



CRITICAL PATH TO SUSTAINABILITY

UNIVERSITY OF SASKATCHEWAN
SUSTAINABILITY STRATEGY (2021-2030)



UNIVERSITY OF SASKATCHEWAN
Office of Sustainability
OFFICE OF THE PRESIDENT
[SUSTAINABILITY.USASK.CA](https://sustainability.usask.ca)



LAND ACKNOWLEDGMENT

We acknowledge that the University of Saskatchewan is on Treaty 6 Territory and the Homeland of the Métis. We pay our respect to the First Nations and Métis ancestors of this place and reaffirm our relationship with one another.

TABLE OF CONTENTS

3	President's Message	6	Commitment 1: Leverage Our Place	9	Commitment 4: Capitalize on Strengths	12	References
4	Context	7	Commitment 2: Model the Way	10	Commitment 5: Catalyze Social Change		
5	Our Strategy	8	Commitment 3: Empower Action	11	Being the University the World Needs		



PRESIDENT’S MESSAGE

The University of Saskatchewan has spent a century working with communities in various capacities. Our community connections – locally, provincially, nationally and globally – have amplified the purpose and relevance of our work. In face of the challenges of the 21st century, including its threats to achieving the United Nations’ Sustainable Development Goals, the world urgently needs universities to “leapfrog” so to speak, putting our knowledge to work in a more powerful and productive way.

Our University Plan 2025 commits us to being “The University the World Needs”. This means to harness our talents and resources to respond to contemporary challenges and opportunities. The Critical Path to Sustainability strategy lays out an ambitious set of five goals and 17 actions that responds to these challenges and opportunities. We commit to achieving them by 2030, aligning with the Sustainable Development Goals.

I wish to acknowledge the leadership role of Professor Irena Creed, who is my Special Advisor on Sustainability and who led the activities that developed this strategy.

PETER STOICHEFF
President and Vice-Chancellor

SUSTAINABLE DEVELOPMENT GOALS TO TRANSFORM OUR WORLD

The United Nations’ Sustainable Development Goals (SDGs) emerged from the 2012 United Nations Conference in Sustainable Development in Rio de Janeiro. These universal goals were established in 2015 and were designed to meet urgent social, economic, environmental and political challenges facing our world. They are intended to be achieved by 2030. The University of Saskatchewan’s vision, mission, principles and values are highly aligned with the SDGs, more so than many universities. Through the strategy, “Critical Path to Sustainability”, the University of Saskatchewan is taking major steps forward to contribute to the United Nations’ SDGs.





CONTEXT

CRITICAL PATH TO SUSTAINABILITY¹

The University of Saskatchewan's strategic plan calls for it to be The University the World Needs. To reach this goal, the University of Saskatchewan (USask) will need to place a high priority on the United Nations Sustainable Development Goals (SDGs). Only by addressing the interlinked social, economic and environmental challenges captured by the SDGs will it be possible to tackle climate change and protect the planet, while at the same time creating a prosperous, just and equitable society.

To help achieve the ambitious set of 17 SDGs, USask will have to bring to life our commitments to courageous curiosity, boundless collaboration, and inspired communities. One way that our progress to achieving the SDGs can be objectively assessed is through the Times Higher Education (THE) rankings, a global performance assessment of universities against the SDGs. The THE rankings represent a fundamental shift of focus, from relying mostly on conventional "inputs" and "outputs" to transformational "impacts." While the pathways from discovery to impact are potentially infinite, there are common elements, including research, dissemination, uptake, implement and finally impact (Phipps et al., 2016). The first edition of the THE Rankings was released in 2019, and USask participated for the first time in 2020. We received

an overall ranking of 96 among the 766 universities around the world that were ranked. USask's top 100 placement was largely a result of strong performances within four SDGs, notably SDG 2 (zero hunger), SDG 3 (good health and wellbeing), SDG 6 (clean water and sanitation) and SDG 14 (life below water), as well as SDG 16 (peace, justice and strong institutions) – SDGs directly aligned with USask's signature areas in food, one health, and water. Objective measures like these are important, to celebrate our progress and to encourage us to aim higher.

