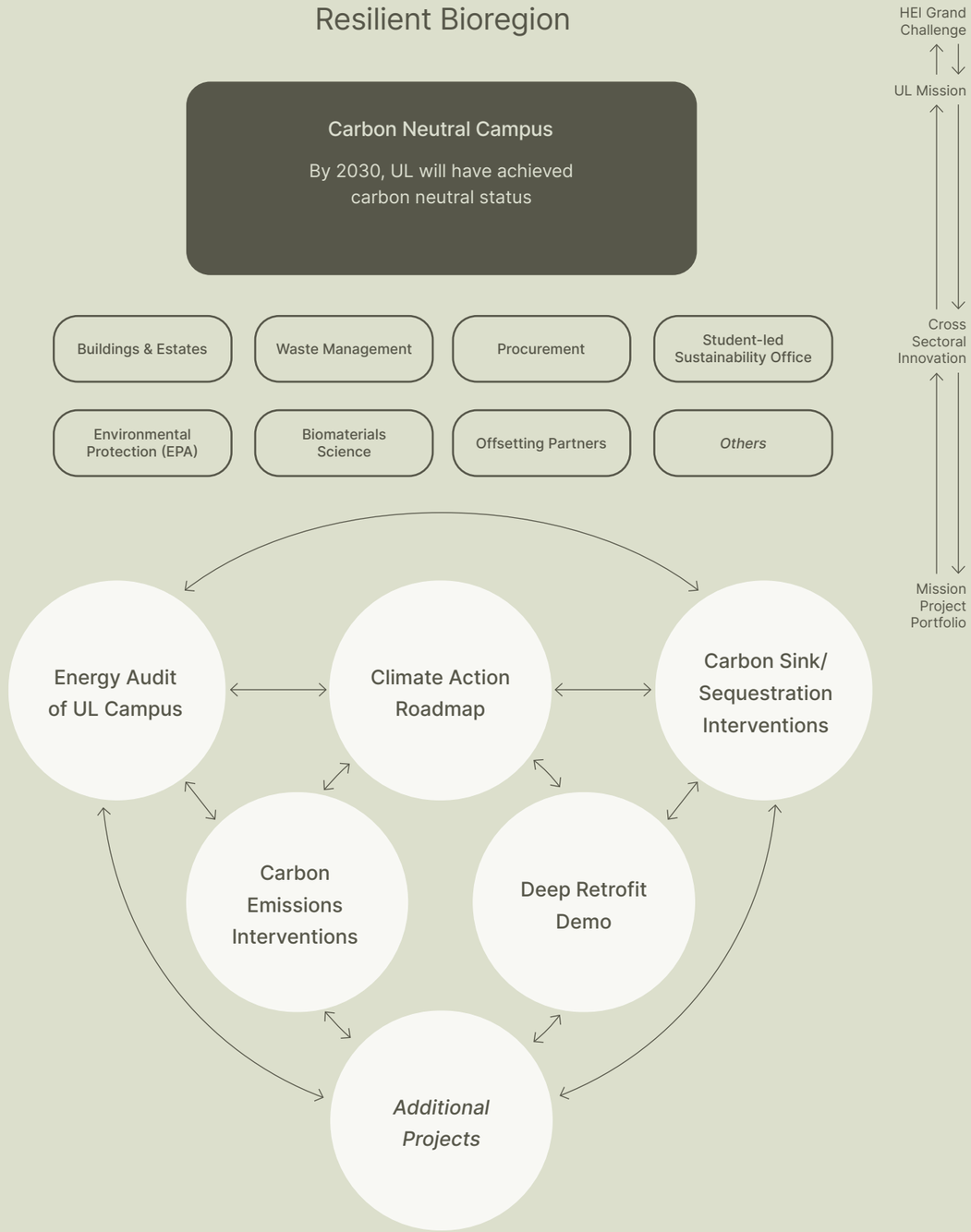

SDG Focus

HEI Grand Challenge

Resilient Bioregion

UL Mission

Clean Water University

By 2030, UL will optimise campus water accessibility, and water management and protection

The health and resilience of our water supply is foundational to the thriving of all life on our campus. This mission sees UL implement sustainable water infrastructure to increase water accessibility, management and protection. In doing so, the campus will become saturated with sources of fresh drinking water, all while guaranteeing a significant reduction in water waste and pollution.

Outcomes

+ health and wellbeing
+ sanitation and hygiene
+ water accessibility
+ water collection and harvesting
+ safe water disposal
+ water efficiency
- waste water
- toxicity and pollution
- harm to plant and animal life
- river water damage

Metrics

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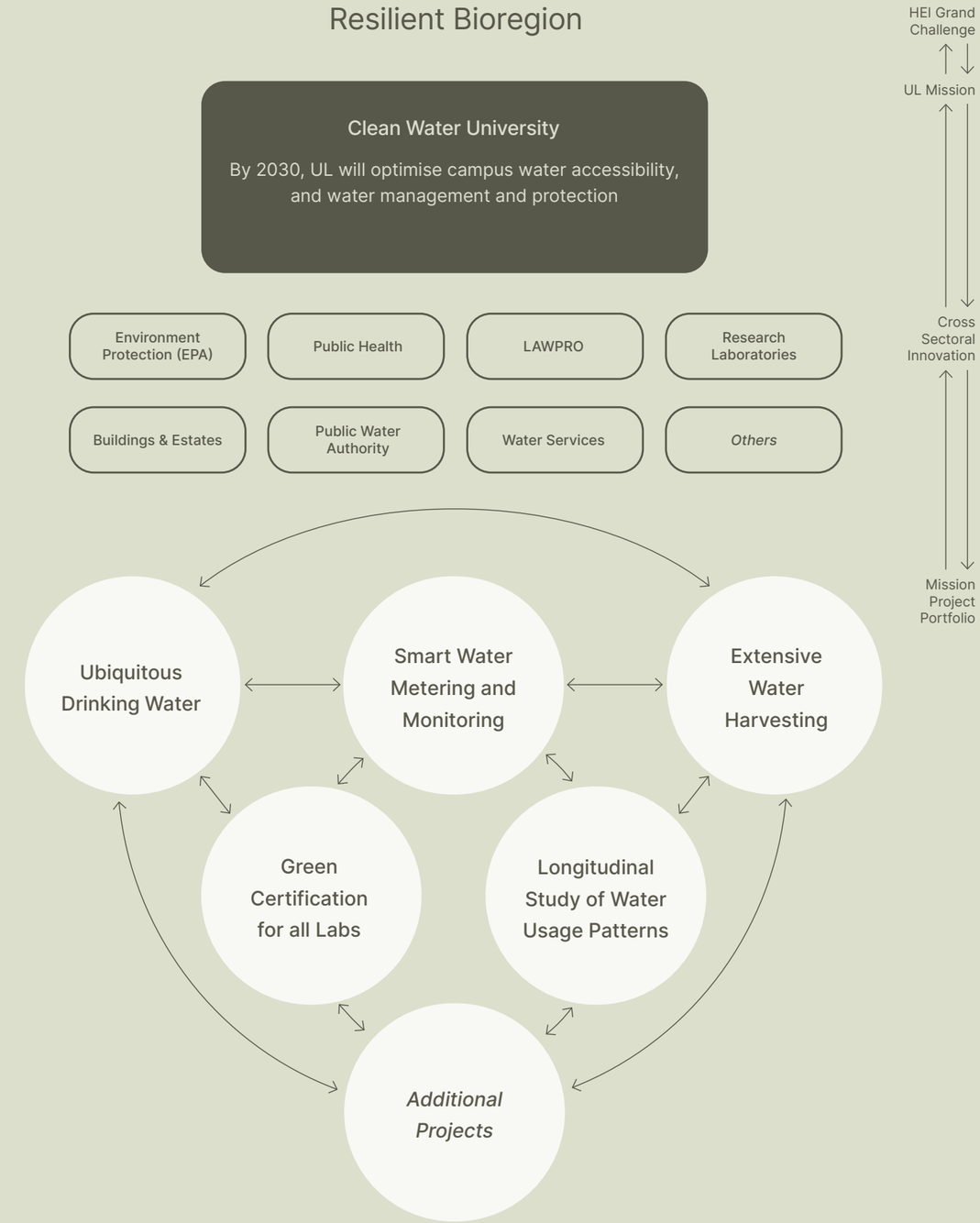


