



**White Paper on Environmental Sustainability:  
The University of Denver Climate and Society Initiative  
DRAFT – August 2022**

Climate change is among the most significant, complex, and urgent challenges of our lifetimes and that of our students. Understanding, mitigating, and adapting to a changing climate will demand ingenuity and sustained commitment, along with well-educated, well-trained leaders to effect social and structural change. With these pressing needs in mind, the University of Denver will launch an ambitious, multi-year initiative that reimagines interdisciplinary teaching, research, and public impact on the causes, consequences, and responses to climate change, with an emphasis on the societal impacts of the climate crisis.

The University of Denver Climate and Society Initiative will catalyze applied research and teaching to trace the social impacts of and solutions to the climate crisis with community-engaged projects that unite faculty expertise, exceptional student talent, and the broad experience of partners in the field. Resulting programs will equip students and the broader public to create measurable change locally and globally; adapt to rapidly changing circumstances across sectors and systems; and ensure a more equitable and sustainable world for future generations. The Climate and Society Initiative will engage faculty, students, and public partners in an interdisciplinary effort that drives discovery and a new understanding of human and environmental wellbeing.

As a private university dedicated to the public good, the University of Denver recognizes education as one of the most important drivers of positive social change. DU empowers students to integrate and apply knowledge from across the disciplines and imagine new possibilities for themselves, their communities, and the world. With nationally ranked academic programs, a history of widespread influence, and active partnerships with local and global institutions, the University of Denver is well-positioned to lead this ambitious effort. Every school and college at DU has existing expertise and teaching in areas related to climate change, and the Initiative will draw on existing strengths in natural and environmental science, political science, public policy, psychology, social work, law, and business. In addition, DU has active partnerships with government agencies, research institutes, think tanks, community organizations, and other universities on which to engage the wider community and effect measurable change.

Additionally, the Mountain West is an exceptional place to forge pathbreaking research and education on the human dimensions of climate change. From record-breaking wildfire seasons to unprecedented droughts and floods, Colorado is a microcosm of the impacts of our changing climate and is at the center of practical discussions on environmental governance, ranging from resource management to energy transitions, city planning, and conservation. The state's urban, suburban, and rural geography provides a comprehensive picture of the disparate impacts of climate change across widely varied communities and historically marginalized populations. How we in Colorado handle these challenges can be a model for not only the region, but for communities the world over.

Leveraging our distinct expertise, existing community engagement, favorable location, and firm commitment to the public good, the Climate and Society Initiative will position the University of Denver at the forefront of environmental education for societal wellbeing. This white paper is intended to communicate the vision, goals, inspiration, and benefits of the program, and build consensus among the deans and other key stakeholders on a viable program path. To that end, this draft will:

- Outline the rationale for building an interdisciplinary initiative at the University of Denver centered around the societal impacts of and solutions to the climate crisis;
- Explain the process for gathering ideas and building consensus around the proposed initiative;
- Describe the key elements of the program, which include:
  - Curricular innovations to prepare the next generation to live and lead in a world reshaped by climate change;
  - Impactful research to advance our understanding of the societal dimensions of the climate crisis;
  - Capital investment to ensure the University of Denver’s operations are environmentally conscious, carbon neutral, and reflect our commitment to a sustainable future; and
- Detail the investments necessary to carry out this ambitious proposal.

## **Education to Meet the Needs of a Changing World**

Within the past six months, the Intergovernmental Panel on Climate Change (IPCC) released its sixth assessment report, warning that the most severe consequences of climate change will become irreversible within the next two decades without widespread, immediate action. The report reaffirmed with certainty that human activity is raising global temperatures at a rapid and intensifying rate. Every country, on every continent, will experience enormous social, economic, and environmental impacts.

Yet in the face of these dire projections, policymakers, governments, and businesses have been slow to act. Indeed, the loudest cries for urgent action come from students; hundreds of thousands of young people from around the world are leading “climate strikes” and social movements to accelerate action on a global scale.

