

Report of the Visiting Committee for Advancing Sustainability at Ohio State University

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Visiting committee members: Christopher Boone (chair), Tim Carter, Matthew Huber, Carolina Leonhardt, Kathryn Moler, William Murdock, Sacoby Wilson

The Visiting Committee is pleased to present this brief report to Provost Melissa Gilliam based on an assessment of the pre-read documents, interactions with various stakeholders at OSU, and the committee's thoughts and deliberations. The report is organized around four charge questions the committee received from the provost:

1. *Foundational needs*: What are the foundational areas of sustainability in which a university with the scope and scale of Ohio State must have strength as a leading sustainability institution?
2. *Differentiating strengths*: What are our primary differentiators as a university? What are our primary differentiators given our location? What are the strategic areas in which we have distinctive strengths and are best positioned to be a global leader?
3. *Critical gaps*: What are the potential gaps that should be filled so that we are not inhibited from becoming a national or global leader in these areas?
4. *Strategies and opportunities*: Looking externally (city, state, country, world), what are the unique opportunities that we should seek to capitalize on? Looking internally, what are the system-level changes and structural elements that are essential for success, including mechanisms for accelerating and translating research and developing partnerships for local and global impact? Where should we focus faculty hiring?

We conclude the report with a summary of immediate, near-term (1-2 year), and long-term (>2 years) recommendations for advancing sustainability at OSU.

Foundational Needs

By its nature, sustainability is a broad, integrated approach to understanding the interactions between social, environmental, and technological systems. Similar to medicine, it is an interventionist science, meaning that sustainability scholars and practitioners use integrated systems knowledge to design and deliver interventions that lead to a better present and future for people and the planet. Sustainability has also been called a normative science, because the knowledge and actions are guided by principles of equity and justice, both as desired outcomes and for how sustainability scholars and practitioners undertake their activities.

For any institution to engage productively with sustainability, it necessarily requires an all-in mission. Large, comprehensive R1 land grant universities like OSU are in a particularly strong position to engage with sustainability as they can draw on the diverse sets of expertise, robust learning and education infrastructure, and engagement mechanisms needed to drive successful sustainability initiatives. It is clear that OSU has the ingredients necessary to be a national and global leader in sustainability. However, those ingredients need to be organized in different ways and catalyzed for OSU to meet that goal.

Below are some of the characteristics, or foundational needs, we would expect of any comprehensive research university that wishes to engage seriously in sustainability:

- A. Advance and connect disciplinary, interdisciplinary, and transdisciplinary knowledge that strengthens understanding of integrated social-environmental-technical systems
- B. Reward, recognize, and promote use-inspired, translational, and community-engaged research
- C. Practice the sustainability principles (walk the talk) advocated by the university
- D. Make it simple for internal and external constituents to know how to engage with sustainability efforts, including where to go to begin engagement
- E. Enhance the infrastructure for interdisciplinary and transdisciplinary research, including leadership training for faculty, graduate students and postdoctoral fellows, and staff
- F. Adopt a multi-scaled approach that examines the interactions between local, regional, national, and global scales to achieve enduring sustainability solutions at all levels
- G. Offer courses and curricula that provide student learning and credentialing opportunities bearing the hallmarks of sustainability no matter what their major
- H. Develop a successful workforce development strategy to meet rapid growth in sustainability and green jobs

Differentiating Strengths

In nearly every meeting with stakeholders, the committee heard that OSU is a “big institution.” We learned from our discussions that the large and complex nature of OSU makes it challenging for faculty, staff, and students (and external partners) to grasp the extent of activities happening at OSU and that this scale can impede collaboration. Of course, the large size and complexity of OSU can also be a strength since it means the institution is likely to have the breadth of expertise and infrastructure required to undertake substantive sustainability initiatives. Being large also means that OSU can take risks and experiment more than a smaller institution because a failed experiment is unlikely to cause the same degree of harm as it might to a smaller college or university. Put another way, the scale and complexity of OSU makes it a more resilient institution than smaller colleges and universities, creating a safe-to-fail environment that invites experimentation and innovation. But this can only be the case if a culture of taking risks is embraced and proper systems and resources are in place to incentivize experimentation and mitigate career risk.