SDG Focus

HEI Grand Challenge

Resilient Bioregion

UL Mission

Revitalised River Shannon

By 2030, UL will have significantly contributed to the ecological health of the Shannon River and its associated natural ecosystems

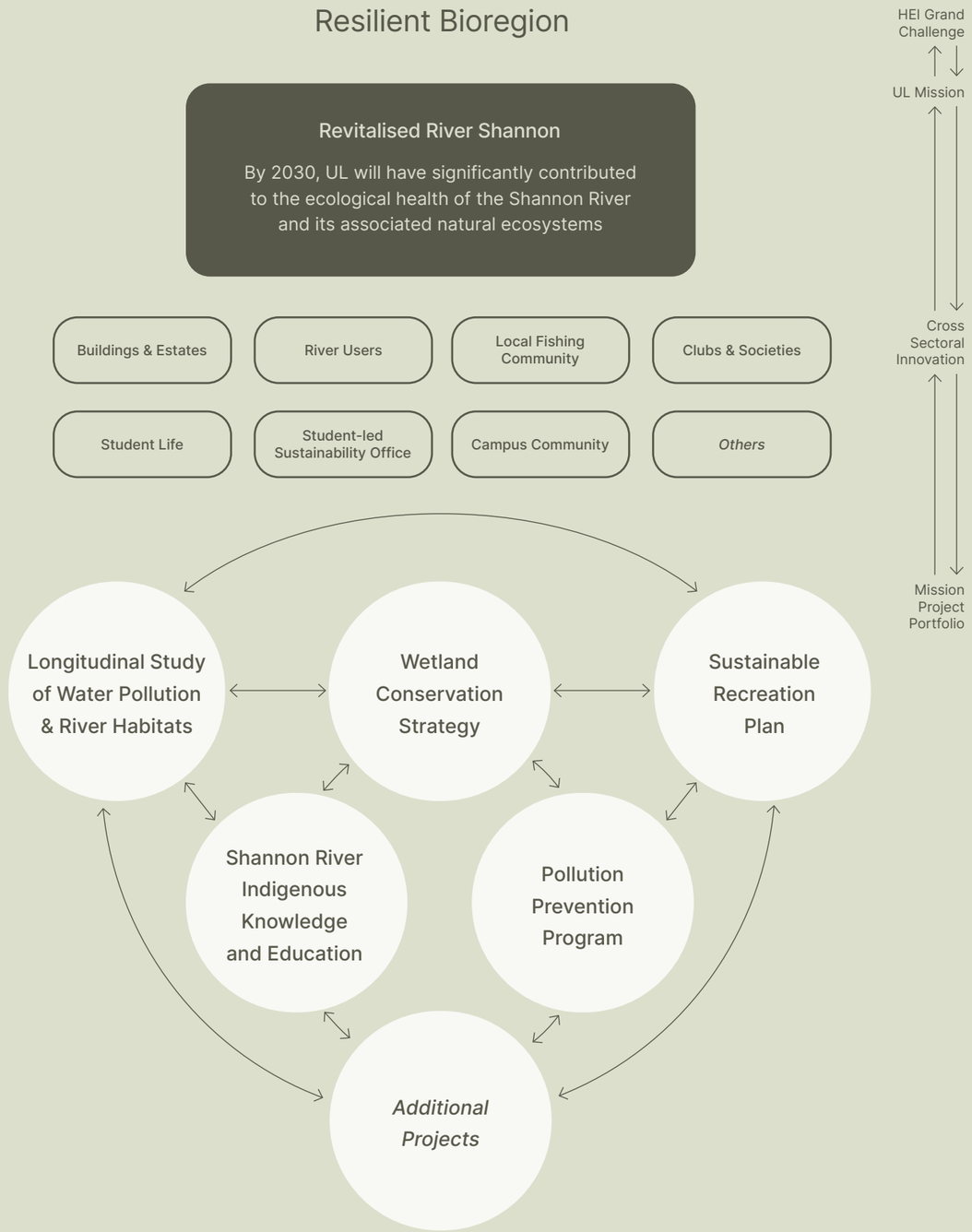
UL has an intimate relationship with the River Shannon; it runs through the heart of our campus and opens its waters to our community. This mission sees UL become stewards of the revitalisation of River Shannon. In doing so, the river will flourish through water protection and habitat restoration, and sustainable social-use.

Outcomes

+ river clean up frequency
+ river health
+ aquatic life population
+ water quality
+ place-based knowledge
+ river safety and protection
+ river waste prevention
- river pollution
- waste water runoff
- water pollution

Metrics

Official metrics are yet to be defined by the mission team and additional key stakeholders. This will occur upon commencement of the mission projects and will be influenced by data derived from baseline studies of the systems relevant to each mission.



The Mission Model

Our missions were co-created by the members of the UL Sustainability Working Group. The diversity of perspectives and disciplines represented within this group ensured that each mission declaration was the by-product of an informed and thoughtful framing process. However, we've provided this blank template as a reminder that our missions are always open to influence from our community. If you have any suggestions for improving our missions please contact UL Mission Lab.