Higher education can prepare the next generation to live and lead in a world reshaped by climate change. To forge a sustainable future, students must be prepared to take bold action with confidence rooted in knowledge and ethical training. They need to understand the linkages between human behavior and ecological systems, how to mitigate the most harmful effects of environmental change, and build just, climate-resilient societies. Through research, education, and public engagement, universities can empower future leaders to manage and adapt to a changing environment. The need is clear, and the time is now. Beginning in 2022, the University of Denver will reimagine environmental education to meet the urgency and scale of the challenge before us by embarking on an ambitious Climate and Society Initiative.

The DU Climate and Society Initiative is the outcome of extensive consultation and collaboration among the many schools and colleges that form the University of Denver. In September 2021, the deans agreed to embark on an exploratory process to frame an interdisciplinary initiative for which to seek philanthropic support. Each dean nominated faculty to represent their unit in a series of subsequent meetings centered

on questions of whether and how the University might embark on an interdisciplinary initiative that could elevate DU into a position of national and international prominence.

The faculty representatives met on October 8, October 22, and November 12, 2021. The group coalesced around the topic of “Social Dimensions of Climate Change.” They discussed why—and how—programs might be focused on exploring strategies, tools, and approaches designed to change human behavior and human-ecological impacts. Most participants agreed that any climate initiative should have a distinct focus on social justice and use the campus and the wider Rocky Mountain region as a lab for experimental and experiential problem-solving to promote adaptation and resilience in the face of climate change. The advantage of this framing is that it can capitalize on many of DU’s unique strengths while also distinguishing us from existing programs at peer institutions. The elements of the Climate and Society Initiative outlined in this document build on the ideas and concepts that were framed in those discussions and capture the strong desire to marshal faculty expertise and student enthusiasm to meet the challenges before us.

## **Curricular Innovations**

*Basic Climate Literacy for All Undergraduate Students*--Building on the idealism and ambition of our students, the University of Denver will become one of the first institutions in the nation to require basic climate literacy for all undergraduate students, regardless of declared major. Each school or college will offer a tailored course(s) exploring what we know and need to know to address climate change, and the impacts climate change will have on their chosen field of study. Each school and college will collaborate with the College of Natural Sciences and Mathematics to ensure basic science understanding is incorporated into these new course offerings. At the University of Denver, students from all degree programs will graduate with broad climate literacy, ready to engage in a world beset by the impacts of climate change. Minimum climate science course?

*Undergraduate Major, Minors, and Concentrations*--To provide students with opportunities for further depth and breadth, the College of Natural Sciences and Mathematics, College of Arts, Humanities, and Social Sciences, Korbel School of International Studies, Daniels School of Business, and Ritchie School of Engineering and Computer Science will offer environmentally focused undergraduate degree programs or specialties. These schools and colleges will collaborate to provide students the opportunity to take courses across disciplines. With flexibility to learn across campus, students will emerge with an understanding of the ways different disciplines and professions approach and can help shape the most pressing challenge of our time. [How does this fit with trajectory of new common core under development?] [Capstone interdisciplinary projects?]

Innovative climate-related coursework at the undergraduate level may include:

- *Practicum courses* designed together with community partners that allow students to solve real-world problems with the support of a faculty mentor(s) and external partner(s);
- *Interdisciplinary team-taught courses* designed to incorporate concepts and materials from across disciplines to offer diverse perspectives and theories;

- *Field quarters* for undergraduate students to spend an entire quarter exploring off-campus learning about different physical and cultural environments and applying their knowledge in research projects;
- *Study abroad* to enable students to delve into climate issues in other countries and cultures;
- *Living and Learning Communities (LLC)* focused on climate and society to connect academic and residential experiences for deeper learning and exploration;
- *Directed research* for credit with the support of a faculty mentor, where a cohort conducts research, synthesizes their findings, and presents their learnings to the broader community; or
- *Mountain campus short courses* to provide students the space and time for focused learning on emerging issues in intensive weekend and interterm courses at the University's new James C. Kennedy Mountain Campus.

*Graduate degree, certificate and specialty programs*--The University will offer an environmentally focused degree program, certificate program or specialty in every college and school offering professional graduate degrees. Graduate students enrolled at the Graduate School of Social Work will be able to specialize in ecological justice; engineering students could graduate with a specialty in environmental engineering; University College students will be able to earn a degree or certificate in Environmental Policy and Management; students in the Master of Arts in International Disaster Psychology program at the Graduate School of Professional Psychology could specialize in climate disaster psychology; students from the School of Natural Sciences and Mathematics can earn a degree in geography and the environment; Daniels business students will be able to specialize in environmental, social, and governance (ESG); Sturm Law students could concentrate in environmental law and policy; Korbel students could earn a degree in global environmental sustainability or specialize within the MPP degree; and students entering the field of education will be able to specialize in environmental education.