Ohio State is well-placed to be a leader in sustainability if it is able to draw effectively on its differentiating strengths. While OSU shares programs and structures that are similar to other universities, the combination of those programs and the geographic characteristics of the region can make the ‘Ohio State Way’ distinctive for sustainability. The size and scope of OSU is clearly a distinctive asset. Its 15 colleges span a wide breadth of knowledge that can be drawn upon to inform a robust sustainability strategy. Relatively few universities house such an array of health sciences (College of Medicine, College of Nursing, College of Optometry, College of Dentistry, College of Pharmacy, College of Veterinary Medicine) alongside large agricultural

sciences programs (College of Food, Agricultural, and Environmental Sciences, College of Veterinary Medicine) in addition to highly regarded programs in business (Fisher College), law (Moritz College), public affairs (John Glenn College), social work (College of Social Work), education (College of Education and Human Ecology), and comprehensive and core offerings in the College of Arts and Sciences and College of Engineering as well as professional programs with high sustainability impact in planning, landscape architecture, and architecture (Knowlton School) and business and real estate (Fisher College). This breadth of strengths can be strongly synergistic and lead to 'big wins' in research and partnership domains if cross College/School interactions can be systematically nurtured and sustained. Furthermore, in the realm of student learning, any student who decides to attend OSU should be able to find their path in the hundreds of programs offered in such a comprehensive university, no matter their major. Likewise, the extensive opportunities at OSU should be a draw for talented faculty and staff. Recruitment and retention of faculty, staff, and students should include recognizable pathways and enduring support for interdisciplinary and transdisciplinary learning, engagement, and research related to sustainability. Reducing institutional barriers to leveraging synergistic strengths across Colleges/Schools should enhance success in all domains of sustainability.

OSU is in a favored position to take a big tent approach to sustainability. An important first step is to publicly affirm OSU's commitment university-wide to sustainability as a comprehensive, integrated approach to solving complex social and environmental challenges. The university should be intentional about including all ways of knowing beyond the usual suspects of social, natural, and engineering sciences that tend to dominate many sustainability programs at other colleges and universities. In addition to these realms of expertise in the natural, social, and engineering sciences, a distinctive quality for OSU sustainability could be achieved by seriously engaging extraordinary talent and expertise in the health sciences, arts and humanities, agricultural sciences, law, business, public affairs, education, planning, and social work.

OSU's mission and identity is tied to its 150+ year history as a land grant college. Beginning with an initial commitment to "teach such branches of learning as are related to agriculture and the mechanic arts" as prescribed in the Morrill Act (1862), OSU is guided by the mission of being "the model 21st-century public, land grant, research, urban, community-engaged institution." From its six campuses, OSU has a long history working in all of Ohio's 88 counties, primarily through agricultural extension. This deep experience helps to define OSU's culture and is a differentiating strength. It is an extraordinary asset that with some additional designs can be applied to sustainability efforts at OSU. We recognize, however, that the current extension model must meet many mandates from the USDA, county, and state governments and often it must do so with inadequate resources. Meeting 21st-century needs requires doubling down on investments in extension, outreach, and engagement and encouraging innovation and deepened connections in those spaces.

OSU serves a diverse state that includes rapidly growing (e.g., Columbus) and maturing (e.g., Cleveland and Cincinnati) metro areas, rural communities on fertile soils with productive agriculture, Appalachian communities transitioning from declining coal production and agricultural abandonment (along with afforestation and opportunities for outdoor recreation), and

a broad array of ecosystems and opportunities/challenges for Great Lakes and Ohio/Mississippi River watersheds. Ohio is a state with industrial rust belts (e.g., Akron, Toledo) with high need for workforce development, and with cities and towns that are faced with the challenges of enduring segregation and environmental injustices, rural poverty, and chronic health problems. At the same time, it is facing an influx of technology-oriented manufacturing with massive investments in semiconductor chips, electric vehicles, and more. In this sense, the diverse geography, demography, health, and economy of Ohio mirrors characteristics of much of the country. Given its diversity, Ohio can serve as a 'test bed' for sustainability initiatives including communications and engagement strategies. If sustainability challenges can be overcome in Ohio, lessons learned can be applied to other parts of the Midwest, country, and world.

Ohio State is a globally engaged university, home to more than 6,000 international students. This global commitment is important because sustainability requires global scale understanding and engagement. Successful sustainability actions depend on an understanding of how local actions impact global systems and how global systems may constrain or enable local actions related to sustainability. The visiting committee had an opportunity to learn about several prominent globally engaged programs, including the Global One Health Initiative, the Byrd Polar and Climate Research Center, the Center for Automotive Research, and others. This experience of working on global scale issues on issues with global scale implications places OSU in a strong position to conceptualize, tackle, and activate globally relevant sustainability solutions.