Photo Credit:
Jason Dent

SDG Focus

HEI Grand Challenge

Title of Grand Challenge

UL Mission

Title of Mission

Declaration of mission outcome to be achieved by 2030

Brief synopsis of the associated challenge, and description of the mission and its aspired impact.

Outcomes

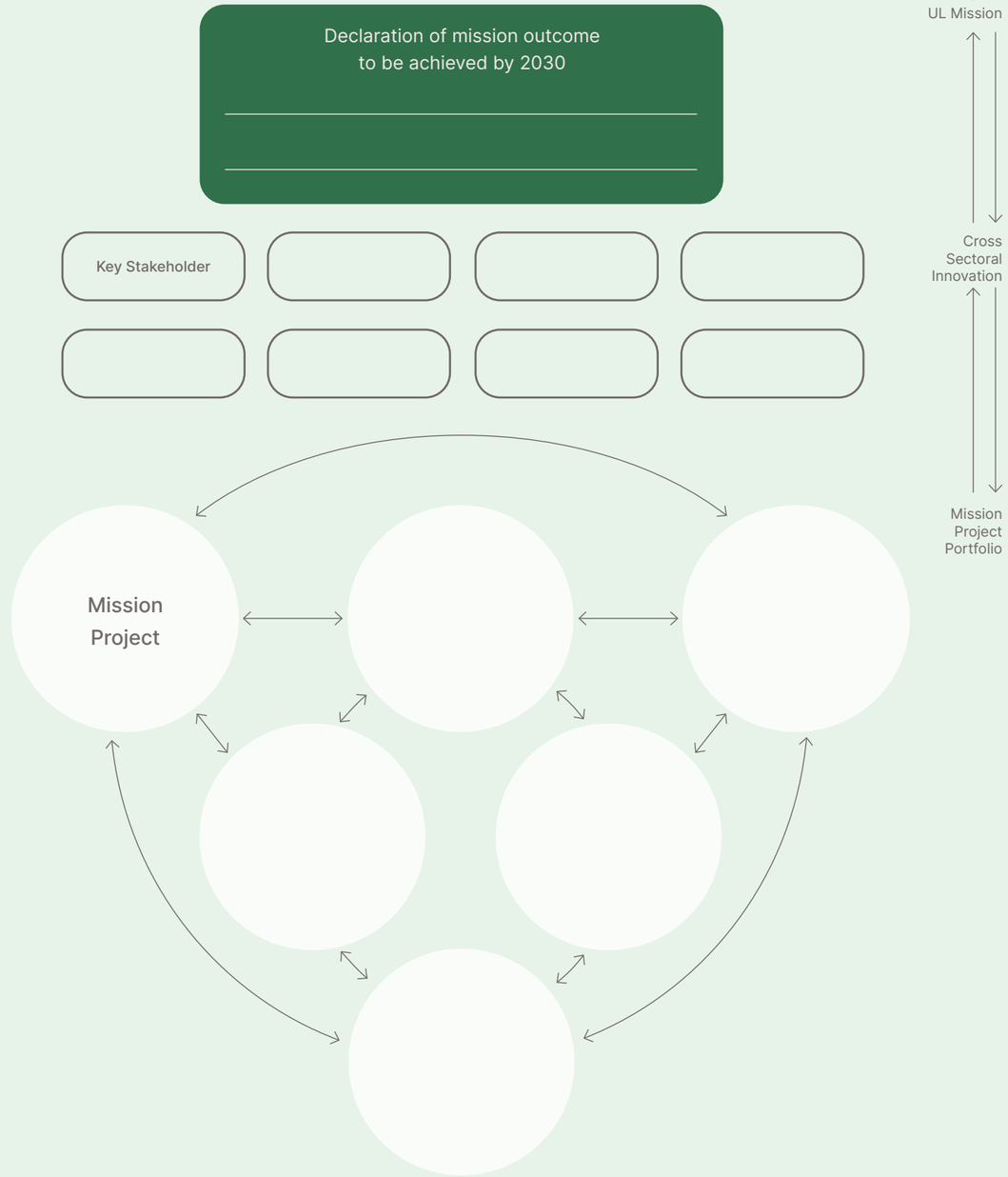
+ positive increases as a result of achieving the mission declaration

- positive decreases as a result of achieving the mission declaration

Metrics

Official metrics are yet to be defined by the mission team and additional key stakeholders. This will occur upon commencement of the mission projects and will be influenced by data derived from baseline studies of the systems relevant to each mission.

Title of HE Grand Challenge



03 The Mission Lab

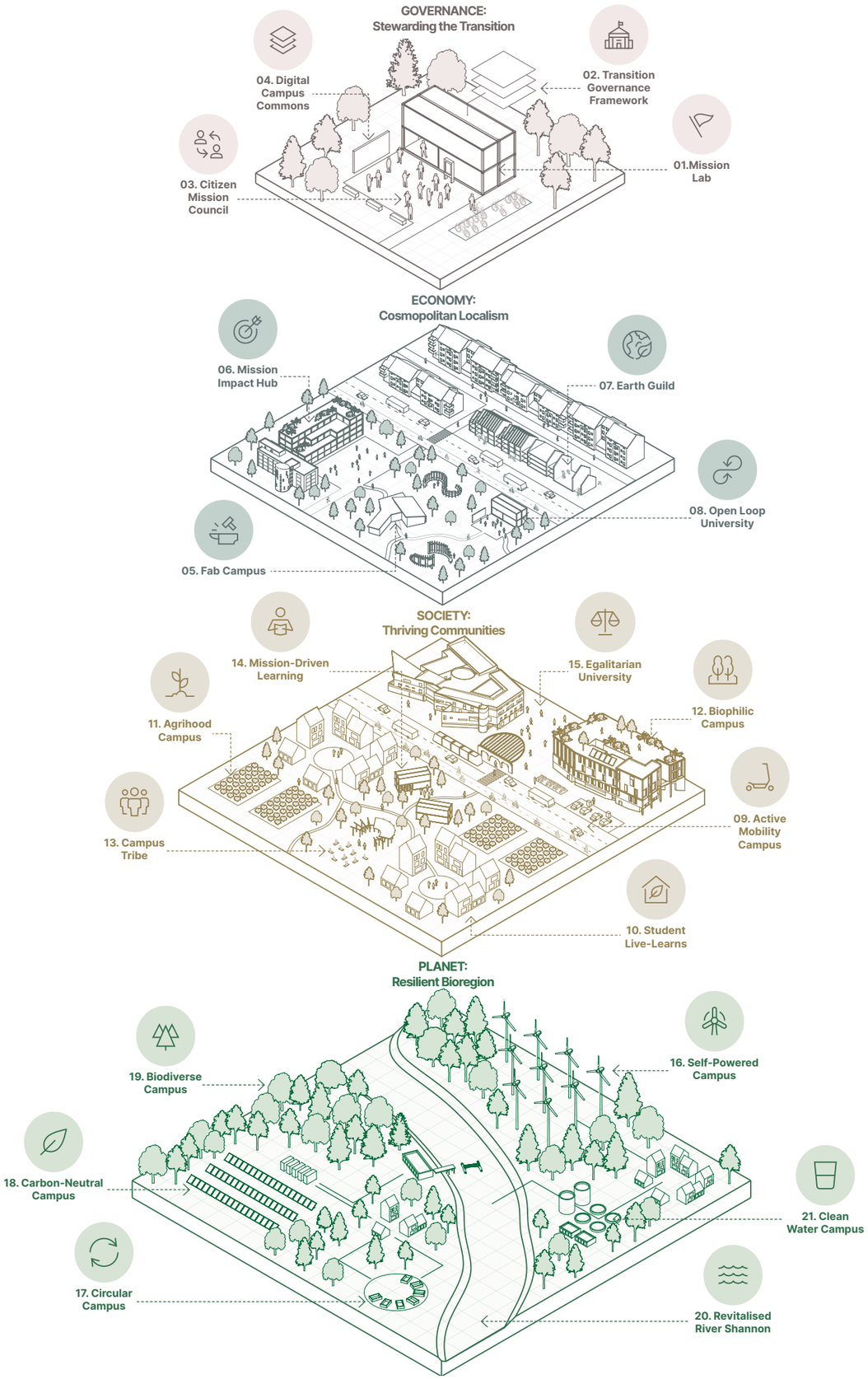
"We are called to be architects of the future, not its victims."
– Buckminster Fuller