*Faculty Fellows Program*--Faculty will need increased support and training to actualize such broad, sweeping changes in the curriculum. With this in mind, the DU Climate and Society Initiative will incubate a Faculty Fellowship Program to support the development of new and updated courses, degree programs, and specializations. Faculty will receive a course release to enable participation in short workshops and to meet with consultants about how best to incorporate climate issues into existing frameworks. Faculty may also receive coaching on ways to structure courses in partnership with experts in the field or otherwise capitalize on the wealth of climate-related knowledge and resources in the Denver metro area. The Fellowship program should result in a wider adoption of varied pedagogical formats and more opportunities for out-of-the-classroom learning, thereby advancing the University's "4D" mission.

*Staff professional development*-- The inspiration for the Faculty Fellowship program will extend to the University's professional staff as well, with investments to train admissions, student affairs and career office teams how a greater emphasis on climate education could impact student interests, course enrollment, and employment prospects. Additional development for career placement professionals around climate and society will be particularly critical for creating a transformational, 4D experience. Career advisors will be trained to skillfully direct students to further internship and job opportunities in emerging climate-related fields. Internships allow students to put concepts and theories into practice, and through partnership development the Initiative will offer reoccurring funded internship opportunities for

students in a variety of professional fora. These opportunities will be available with government, businesses, and civil society organizations. Internships will equip students with the knowledge and skills to enter a changing labor market in a variety of sectors and fields, and with rich experiences in actively solving real-world challenges.

### **Research with Impact in Colorado and Beyond**

A robust, well-supported research program will further strengthen the Initiative’s curricular innovations and will position DU as a leader in advancing knowledge on socio-environmental scholarship. As an R-1 institution, the University of Denver is known for its rigorous and community-engaged research led by renowned faculty experts committed to the University’s mission of advancing the public good. With investment, the DU Climate and Society Initiative will enable faculty from across the University to ask difficult questions, fostering creativity and new ideas. The Initiative will couple faculty expertise and strengths with local and global priorities, resulting in wide-reaching, impactful advances to our understanding of the societal dimensions of the climate crisis.

At the outset, Daniels College of Business, Graduate School of Social Work, Josef Korbel School of International Studies, Professional School of Psychology, Sturm College of Law, College of Natural Sciences and Mathematics, and the College of Arts Humanities and Social Sciences will catalyze this effort. Working together, the faculty at these schools will lead interdisciplinary research alongside other scholars, practitioners, and partners from around the globe. The natural sciences – including environmental and climate science, geography, and biology – will be at the core of all research, informing inquiries at every stage. In line with the mission of the DU Climate and Society Initiative, research will have a distinct focus on the behavioral and structural barriers to action on climate change, as well as possible effective interventions and adaptations to thrive in a rapidly changing world. We expect a number of distinct research clusters to emerge, which may include the following:

- *Societal Impacts of Climate Change*

The societal impacts of climate change are vast and seismic; increasing food insecurity and freshwater shortages, as well as desertification and more frequent extreme weather events are triggering migration, exacerbating inequities, provoking societal unrest and threatening stable and effective governance. Research in this area will draw on geography, sociology, economics, cultural anthropology, international affairs, and public policy to assess interventions best suited to mitigate the magnitude of these impacts.

*Climate Justice*

The consequences of climate change have profoundly inequitable impacts across geographies and populations. The world’s poorest and most vulnerable communities will experience the greatest impacts and have the least capacity to cope with climate variability and extremes. These disparate impacts raise critical questions about historical injustices and uneven social structures. Critically, research in this area will center the voices of Indigenous Peoples and underrepresented communities. Building on expertise in law, social work, anthropology, sociology, public policy, education, and the DU Center for Immigration Policy & Research, research will examine systems of

injustice, and trace pathways for addressing economic, environmental, racial, and gender equity in the face of climate change.