Sustainability isn't merely another problem to be tackled or solved. Rather, it needs to pervade all decisions within our institution; in other words, it requires respecting old ways and beliefs but invigorating them with deeper meanings. To achieve sustainability, we will need to build on the many initiatives already underway on campus, identify where areas of improvement and new initiatives may lie, and then forge ahead with a cohesive strategy that defines our critical paths to sustainability. With only 10 years remaining before the United Nations 2030 deadline, we need to be unapologetically ambitious and appropriately impatient in our actions on sustainability.

¹ "Critical" is defined here as relating to or being a turning point. The title is a spin on Buckminster Fuller's 1981 "Critical Path", a book on the development of human civilization.



UNIVERSITY OF SASKATCHEWAN
Office of Sustainability
OFFICE OF THE PRESIDENT
SUSTAINABILITY.USASK.CA

OUR STRATEGY

Universities are emerging that are undergoing a transformation based on design aspirations that will affect a shift in social outcomes that will achieve equality and equity (Crow & Dabars, 2015; Crow & Dabars, 2020). Inspired by these design aspirations, we have created a strategy to achieve the SDGs that covers a ten-year

period, with milestones for 2025 (coinciding with USask's University Plan) and 2030 (coinciding with the United Nations Agenda 2030 to achieve the SDGs). The strategy is a "living" one; we will be highly responsive to changing needs and opportunities, and we will adjust our path as new information becomes available.

THE BLUEPRINT FOCUSES ON FIVE COMMITMENTS:

LEVERAGE OUR PLACE

Be responsive to our social, economic, environmental and cultural settings, and to influence and be influenced by them as solutions to our sustainability challenges are created, mobilized, and shared.

MODEL THE WAY²

Foster an entrepreneurial campus spirit and utilize the campus operations and community as a living laboratory³ to pilot and then diffuse and scale sustainability solutions.

EMPOWER ACTION

Support a generation of learners and achievers to shift mindsets and expand skillsets to accelerate action to achieve the SDGs.

CAPITALIZE ON STRENGTHS

Bring together the campus community to create knowledges focused on designing and implementing innovative and workable solutions to sustainability challenges.

CATALYZE SOCIAL CHANGE

Promote, engage, and support shared knowledges, expertise, and experiences to affect the change needed.

Never before has there been an alignment of purpose between local, provincial, national, and international agendas on the need for swift and immediate action on the SDGs. Taken together, these commitments outline a significant evolution, one that sees the university much more embedded in the society in which we are part and responsive to their needs. We suggest a new

role for teaching, learning and research – one that is problem-oriented and solution-focused, and one that will provide the campus community – faculty, students and staff – with the social, cultural and technical skills needed to make decisions and implement actions that will achieve sustainability.

²"Model the way" is one of the five practices of exemplary leadership, discussed in James M. Kouzes and Barry Z. Posner's 2003 *The Five Practices of Exemplary Leadership*. Published by Pfeiffer, A Wiley Imprint.

³"Living laboratories" are an integrated approach to innovation that brings together instructors, researchers and end-users together to explore opportunities and create, develop, test and monitor new ideas and new technologies in a real-life context.

LEVERAGE OUR PLACE

Be responsive to our social, economic, environmental and cultural settings, and to influence and be influenced by them as solutions to our sustainability challenges are created, mobilized, and shared.



The need for swift and immediate action on the SDGs is clear. While governments have primary responsibility for implementing the 2030 Agenda for Canada, we all need to play a leadership role. This effort will require the contributions of regional and municipal governments, Indigenous sovereign nations, industry, not-for-profits, and civil society (including, not least, universities). USask has spent a century working with communities in various capacities. But to achieve the SDGs, we will need everyone, individually and collectively, to act, and we will need new forms of co-operation and collaboration that will focus on outcomes that enhance society’s capacity to act.