Photo Credit:
Tom Spencer

The Mission Lab

This section outlines the purpose of the Mission Lab, its role in creating the conditions for deep collaboration, and the approach it will take to orchestrating the mission project portfolio.

Photo Credit:
Tom Spencer



Mission Project Portfolio

GOVERNANCE:
Stewarding the Transition

01. Mission Lab
1A. Mission Fund
1B. Mission Lab Model
1C. Mission Process
1D. Mission Teams
1E. Mission Infrastucture

02. Transition Governance Framework
2A. Sustainability Financial Plan
2B. Code of Conduct
2C. Procurement Guidelines
2D. Partner/Relational Model
2E. Sustainability Reporting

03. Citizen Mission Council
3A. Active Citizenship Programmes
3B. Community Mission Models
3C. Network of Mission Leaders
3D. Citizen Mission Portfolio
3E. Community Mission Fund

04. Digital Campus Commons
4A. Mission Dashboard
4B. Smart Campus IOT Network
4C. Campus Digital Twin
4D. Cross-Mission Performance Data
4E. Open Mission Data

ECONOMY:
Cosmopolitan Localism

05. Fab Campus
5A. Network of Maker Spaces
5B. Repair Sheds
5C. Open Design Inventory
5D. Maker Learning Programmes
5E. Maker Learning Policy

06. Mission Impact Hub
6A. Social Impact Start-up Program
6B. Mission Partner Network
6C. Mission Marketplace
6D. Venture Impact Assessment
6E. Social Innovation Venture Fund

07. Earth Guild
7A. Community Based Learning
7B. Trade Taxonomy & Curriculum
7C. Generational Craft Program
7D. Augmented Trade School
7E. Mission Apprenticeships

08. Open Loop University
8A. Alumni Network/Ecosystem
8B. Alumni Mission Leader Programme
8C. Mission Related Micro Credentials
8D. Mission Masters & Post-Grad
8E. Mission Outposts

SOCIETY:
Thriving Communities

09. Active Mobility Campus
9A. Repurposing Infrastructure
9B. Greenway Development & Integration
9C. Electric Infrastructure Programme
9D. Public Transport Connectivity
9E. Nature-based Mobility Corridors

10. Student LiveLearns
10A. Sustainable Retrofitting
10B. Pilot Student LiveLearn
10C. Behavioural Study in LiveLearns
10D. Student-led Sustainability Office
10E. Green Nudge Program

11. Agrihood Campus
11A. Micro Allotments & Food Co-ops
11B. Food Redistribution Scheme
11D. 100 Mile Diet Learning Program
11E. Bioregional Food Supplier Network
11F. Food Consumption & Waste Study

12. Biophilic Campus
12A. Nature, Work and Health Education Programme
12B. Biophilic Building Retrofits
12C. Biophilic Building Standards & Framework
12D. Mindfulness Programmes
12E. Campus Environmental Health Longitudinal Study

13. Campus Tribe
13A. Nature-based Rituals Program
13B. UL Elders Programme
13C. UL Place-Based Manifesto
13D. Campus Festivals
13E. UL Archives & Futures Museum

14. Mission-Driven Learning
14A. Mission Curriculum
14B. Competency Framework
14C. Mission Expeditions
14D. Mission Learning Platform
14E. Leadership Programme

15. Egalitarian University
15A. Supporting Career Longevity Policies & Practices
15B. Athena Swan Silver Institution
15C. Embedding of Human RIghts & EDI in Governance and Culture
15D. Universal Campus Grounds (13 Grounds)
15E. EDI Champions Program

PLANET:
Resilient Bioregion

16. Self-Powered Campus
16A. Sustainable Energy Systems Test-bed
16B. Campus Infrastructure Strategy
16C. Industry Partner Network
16D. Smart Energy Building Retrofits
16E. UL Renewable Farm (Wind, Solar, Hydro)

17. Circular Campus
17A. Circular Systems Test-bed
17B. Adopt EU Waste Framework
17C. Campus Materials Inventory
17D. Circular Materials Hubs
17E. Zero Single-use Plastic Initiative

18. Carbon-Neutral Campus
18A. Energy Audit of UL Campus
18B. Climate Action Roadmap
18C. Carbon Sink/Sequestration Interventions
18D. Carbon Emissions Interventions
18E. Deep Retrofit Demo

19. Biodiverse Campus
19A. Biodiversity Baseline
19B. Immersive Biodiversity
19C. Habitat and Species Protection and Enhancement Program
19D. Rewilded Campus Initiative
19E. Campus-based Ecotourism

20. Revitalised River Shannon
20A. Longitudinal Study of Water Pollution & River Habitats
20B. Wetland Conservation Strategy
20C. Sustainable Recreation Plan
20D. Shannon River Indigenous Knowledge and Education
20E. Pollution Prevention Program

21. Clean Water Campus
21A. Ubiquitous Drinking Water.
21B. Smart Water Metering and Monitoring
21C. Extensive Water Harvesting
21D. Green Certification for all Labs
21E. Longitudinal Study of Water Usage Patterns

Diagram Reference
UL Mission Project Portfolio

Mission Lab Governance

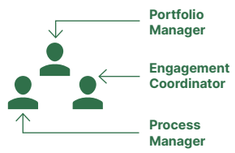
At its core, a mission-based approach affords UL the time and space to build a bespoke innovation engine; one that will enable increased organisational agility and responsiveness as it matures. It will require the development of a strong governance model that ensures collective accountability and responsibility, all while enabling experimentation and informed risk-taking.