- *Behavioral Solutions to Climate Change*  
Drawing principally on psychology, social work professional psychology, communications, and humanities, research in this area will assess the conditions that maintain the status quo and disincentivize shifts in human behavior to counter the negative effects of climate change; investigate the best ways to behavioral change; and examine how to mobilize collective action to reduce global warming.
- *Business and Climate Green Entrepreneurship and ESG (Green business)*  
Addressing climate change will demand businesses of all kinds to innovate and transform their operations in fundamental ways. A complete redesign and reorganization of industry—from energy to manufacturing to finance, and tourism and hospitality—will be required. Building on existing expertise in business, engineering, public policy, and economics, this research will focus on business innovation for a more sustainable future.
- *Governance, Politics, and Public Policy*  
Drawing on experts in the social sciences and law, research in this area will explore the impact of climate change on governance; assess the state of our knowledge about the efficacy of policy and governance structures and fundamental challenges to building a global solution to climate change; understand how to build and maintain effective institutions to address climate change; how to prevent or manage environmental conflicts; and how to identify barriers to political inaction and how to affect public opinion and generate support for the policies needed to address the challenges we all face.

Researchers in each cluster will consider how programs, policies, and experimental strategies operate across sectors or various levels of governance, in keeping with goal of the Initiative—and University—to explore issues at scales local to global. In addition, researchers will privilege questions of social and ecological justice in each research area and center the voices of Indigenous Peoples and underrepresented communities. The consequences of climate change have already and will continue to have profoundly inequitable impacts across geographies and populations, and will likely exacerbate economic inequality, and racial, ethnic, and gender disparities. These disparate impacts raise critical questions about historical injustices and uneven social structures. In tandem with other pressing questions, research will examine systems of injustice, and trace pathways for addressing economic, environmental, racial, and gender equity in the face of climate change.

At its core, research will be engaged and policy-oriented, connecting scholarship with policy and decision-making. As the Initiative develops, so will the research it supports, ultimately expanding to a campus-wide effort involving faculty from all schools and colleges.

## **Living our Values**

As an institution committed to the public good, it is our responsibility to do all we can to ensure that our planet is a healthy place in which to live. Therefore, DU has pledged to be a carbon neutral institution by 2030. To accomplish this, the University will assign additional resources and build expertise to lead the charge toward carbon neutrality and a sustainable, zero-waste campus. Building on the groundwork laid by the DU Center for Sustainability and the Sustainability Council, the DU Climate and Society Initiative will support and advance University-wide efforts to reduce greenhouse gas emissions and enhance sustainability in our approach to managing our built environment, energy and water usage, and dining and transportation operations.

To lead and oversee these efforts, and academic and administrative goals related to sustainability, the University will hire a University Sustainability Officer. The University Sustainability Officer will build energy and momentum across the University so individuals, teams, and schools can see their role in this important and time-sensitive work. The University Sustainability Officer will chair a reconfigured University Sustainability Council, comprised of administrators, faculty, and students to help identify, develop, implement, and promote collaborative sustainability strategies. The Council will be the forum for the community to get involved in campus-wide efforts to make University operations more sustainable.

To realize the seamless integration of student learning, campus sustainability practices, and research, the University will hire a Faculty Director for the Center for Sustainability. As a scholar and campus leader, the Faculty Director will champion new ways to utilize campus as a living laboratory for curricula and research projects that connect campus sustainability practices to faculty and student discovery and university goals. The Center for Sustainability will offer additional undergraduate internships and graduate fellowships to provide students with experiences managing campus sustainability programs related to waste, energy, mobility, food, outdoor education, and events. Through the Center for Sustainability, undergraduate and graduate students will advance DU's sustainability goals, connecting classroom and experiential learning.

### **Realizing Ambitious Goals**

The University of Denver is well-positioned to embark on this ambitious plan, and with an initial \$XXX in funding, the University will fully launch the DU Climate and Society Initiative. Through reimaged and expanded programs, all students will emerge from the University of Denver with interdisciplinary training on the causes, consequences, and responses to the challenge of climate change. They will be equipped with the knowledge and skills which can they apply in innovative ways to a range of sectors and fields to make an impact in their communities. And through research—critical to understanding the best approaches for mitigating and adapting to climate change—DU will engage constructively with policymakers, stakeholders, and the public. Partnerships with community organizations, government, and businesses will provide further conduits through which new knowledge will have a practical impact on the world.