We achieve more by working together. Motivated by the shared goal of meeting a social need, we will develop sustainability solutions – ones that are more effective, efficient, fairer and equitable than existing ones – for the benefit of society and the next generations who will inherit our relationship with the earth. In working with our community leaders, we will establish ethical spaces that are "refuges of possibility in cross-cultural relations" and foster a co-operative spirit between the university and its communities that will create “new currents of thought that flow in different directions and overrun the old ways of thinking” (Ermine, 2007). Our actions will have particular relevance to Indigenous

Peoples who hold sacred many of the central values and beliefs that are promoted in the SDGs. By working with Indigenous leaders and communities, we will be better able understand the deep connection we all have to this land and the different ways that they have lived in sustainable ways for millennia. The desire for reconciliation runs deeply within USask – and the SDGs provide a framework for advancing reconciliation by inspiring Indigenous and non-Indigenous communities to transform society so that future generations can live together in peace and prosperity. By achieving meaningful change together, we will inspire the world.

GOAL

Our goal is to be an engaged university that works in a coordinated and innovative way with communities to achieve the SDGs.

ACTIONS

Establish an Advisory Table

Establish a joint university-community advisory table to share, exchange, create and identify synergies. The advisory table would include representation from government, industry, not-for-profits and all communities wanting to co-create and co-implement sustainability solutions for society. The advisory table would be guided by science-based decisions and support and inform sustainability actions to support the SDGs.

Nurture and Convene Public Discourse

Nurture and convene public discourse on sustainability and the SDGs with the goal of inspiring wide-spread awareness, engagement and action.

Build Bridges and Create Portals

Build bridges and create portals through which external partners can easily and effectively engage with the university community as well as offer new perspectives and opportunities to drive shared action on sustainability issues.

MODEL THE WAY

Foster an entrepreneurial campus spirit and utilize the campus operations and community as a living laboratory to pilot and then diffuse and scale sustainability solutions.



BE WHAT THE WORLD NEEDS

USask faces the same need as everyone else to achieve the SDGs. Our advantage is the ability to leverage the power of cutting- and leading-edge discoveries to do our part to support local, regional and national transitions to a more just, equitable and sustainable future. By deploying our core mission of creating new and meaningful knowledge, we can serve as “living laboratories” for setting priorities and designing and implementing solutions to sustainability challenges that can be adopted and adapted elsewhere.

Among the 17 SDGs, one requires immediate focus: SDG 13, Climate Action. Climate change affects everyone on this planet and is occurring at a rate much faster than

anticipated, and accelerated action is needed on climate change to stay within the safe operating space for humanity (Rockström et al., 2009).

We need to make systemic changes to slow the pace of climate change (mitigation) while also preparing for unavoidable climate change and its consequences (adaptation). The other SDG's cannot be achieved, or ultimately sustained, unless the earth's climate system is stabilized.

USask can deliver on SDG13 by taking actions to stabilize the world's climate and drive local and regional transitions. Reducing USask's GHG emissions involves understanding

its three main scopes of GHG emissions: Scope 1 emissions are direct emissions produced from sources owned or controlled by the university (i.e., emissions resulting from natural gas use for building heating, our fleet vehicles, and our agricultural operations); Scope 2 emissions are indirect emissions produced from purchased electricity consumed by the university, and Scope 3 emissions are all other indirect emissions produced from sources not owned or controlled by the university. There is an emerging idea of Scope 4 emissions, which are emissions avoided by working in a coordinated way to lead (or to participate where others are leading) in developing strategies and investing in projects and initiatives that align with regional, national and international climate agreements.