As a new entity, the Mission Lab will be operated by a dedicated team with the mandate to fulfil the following roles:

1. Orchestrate and manage the mission portfolio
2. Act as cross-pollinators between mission teams
3. Provide resource and support for mission teams
4. Develop novel mission-based methods and tools
5. Capture and disseminate on-going learning
6. Leverage funding for effective investment
7. Build new connections and increase momentum

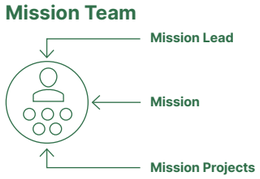
Mission Ecosystem Key

Mission Lab Team

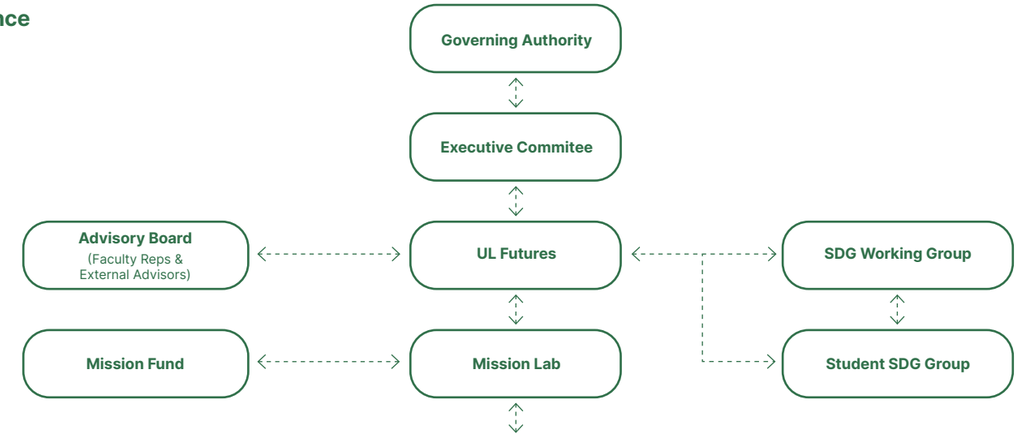


Grand Challenge Team

Mission Team



Governance



Process

Discovery
Understanding the system through mapping and analysis, and identifying ways into the problem / opportunity

Futures
Understanding signals and drivers of change to develop future scenarios that address critical uncertainties

Strategy
Developing portfolios of innovation experiments across all missions, intervening through multiple levers of change

Experiment
Prototyping and demonstrating interventions across the portfolio to understand their impact and reveal synergies

Mission Ecosystem

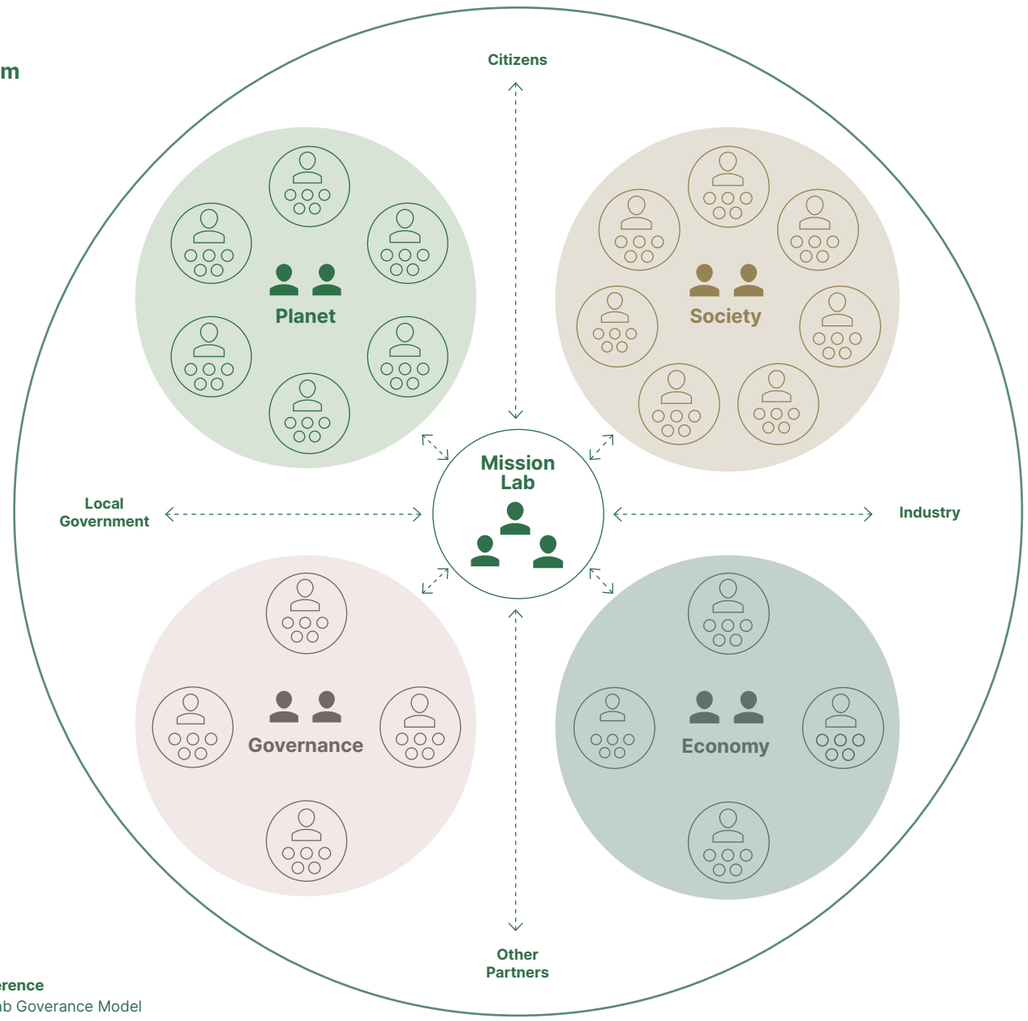


Diagram Reference
UL Mission Lab Goverance Model

Open Collaboration & Management

Progressing through the mission portfolio will require the adoption of adaptive innovation practices and tools capable of dealing with the complexity that comes with the scope and scale of our ambition. By augmenting best-practice with novel technology, we will be able to leverage the benefits of enhanced insight generation and data-driven decision-making.