OSU is well known for its Division I athletics. Sustainability has become a growing priority for amateur and professional sports (e.g., the [Green Sports Alliance](#)), although most efforts have focused on operations, especially waste diversion. The large, televised sporting events are an opportunity to advertise what OSU is doing and will do in sustainability, and to engage large audiences to think about how they can play a role in helping OSU win at sustainability.

Critical Gaps

OSU should diversify the faculty and staff engaged in sustainability programs. Diversity, equity, and inclusion are inherently part of sustainability, a field of inquiry and practice founded on principles of equity and justice. DEI is also a force for innovative thinking and moving away from a status quo which has set the world on a dangerous trajectory. This need to diversify the faculty and staff engaged in sustainability is not unique to OSU. However, success in enriching the diversity of faculty and staff would be another differentiator for OSU sustainability. The RAISE Initiative is a laudable first step, but there is more work to be done.

As a public institution, OSU has a responsibility to serve the needs of the people of Ohio. This is an understandable and admirable goal. However, sustainability issues do not stop at state boundaries. Conditions and opportunities within the state are connected to upstream and downstream forces, literally and figuratively. Solving Ohio's sustainability challenges and developing new opportunities requires a deep understanding and engagement with regional, national, and global stakeholders and dynamics. For example, how might an institutional focus on buying local food impact the livelihoods of farmers who are beyond a certain distance

threshold? How will the technology we adopt for EV batteries affect the health and well-being of cobalt miners, some of them children, a continent away? Even if working intensely on local issues, a global mindset is critical for OSU faculty, staff, and students to ensure that best intentioned work does not undermine, or be undermined by, global sustainability dynamics and goals. As noted above, OSU has a good track record of global engagement, but it will be important to think about how to infuse this way of thinking and acting across all activities related to sustainability.

OSU has many examples of strong industry partnerships, but for sustainability as an implementation science to succeed, these opportunities need to be expanded. The same holds true for public and nonprofit partners. Increasing the number of sustainability projects with external partners can increase revenue, provide real world learning opportunities for students, connect interdisciplinary, transdisciplinary, and solutions-oriented faculty and staff with meaningful and impactful projects, and demonstrate the value that OSU brings to diverse constituents.

Coordinating external partnerships for sustainability is challenging if those relationships remain only at the college level. While some sustainability needs from partners have very specific needs (e.g., carbon accounting, green infrastructure design), more comprehensive sustainability needs (e.g., developing a community driven climate action plan) will require OSU to engage experts from across the entire university.

Declining numbers of matriculating high school students and meeting educational needs of workers in the modern economy means that universities will need to pivot some of their attention to lifelong learning. In the rapidly changing field of sustainability, where the number of jobs far exceeds the number of qualified applicants, lifelong learning is particularly critical. We did not see evidence of robust lifelong learning for sustainability at OSU, although the institution certainly has the capacity to take on this important function.

Some of the students indicated they have a hard time finding faculty who work in sustainability. As with any initiative that spans the entire institution, sustainability efforts at OSU need to be coordinated and communicated so those matches and connections are easy to make.

With an institution as large as OSU, there is often a desire to focus only on its own questions and answers to sustainability, but collaboration with other higher education institutions in the state, country, and globe could also be a key leveraging and scaling mechanism for new sustainability initiatives. This may be particularly the case with other institution types that don't share the same resources of OSU, but have distinctive qualities in their own right, such as community colleges or technical schools. Other institutions that do have the same capacity to engage in co-production of sustainability initiatives would benefit from interacting with OSU's experience in community engagement.

Strategies and Opportunities

OSU can draw on its deep experience and expertise in extension as a mechanism for community engagement in sustainability. The committee sees an opportunity to expand the traditional offerings in agricultural extension to include a broader sweep of assistance in sustainability-related activities, such as health promotion, business and workforce development, sustainable infrastructure deployment, local climate action planning, environmental justice action, and support for the arts and other forms of communications related to complex sustainability challenges. These activities could include technical assistance, along with building capacity for communities to apply for grants and secure financing to support their sustainability initiatives. A key design principle for what we term “intentional extension” is to bring the communities in and engaging with their priorities rather than only going out to communities, and participating in genuine knowledge exchange and capacity building, especially for the most vulnerable communities. OSU has extensive experience with 4H, which already has [sustainability programs](#) in place. Using these existing partnerships and developing other learning and engagement opportunities should be a priority.