GOAL

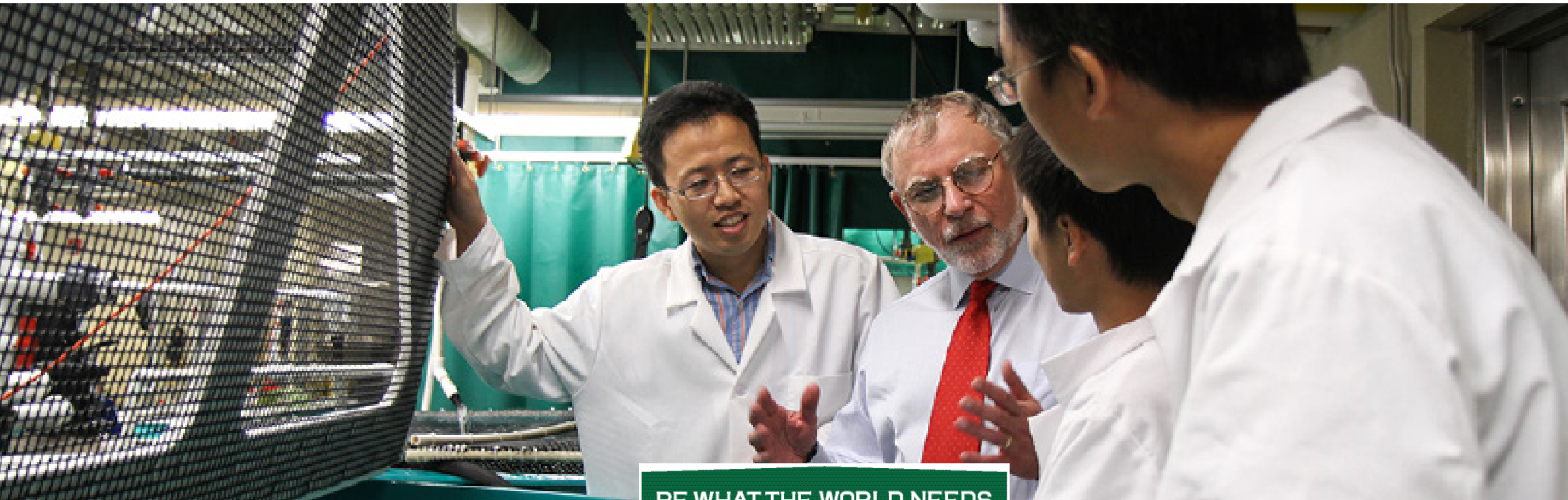
Our goal is to reduce USask’s greenhouse gas emissions 45% from their 2010 levels by 2030, and to achieve net-zero emissions by 2050. These goals are in keeping with the UN Intergovernmental Panel on Climate Change’s science-based targets to limit global warming to 1.5 degrees C above the pre-industrial norm. The university will need to implement operational changes, and to make sure these changes do not stall, it will need to align institutional priorities, policies, programs, and services to achieve the reduction targets.

ACTIONS

- Invest in Solutions**
Invest responsibly and invest in operational solutions to reduce our Scope 1, 2, and 3 greenhouse gas emissions while improving our contribution to our Scope 4 (avoided) emissions.
- Bolster Action and Remove Barriers**
Ensure climate actions are bolstered and barriers are removed by reviewing the university’s strategic planning and decision-making processes and its policies and practices to confirm alignment with the emission goals. Where needed, we will design new “climate-sensitive” policies that directly address reductions in Scope 1, Scope 2, and Scope 3 emissions. We will leverage our capital investments by working with governments, industries and communities to increase our contribution to Scope 4 emissions.
- Align Finance with Emissions Goals**
Map finance and accounting structures, norms, and practices (both capital and operations) to align with the emission goals. Review our resource allocation processes to revenue and support centers to ensure they create the incentives and rewards required for effective climate action. Seek opportunities to improve our resource allocation processes by advancing novel finance and accounting approaches to facilitate climate action (e.g., pilot an internal carbon accounting strategy). Use a portion of budgetary savings from reduced emissions to advance climate action on campus and within the community.
- Share Widely Our Progress**
Share widely our reports on progress towards achieving climate action goals. Design and implement more comprehensive measures of the university’s emissions, make clear deadlines for on-campus climate action, and report frequently to our governing bodies on progress towards achieving this commitment.

EMPOWER ACTION

Support a generation of learners and achievers to shift mindsets and expand skillsets to accelerate action to achieve the SDGs.