Gaining Momentum

Our sustainability missions are ambitious. The mission project portfolio is where this ambition is made actionable. The portfolio consists of an evolving set of experiments derived from our mission declarations. Each project within the portfolio is qualified based on two criteria: its individual merit and its contribution to the portfolio as a whole.

To form our experiment portfolio, each mission has been broken down into five keystone projects. Efforts where made to intentionally distribute the set of projects within each mission across multiple levers of change. This was to ensure our total impact occurs across multiple levels of the systems we aim to intervene in. While the current framing of these projects is clear, their details are yet to be defined. Doing so will be done by 'bringing the system into the room'; conducting an inquiry into the particulars of each project with those who understand the context most intimately. This ensures our missions and related projects are thoughtfully framed from the onset.

The breadth of our experiment portfolio may evoke fears of 'spreading ourselves too thin' or 'trying to do too much at once'. We acknowledge this – the scope and scale of the work to be done is not to be overlooked. To encourage momentum, we will be taking a phased approach to progressing through the portfolio. Just as a snowball gains speed and size the further it rolls down a hill, we envision our efforts compounding over time; growing in both capability and capacity with each successfully completed project.

As the 'snowball effect' produces a succession of compounding achievements, it will amplify the confidence and inspire the persistency required to deal with the inevitable difficulties of true systems change. As these traits grow, the Mission Lab and associated teams will become more capable at overcoming the inherent friction and inertia that exists within the structures of the systems we wish to create change within.

Moreover, just as it is inevitable that a rolling snowball will shed and replace some of its snow as it rotates, the composition of the mission portfolio will also change over time. The initial conditions of where we are starting from have directly (and in many ways indirectly) shaped the first instantiation of the portfolio. As we move forward – equipped with a learning mindset – it is inevitable that the contents and processes that drive the construction of the portfolio will adapt to the new contexts within which we are trying to create change.

Snowball Dynamic

Early prototypes and 'quick wins'	Larger and more complex prototypes	Full scale demonstrations
Low-resolution data, local learning & value	Shared learning & value, early evidence	Convincing evidence for risk-mitigated investment
Initial inertia and lack of bias toward action	Lack of willingness for meaningful change	Lack of political will / system 'immune response'

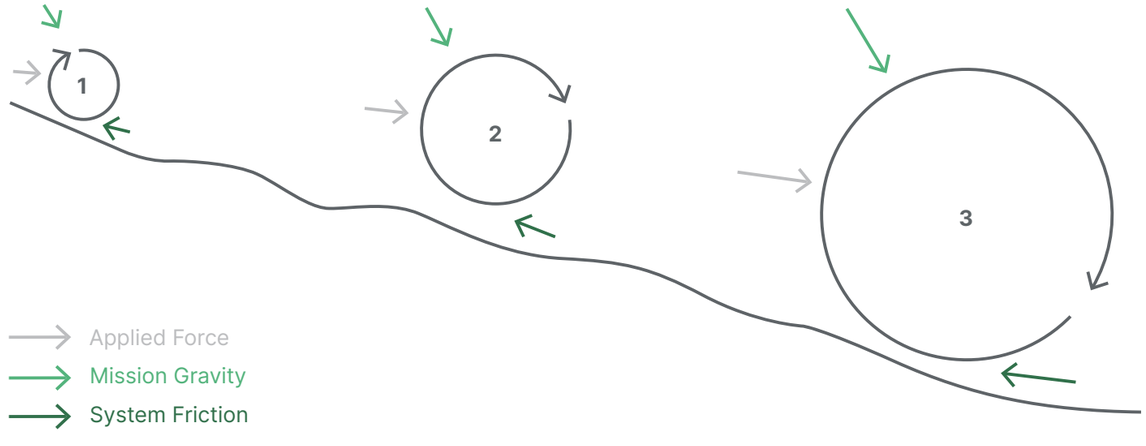


Diagram Reference
Inspired by Vinnova's 'Snowball Effect' (2022)

UL Speculative Futures

The following is a speculative view of how our journey to becoming a Sustainable University may manifest as we progress our way through the mission project portfolio.