First, X# of tenure-track faculty will be recruited to train future leaders, conduct research, and influence public policy. X# will be endowed chairs. We anticipate these faculty to be housed among the College of Natural Sciences and Mathematics, the College of Arts, Humanities, and Social Sciences, the Graduate School of Psychology, Graduate School of Social Work, Korbel School of International Studies, Sturm College of Law, and the Daniels College of Business – though all will work across disciplines on the projects outlined

above. We will place a high value on candidates' records of engaged scholarship, teaching excellence, and willingness to traverse disciplinary boundaries to devise solutions to the challenges posed by our changing climate.

The Initiative will also host **10** post-doctoral fellows annually, spurring innovative thinking and supporting a new generation of scholars focused on socio-environmental issues. Post-doctoral fellows will conduct research related to the human dimensions of climate change, work with faculty and graduate students, and engage with practitioners and the wider community. Fellows will be in residence for a one-year term and will receive administrative, research, and professional development support during their tenure.

The Climate and Society Initiative will have a dedicated fund for competitive seed grants. Seed grants will be available for faculty to develop new research projects, conduct field research and collect data, and disseminate findings. Faculty will seek to involve students in all facets of research and engagement, from data collection and analysis to presenting findings to external audiences. Funding to support student research assistants will enable undergraduate and graduate students to gain valuable research experience working alongside faculty.

In addition, the Faculty Fellowship Program will provide support and training to actualize curricular innovations and expand climate-related coursework. In its first year, up to **ten percent** of faculty from each of DU's ten schools and colleges will be selected for the fellowship program through an application process supported by the University Sustainability Council. Those selected will participate in interdisciplinary workshops dedicated to designing new coursework and degree programs. Faculty Fellows may also meet with other faculty and consultants as they incorporate climate education into coursework. A course release for **two quarters** of the first academic year will allow Faculty Fellows to dedicate the time necessary to participate in the program. Based on the design of the new coursework that emerges from the Faculty Fellowship Program, additional funding may be needed to support new pedagogical formats and learning opportunities in and outside of the classroom. The annual cost of the fellowship program is estimated at **\$XX** and the program will run for five consecutive years.

Undergraduate and graduate students will put the concepts they learn in new and existing coursework into practice through funded internship opportunities. These professional development experiences will provide students with a 4D experience, empowering them to lead with confidence as they enter emerging climate-related fields. Funded internship opportunities will be managed by the Burwell Center for Career Achievement. Internship stipends will partially or fully cover the costs of housing, food, and other relevant expenses for unpaid internships. Additionally, academic and career advisors at each school and college will participate in funded workshops and professional development trainings to help them skillfully direct students to further climate-related internship and job opportunities. The annual cost for such programs is estimated at **\$XX**.

Scholarships will support dynamic graduate and PhD students who have made significant contributions to their communities and wish to pursue further study in climate-related programs at the University of Denver. Candidates will be recruited and selected in alignment with the University of Denver's strong commitment to diversity, equity, and inclusion. Considering the disparate global impacts of climate change,



thirty percent of scholarships will support candidates from developing countries. Annually, \$XX will be awarded in scholarships at the undergraduate level, and \$XX at the graduate level.

To advance the University’s climate neutrality and sustainability goals, the Climate and Society Initiative seeks \$XX in funding to continue to update the University’s energy infrastructure, dining and events services, and transportation operations. In addition, the Climate and Society Initiative will provide funding for the Center for Sustainability to hire and oversee X# undergraduate interns and X# graduate fellows each year. The annual cost for these additional student positions is estimated at \$XX.

These ambitious endeavors will require significant investment, which will in turn yield significant societal returns. With support from forward-thinking philanthropists and building on the University of Denver’s distinct expertise and commitment to the public good, the DU Climate and Society Initiative will catalyze innovative, solution-oriented, and engaged research; bridge the gap between academia and policymaking to address the climate crisis; and reimagine climate education to build the next generation of leaders ready to forge a more sustainable and equitable future.

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