BE WHAT THE WORLD NEEDS

The SDGs represent a great opportunity for research-intensive universities to enhance the cognitive realm and move beyond into other realms, unlearning some things and learning some new ways of seeing and of being. The university will need new forms of teaching and learning where we revitalize values (ways of relating to one another and the world), mindsets (forms of understanding), and skillsets (modes of action) (Kemmis et al. 2014) to better align with the SDGs. These new modes must not only align with sustainability targets but must be capable of creating sustainability solutions.

A shift in values is needed as societally we have become accustomed to living our lives based on values that are increasingly at odds with a sustainable planet (Hoffman, 2019). This shift is one of the most challenging things to achieve; it requires grassroots changes, combined with formal (rules and regulations) and informal (norms) changes, to deeply root these changes in society. A shift in mindsets is needed to empower disruptive solutions to solve sustainability challenges. This shift will require

extending beyond the cognitive to include physical, emotional, and spiritual preparation, a philosophical and pedagogical framework that has been known to and practiced by Indigenous Peoples for centuries. Fortunately, Usask is well on its way in its work with Indigenous communities to include their philosophical and pedagogical worldviews that includes experiential learning and land-based reciprocity into the University curricula. Our investment in building reconciliation has positioned us well to shift our values and mindsets.

If we are to shift values and mindsets, it is also crucial that we develop new forms of personally relevant learning to give students an engaged and action-oriented experience in place of traditional passive processes of learning. Today's students are looking to solve problems, to see and feel the real-world applications of their coursework, and to develop the confidence and mastery they need to enact change after graduation. A shift in skillsets is needed to equip all learners to develop high demand problem-solving skills (RBC, 2018). Problem

solving skills can be developed by being involved in creating and implementing sustainability solutions on campus, in our communities and beyond. We will also need to equip all learners with an understanding of ethics and activism, as well as the experience and ability to implement policy change.

To shift values, mindsets, and skills effectively, we need to enable access for diverse learners. We need to support both "master learners" (students who move forward at their own pace as they master knowledge and skills) and "lifelong learners" (students who continually learn through life, especially outside of or after the completion of formal schooling) with respect to sustainability knowledge. This 'learning how to learn' is key in preparing students for an uncertain future, marked with disruption and the need to pivot as circumstances change. The ability to access either of these created learning paths must then be extended to all, requiring transformational changes to the structures within our institutions.

GOAL

Our goal is to ensure all faculty, staff and students have a holistic understanding of sustainability, by promoting, enabling and engaging them to explore, discover and find ways to implement new ideas with the support of the entire institution.

ACTIONS

Equip Champions

Equip all faculty, staff and students in all disciplines to be sustainability champions throughout their lives by ensuring they have access to sustainability educational experiences. This will require learning about diverse knowledges of sustainability and incorporating these knowledges into curricula across the campus.

Engage Sustainability in Curricula

Develop mechanisms to engage faculty and academic units in changing or modifying curricula in their courses and programs to include sustainability principles and the SDGs. With these mechanisms, the required transformation can be accelerated and the distance between where we are and where we need to be can be reduced.

