



Climate Science and Related Solutions Target Area Task Force 2023-24

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One of the three goals in *Prosperity Widely Shared*, our new strategic plan, is to position OSU as a research university that is *especially distinctive* for its contributions to big discoveries that drive big solutions to the world's most vexing challenges, even as we continue conducting groundbreaking foundational research, scholarship, and creative activities. Under that goal, a key action over the 2024 to 2030 period is to build distinction in *four focus areas* where we believe we can establish lasting global competitive advantage: climate science and related solutions; clean energy and related solutions; robotics; and integrated health and biotechnology. These four areas are interconnected and will be supported by new foundational strengths build across the university in artificial intelligence, data science and research computing, and the integration with creative work and research in the arts and humanities.

To advance this work, the provost is charging four task forces to develop action plans for each of the four focus areas. Irem Tumer, vice president for research, and Alix Gitelman, vice provost for academic affairs and senior vice provost, will work together to oversee the work of the task forces. They'll take the lead in receiving, evaluating, and sharing task force recommendations that will inform the larger university community about necessary tangible actions across the institution.

The second of the four task forces charged by the provost is the ***Climate Science and Related Solutions***.

Target Area Rationale: Climate change might be the most vexing challenge the world has ever faced. Meeting this challenge—by reducing emissions of heat trapping gases while also coping with the effects of continuing climate change on humans and ecosystems—requires more collaboration across specialties and colleges and between academia and communities than any other problem. OSU has expertise, research facilities, and a track record of engaged research that position us uniquely to drive big solutions to this challenge. For example, our climate experts use ice cores and marine sediment cores—curated and archived in a uniquely large repository at OSU—to make fundamental and globally significant discoveries about past climates, which help us understand how

the planet responds to heating unseen in millions of years. Our natural and managed ecosystem experts, working in landscapes in Oregon and around the world, are discovering how species respond to environmental changes, findings that will help guide human stewardship of ecosystems in the future. And OSU's transdisciplinary researchers have been engaging with human communities on the front lines of climate change: in the wildland-urban interface, on the coasts of Oregon and elsewhere, and Indigenous communities, helping to localize climate effects and impacts and develop solutions. This target area links closely with the other three focus areas, and AI, data science, and research computing, and is also featured in the plans for the Huang Collaborative Innovation Complex.

Approach: Building international competitive advantage in each of the four focus areas will require a well-aligned mix of integrated actions across the mission elements of research, teaching, and public engagement. Of paramount importance are the strength of our faculty; strong departments and schools as homes for those faculty; related high quality undergraduate and graduate degree offerings; programs and resources that facilitate interdisciplinary and transdisciplinary research and teaching; and strong research and innovation infrastructure. As we seek to recruit and support faculty and invest in other support for this focus area, this comprehensive approach is essential to achieving true and lasting advantage relative to OSU's competing peer institutions.

Tasks: The task force will develop an action plan in *two phases*.

Phase I—Strategic Opportunities. This initial part of the task force work will answer the following questions using results from interviews with ~40-50 faculty members:

- How can OSU leverage its world-class faculty and research facilities, including the supercomputer in the HCIC, to make the next generation of discoveries about the climate system?
- How can OSU leverage its stellar record of community-engaged transdisciplinary scholarship to develop solutions for natural and managed systems?
- What is the current faculty talent level and unique capabilities at OSU, and how can each contribute to accelerate breakthroughs and impact? Where do we have gaps in the faculty expertise needed to achieve our goals?
- What is the status of graduate and undergraduate degree programs related to this area and where are there opportunities to build additional strength?
- What can be learned from the work on research exemplars undertaken by the Office of Research Advancement and associate deans for research, particularly with respect to existing or potential intersection with the other three target areas?
- What are key themes within this focus area of Climate Science and related solutions?

Phase II—Action Plan. This second part will focus on creating a prioritized list of themes and proposed related investments distinguishing between short (2 years) and longer (3-5 years) time horizons. This work at a minimum should take into account (1) the results of the **Phase I** interviews; (2) the research framework, exemplars, and the Hanover competitive intelligence report that was input to the new strategic plan; and (3) engagement with key internal and external stakeholders, expertise contributed from across the university, and findings from recent university reports and analyses. This part of the charge may be updated given the outcomes of the **Phase I Reports** by the four task forces.

Timeline: The task force should submit the **Phase I Report** no later than 15 March 2024 and the **Phase II Report** no later than 1 June 2024 to the Provost.