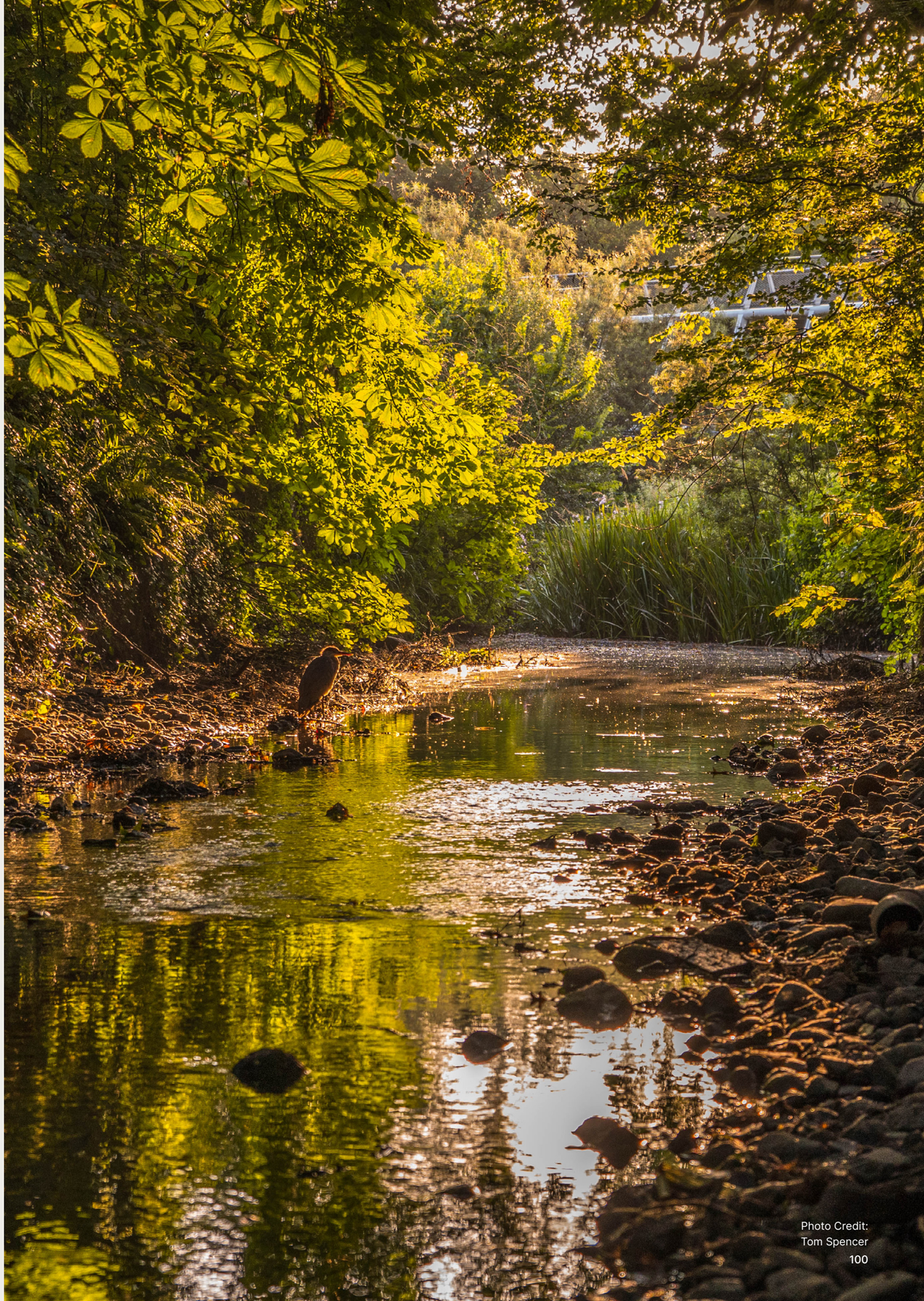


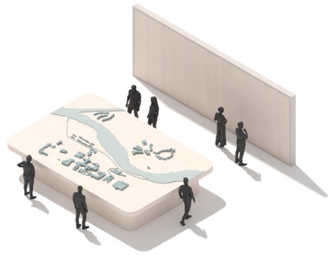
Photo Credit:
Tom Spencer

Speculative Timeline

The following is a speculative timeline of a set of hypothetical mission-related milestones on our path towards a sustainable university. Each one conveys the diversity of impactful moments that the UL community will celebrate as we progress through our mission portfolio.

Strategy Development
UL sets up cross organisational bottom up working group to develop Sustainability Strategy.

Mission Lab
UL set up the first mission lab on campus, acting as ground zero to drive collective change.



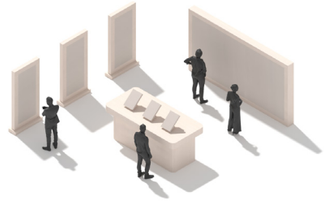
Digital Campus Commons
UL reveals novel approach to measuring sustainable development through open campus digital twin.

Campus Tribe
UL's 4th Summer Festival provides a growing platform for Irish art, craft, design and music.

Student LiveLearns
UL's successful LiveLearn pilot receives international recognition and is adopted across the HEI community.

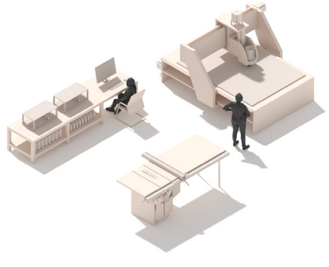
2021 2022 2023 2024 2025 2026 2027 2028 2029 2030

Strategy Launched
UL publishes its ambitious 'Mission-led Sustainability Strategy' with the aim of becoming a Sustainable University by 2030.



Agrihood Campus
UL augments its campus urban farm with student led food cooperative.

Fab Campus
UL opens second repair shed due to increased demand for community maker-spaces.



Self-powered Campus
UL demonstrates novel renewable energy integration systems on its campus test bed.

Biophilic Campus
UL's nature integrated campus voted best in Europe for health and wellbeing.

Speculative Mission Lab

A speculative view of a Mission Lab situated on campus grounds – providing a dedicated studio space for mission teams to collaborate with each other and the broader community.

Speculative UL Campus 2030

The following is a speculative view of how the UL campus may evolve on the journey toward becoming a Sustainable University.

Going Beyond Sustainability

Sustainability is the first step

When we aim for sustainability from a systemic perspective, we are describing the efforts made to sustain the patterns that connect and strengthen the whole system in question. In this way, sustainability's primary aim is to maintain systemic health and resilience across different scales (from local, to regional and global). Ultimately, true sustainable development requires us to become a society that is resilient and adaptable, with a culture of care for all forms of life on our planet at its core. This can only be achieved through understanding how living systems and human cultures can come into conviviality within each unique bioregion, and then designing our human structures in a way that takes these regional and local characteristics into account.

Sustainability is a noble goal, but it is only our first step. The word sustainability itself does not refer to what is trying to be sustained. This invites us to consider what aspects of our current world we wish to sustain. More importantly, it creates the space for us to consider what we should leave behind.

Toward a Regenerative Society

Regenerative cultures go beyond sustainability: they safeguard and grow bio-cultural abundance for future generations of humanity and for life as a whole. Creating regenerative systems is not simply a technical, economic, ecological or social shift: it has to be united with an underlying shift in the way we view ourselves, our relationships with each other and with life as a whole. In this way, the aim of creating regenerative cultures transcends – yet includes – sustainability.

While the path to a regenerative culture is clouded by the challenges of the present, seeds of its emergence can be found around the world. At the core of creating regenerative cultures is an invitation to our community to begin living the questions together. If we can become open and curious enough to explore and embody new ways of relating to self, each other and to life as a whole, UL will become a pioneer for which all HEIs can learn from. Universities are uniquely positioned to act as the critical nexus where these relationships will be forged, questions lived and futures manifested. We must aspire to nothing less if we wish to create a thriving future for all life on earth.