Enable Diverse Learning

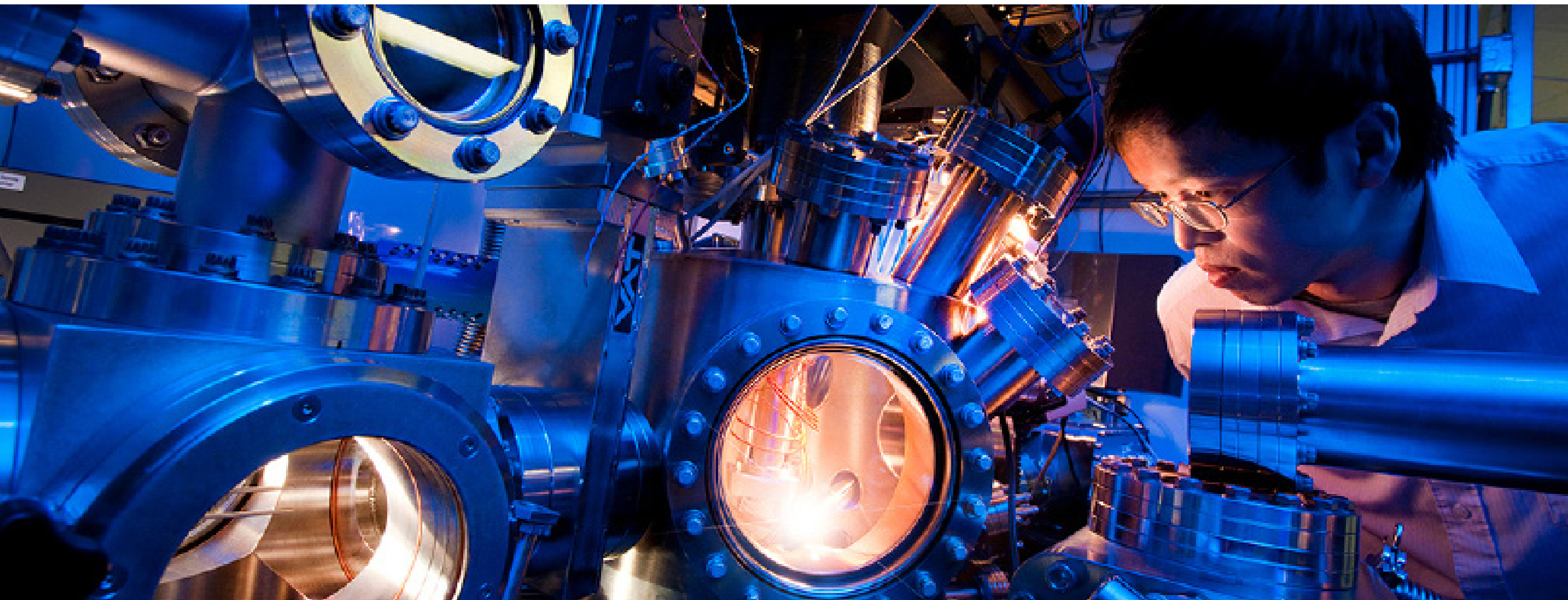
Enable access to sustainability curricula for diverse learners, including the ability to select the optimal mode of learning (in-person, synchronous or asynchronous online), being mindful that all trainees will need access to the appropriate equipment. Advance work on providing varied credential types to increase access and flexibility for diverse learners.

Demonstrate & Experience Learning

Enable students to work with local community leaders to explore how failure to achieve the SDGs is impacting their communities and to create sustainability solutions through experiential learning programs involving projects, placements, and practicums, both within the institution and with the community.

CAPITALIZE ON STRENGTHS

Bring together the campus community to create knowledges focused on designing and implementing innovative and workable solutions to sustainability challenges.



One of the key strengths of any research-intensive university is its capacity for innovation. In the face of the 21st century's challenges, we need to capitalize on our strengths and empower a "daring culture of innovation with the courage to confront humanity's greatest challenges and opportunities" (University of Saskatchewan, n.d.). This culture of innovation will, "foster a problem-solving, entrepreneurial ethic, harnessing opportunities to apply our research, scholarly and artistic efforts" to co-create ideas and co-produce solutions within our communities (University of Saskatchewan, n.d.). This culture of innovation will focus on supporting people to create, diffuse, scale more effective solutions to entrenched social problems (McConnell Foundation, n.d.).

USask has designated six cutting-edge signature areas that recognize our research excellence in addressing the world's most pressing and challenging problems. For more than a decade, these signature areas have shaped and guided institutional efforts and investments, fostering world-leading successes and enhancing the university's reputation nationally and internationally. Most importantly, our strengths in the signature areas are not limited to a single discipline; their relevance across many disciplines has deepened the impact of our work locally, regionally, nationally, and internationally. Inherent in the execution of our signature areas is the understanding that solutions to contemporary challenges must enable a convergence of disciplines – where knowledges from different disciplines are integrated and novel frameworks are formed to catalyze discovery and innovation, the "pinnacle of evolutionary integration across disciplines" (NSF, 2016).

We will similarly use a whole-of-university response to achieve the SDGs, creating opportunities for every instructor and researcher to explore the relevance of their knowledges to the SDGs and to put their knowledges to work to reduce the risk of climate catastrophe and to achieve the SDGs in a just and equitable way. Our whole-of-university response will include: instructors who create active learning environments; discoverers in use-inspired basic research; entrepreneurs that can move discoveries into action; artists who will translate discoveries to inspire communities to act; capacity builders that empower communities to act; and outstanding leaders capable of making national and global impact.

GOAL

Our goal is to seamlessly integrate learning, discovery, innovation and entrepreneurship, and thereby put our knowledge to work to achieve the SDGs.

ACTIONS

Build Leadership and Capacity

Build leadership and capacity in innovation, including increasing, diversifying and enhancing convergence research in which every member of the university will be encouraged to focus some of their energy to solving sustainability challenges.

Create Innovation Ecosystems

Create convergent innovation hubs, with the capacity to pilot and perfect technological innovations to solve local, regional, national, and global sustainability challenges, and to enable and facilitate social innovations such as the institutional changes that must accompany technological innovations.

Forge and Lead Collaborations

Forge and lead unique multi-community, multi-partner and multi-sector collaborations to tackle the full spectrum of sustainability challenges, from idea germination to translation into real-life solutions.

BE WHAT THE WORLD NEEDS

CATALYZE SOCIAL CHANGE

Promote, engage, and support shared knowledges, expertise, and experiences to affect the change needed.

Confronting and tackling sustainability challenges requires a recognition of the local dimension of the problem while being cognizant of the global contexts. We must tap into both local and global pools of knowledges through partnerships to find new and unique opportunities to innovate and achieve the SDGs. This will require new forms of connecting spaces, where competing worldviews can converge and a cooperative spirit can emerge that will create new ways of thinking. This will also require an unprecedented level of new forms of collaboration, where the focus is on outcomes that enhance society's capacity to act and benefit the rest of society. Global dialogue will be an important tool for informing sustainability actions and translating lessons learned into policies, programmes and practices that can be disseminated and scaled up enabling global learning for all. By engaging in meaningful global dialogue, we can learn from one another, support each other, and chart a path for more ambitious action to tackle sustainability challenges.

GOAL

Our goal is to make sustainability personally relevant and to inspire and be agents of positive change for our local communities and the world. By learning how to solve sustainability challenges, we can become leaders in the demonstration of innovative solutions that are capable of being broadly diffused and scaled up.

ACTIONS

Engage in Local and Global Dialogue

Engage in dialogue to develop a shared understanding of both the challenges and solutions to global sustainability challenges.

Actively Listen to All Voices

Ensure the voices in our learning environments and in the research that we undertake is grounded in principles of equity, diversity and inclusion.

Leverage Networks for Action

Leverage networks and partnerships between universities and the private sector, public sector, not-for-profits and civil society here and abroad, to harness actions and opportunities for scalable social and technological sustainability solutions, and to influence political leaders to accept and act on these solutions.



BEING THE UNIVERSITY THE WORLD NEEDS

We owe the next generation the same opportunity that all previous generations have had – the hope for a bright and nurturing future.

The university has a pivotal role to play in achieving the SDGs, as they sit at the nexus of local, regional, national, and international co-operation, ready to contribute courageous leadership and inspiring minds.

To take on this role, however, universities must be willing to undergo a transformation. This means adopting responsive, flexible and agile governance structures; becoming living laboratories that foster creative, innovative and entrepreneurial campus spirits; establishing diverse partnerships to enact coordinated sustainability solutions across all spheres of influence; building reconciliation not only with Indigenous Peoples but the land we call home; and recognizing those individuals or groups who step up and show leadership in the transformation.

The university will need passionate, energetic and committed individuals to lead this transformation. Young people and young minds are perhaps our most powerful resource to achieve the SDGs – they need to be empowered through new teaching and learning methods and be given opportunities to embed themselves in communities where they can put their knowledge and enthusiasm to work to make meaningful change.

Combining the powerful resource of young people and young minds with world-class researchers and facilities that universities provide, and with government, industry and community expertise and experience, we will become unstoppable as an institution in our pursuits of achieving the SDGs.