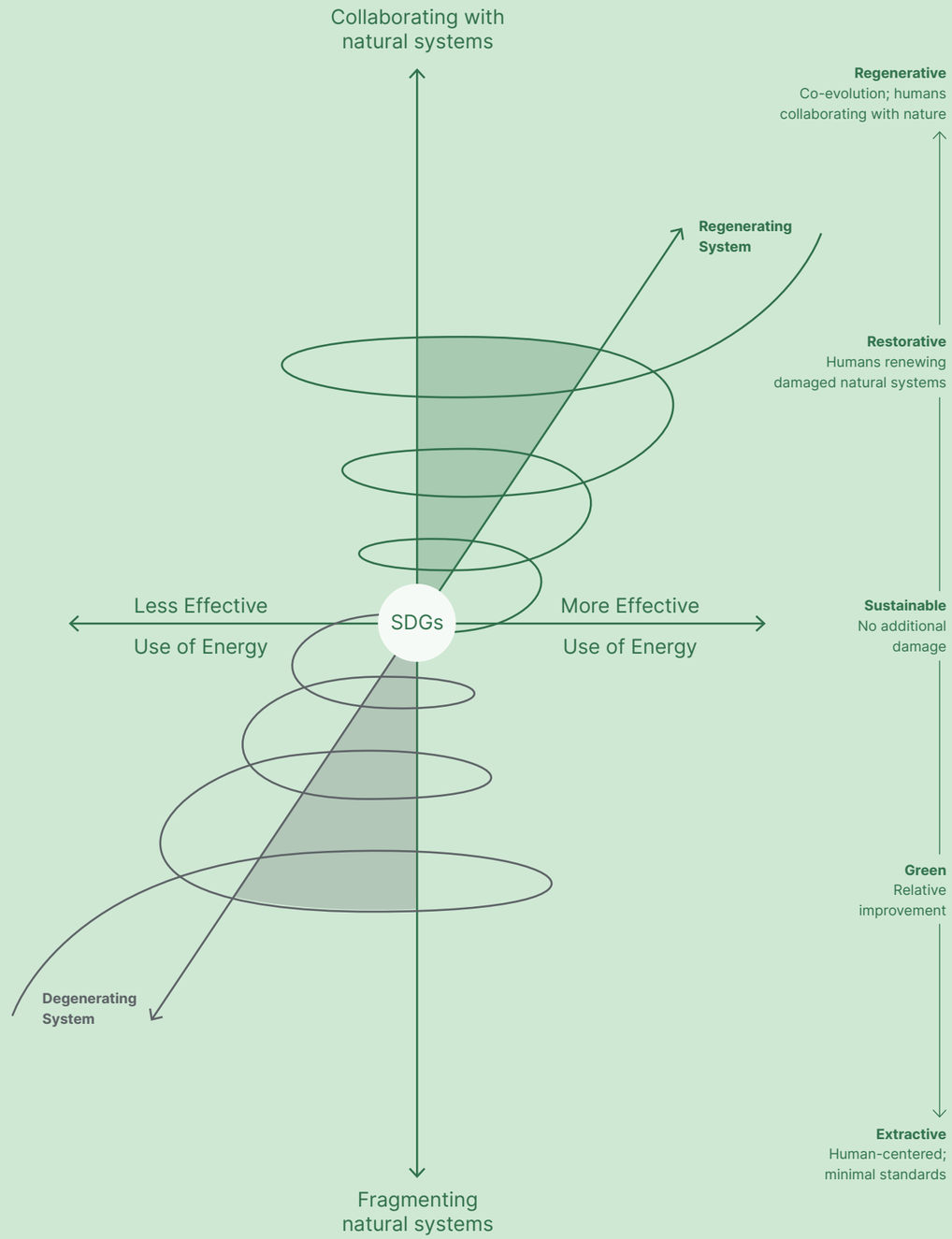


Diagram Reference
Bill Reed (2007)

Appendix

The following section provides an afterword from lead producers of this document, a glossary of the key terms used, an overview of the referenced literature and content used as inspiration in the formation of this framework, and a detailed list of the members of UL Sustainability Working Group.

Photo Credit:
Tom Spencer

UL Sustainability Working Group

Name	Department/School/Division/Faculty	Job Title
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Dr. Chris Fogarty	Buildings and Estates, Corporate Office	Energy Manager
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Eileen F. O'Connor	Office of Vice President Research	Research Metrics and Reporting Officer
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Dr. Joanne O'Flaherty	School of Education, EHS	Lecturer in Education, Academic Coordinator Ubuntu Network
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Dr. Khalifa Elmusharaf	Graduate Entry Medical School (GEMS)	Senior Lecturer in Public Health. Director of Public Health Master Programme
Prof. Luuk Van Der Wielen	Science and Engineering, Bernal	Director of Bernal Institute and Chair of Biosystems Engineering & Design
Dr. Marie Connolly	Provost Office	Director, Human Rights, Equality, Diversity & Inclusion
Dr. Margaret Toomey	School of Medicine	Chief Technical Officer, School of Medicine
Maria Healy	UL Engage	Impact Office, UL Engage

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Dr. Rosie Gowran	Occupational Therapy Department, School of Allied Health, Education & Health Sciences	Course Director & Lecturer in Occupational Therapy
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Prof. Sean Redmond	School of Law Department, AHSS	UL Adjunct Professor in Youth Justice & REPPP Project
Sheena Doyle	Marketing and Communications Division	Communications Manager
Prof. Sheila Killian	Accounting and Finance, KBS	Director, Principles for Responsible Management Education
Dr. Sinead Burke	Graduate & Professional Studies	UL@Work Manager

UL Sustainability Working Group (continued)

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Vicky Kelly	Strategic Projects and Transformation, Finance Division	Project Officer
Dr. Yvonne Ryan	Chemical Science, Electronics and Computer Engineering, S&E	Lecturer, Electronics and Computer Engineering & Chemical & Environmental Sciences

Sustainability Student Advocates

Name	Programme of Study	Faculty
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Abbie Orchin Moloney	Environmental Science	Science and Engineering
Ben Kiely	International Business Student	Kemmy Business School
David Halpin	Environmental Science	Science and Engineering
Ellen Fitzgerald	Languages with concurrent Education	Arts, Humanities and Social Sciences
Jack O'Connor	International Business Student	Kemmy Business School
Jean Langford	Alumni Student, Psychology	Education & Health Sciences
Lauren Delaney	Environmental Science	Science and Engineering

Glossary

Sustainable Development
The increasing of the quality of our social foundations while maintaining ecological health and staying within planetary boundaries.

Grand Challenge
A complex societal problem that is currently impeding sustainable development.

Wicked Problem
An intractable problem that – due to its intrinsic complexity – cannot be solved.

Systems Change
The intention intervention within complex adaptive systems to reorient the systems dynamics in service of a new set of goals and paradigms.

Mission-oriented Innovation
A way to direct multi-stakeholder innovation towards a common understanding of how best to solve society's grand challenges.

Mission
A bold, time-bound and clearly framed opportunity to address grand challenges, propose innovations that overcome these challenges, and outline an approach to testing and co-ordinating these innovations.

Innovation Portfolio
A collection of interconnected innovation projects oriented towards the achievement of an agreed upon set of objectives, chosen based on their individual merit and their impact on the portfolio as a whole.

Mission Project
An actionable innovation project that is led by a multidisciplinary team with the aim to achieve a specific innovation outcome, in service of one or more missions.

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“ Sustainable development lies at the heart of everything UL strives to become.”

- Professor Kerstin Mey, President, University of Limerick.

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