Through unapologetic ambition and appropriate impatience, we will be able to move swiftly towards achieving the SDGs, paving a path towards a resilient future for our university and our communities in which we are embedded.

ACKNOWLEDGEMENTS

The University of Saskatchewan's Sustainability Strategy was supported by a consultation process to build a shared vision of our sustainability goals among our campus community.

The first phase of consultations kicked-off in January 2020. This phase saw the establishment of the President's Advisory Circle on Sustainability which provided strategic advice and guidance on the development of the plan. Supporting the work of the Circle was five working groups: Discovery, Pedagogy, Operations, Community and Governance. Each working group, led by a member of the Circle, engaged an expanded group of staff, faculty, and students on their focused topic. In addition to the PACS, we wanted to convey the importance of the student voice within this strategy. Although students would be involved in many points of this process, we supported the establishment of the Student Sustainability Coalition made up of representatives of formal and informal sustainability-focused student groups. Led by the USSU and the GSA, this student coalition has convened to review and provide feedback on the strategy.

The second phase of consultations began in August 2020. A draft of the strategy was presented to student leaders, governing bodies, and thought leaders from across campus. By the end of 2020 over 500 individuals will have had an opportunity to review and comment on the strategy.

Throughout our consultation process, we worked with members of the university community to indigenize the strategy, and to have principles of equity, diversity, inclusion and belonging represented throughout it.



For more information,
please contact the Office of Sustainability at:
sustainability@usask.ca

To learn more about campus
sustainability, please visit:
sustainability.usask.ca



UNIVERSITY OF SASKATCHEWAN
Office of Sustainability
OFFICE OF THE PRESIDENT
SUSTAINABILITY.USASK.CA

REFERENCES

- Crow, M., & Dabars, W. (2015). *Designing the New American University*. Baltimore: Johns Hopkins University Press.
- Crow, M., & Dabars, W. (2020). *The Fifth Wave: The Evolution of American Higher Education*. Baltimore: Johns Hopkins University Press.
- Ermine, W. (2007). The ethical space of engagement. *Indigenous Law Journal*, 6(1), 193-203.
- Fuller, B. (1981). *Critical Path*. St. Martin's Press. 471 pages.
- Hoffman, A. J. (2019). *Climate Change and Our Emerging Cultural Shift*. Retrieved from Behavioral Scientist: <https://behavioralscientist.org/climate-change-and-our-emerging-cultural-shift/>
- Kemmis, S., Wilkinson, J., Edwards-Groves, C., Hardy, I., Grootenboer, P., & Bristol, L. (2014). *Changing practices, changing education*. Springer.
- Kouzes, J. M., & Posner, B. Z. (2003). *The Five Practices of Exemplary Leadership*. Pfeiffer, A Wiley Imprint.
- McConnell Foundation. (n.d.). *Social Innovation*. Retrieved from McConnell Foundation: <https://mcconnellfoundation.ca/social-innovation-2/>
- National Science Foundation (2016) NSF's 10 Big Ideas, Growing Convergence Research Retrieved from National Science Foundations: Where Discoveries Begin: https://www.nsf.gov/news/special_reports/big_ideas/index.jsp
- Phipps et al. (2016). The co-produced pathway to impact describes knowledge mobilization processes. *Journal of Community Engagement and Scholarship* 9: 31-40.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F., Lambin, E., Lenton, T., Scheffer, M., Folke, C., Schellnhuber, H., Nykvist, B., de Wit, C., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R., Fabry, V., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P., Fley, J. (2009) A safe operating space for humanity. *Nature* 461, 472-475.
- Royal Bank of Canada (2018). *Humans Wanted: How Canadian youth can thrive in the age of disruption*. Retrieved from Royal Bank of Canada: <https://www.rbc.com/dms/enterprise/futurelaunch/humans-wanted-how-canadian-youth-can-thrive-in-the-age-of-disruption.html>
- University of Saskatchewan. (n.d.). *University Plan 2025*. Retrieved from University of Saskatchewan: <https://plan.usask.ca/courageous-curiosity.php>