There is a ripe opportunity to develop new learning, research, and engagement models with Lima, Marion, Mansfield, Newark, and Wooster campuses and possibility other OSU facilities around Ohio. Based on our meetings with faculty, we heard that some students begin at these campuses and transfer to the Columbus campus to finish their degrees. The flow of students between campuses could be bi-directional. Rather than these 5 campuses feeding into the Columbus campus, OSU could develop community-engaged programs where students may start in Columbus and complete their degrees at one of the 5 other campuses, perhaps elevated as centers of excellence focused on a distinctive sustainability-related programs or as living labs. The smaller sizes of these campuses could offer opportunities for community-engaged experiential learning. These experiences could also serve as a test bed for future inter-institutional sustainability initiatives or exchanges with institutions outside the OSU campuses.

There is an opportunity, and a responsibility, to prepare students to have constructive, helpful conversations and assist in meaningful actions in a very diverse state with diverse needs. Sustainability can be a politically divisive term (although that does not seem to be the case in Ohio for the time being). Giving students the opportunity to work on sustainability activities in all 88 counties through the regional campuses and extension service would take advantage of existing OSU infrastructure. International students should have this opportunity, too, for their own education and for bringing in parts of the world that international students represent to all corners of the state. OSU students should have access to a suite of international learning, research, and engagement opportunities. The Sustainability Institute, for example, could design, deliver, or coordinate international research and learning experiences for students where the integrated nature and solutions-orientation of the work is paramount. A sustainability-focused internship program could be developed with public and private partners both Ohio-based and in key alumni centers nationally and globally. International student exchange models could be explored that reflect expressed desires of some of the campus community we spoke with who said that “the global should also include the local.” All these efforts would contribute to building a skilled workforce, an important factor at local, state, and national levels.

We heard about a number of successful and distinctive globally engaged research initiatives (e.g., GOHI, Byrd Center, Center for Automotive Research) at OSU as well as partnerships with other OSU institutes in Translational Data Analytics and Institute for Materials Research. These internationally recognized centers of excellence are in a very real sense the jewels in OSU's crown. They should be targets for ongoing and potentially increased support because these are the 'win differentiators' in the very competitive field of sustainability. Piggybacking on these existing networks and partnerships to engage in global-scale sustainability work is a wide-open opportunity space. We recognize that universities have only so much capacity. This is where partnerships come in. There is clear potential for Carmenton to play a catalyzing role for increasing the scale and scope of industry partnerships and to bring the world in to partner on sustainability solutions. Notably, the massive investments by Intel, LG, Honda, and others in semiconductor chips and emerging partnerships in Ohio could serve as an emerging sustainability focus. In addition to building on the existing research facilities and initiatives, one conduit for strengthening these partnerships are experiential learning agreements with companies, agencies, and organizations. For students, the chance to participate in real-world, authentic learning opportunities can improve learning and comprehension while preparing them for successful careers. For companies and organizations, the chance to work with students on applied projects is a means of identifying and attracting talent. Placing alumni in these organizations will further cement productive relationships between OSU and external partners.

Lifelong learning, including online learning platforms and embedded learning support with external partners, are opportunities for OSU to extend and strengthen its sustainability impacts. Designing, delivering, and coordinating informal learning experiences (e.g., workshops, short courses, certificates) has multiple benefits. It provides critical services to communities, is a way to continuously engage alumni, and influences sustainability strategies by engaging mid and later career people who have access to resources and decision making authority (i.e., increases potential for positive impact). Offering lifelong learning products in sustainability is also a way for OSU to gain intelligence on market needs. Existing professional certificate programs in sustainability and networking for sustainability programs could be better connected across Sustainability Institute partners. The gathering of market needs in close to real time can inform other research and engagement strategies and feedback to shape the formal (i.e., degree granting) sustainability curricula at OSU.

Growing team science and solutions science will give OSU a competitive advantage. Increasingly, funders are supporting research programs that are interdisciplinary and transdisciplinary in approach, especially for sustainability-related research. The committee commends OSU and ERIK for its GRO program. We heard that currently only about half of eligible faculty who applied are admitted into this important leadership program. Expanding the capacity of ERIK to admit all eligible faculty would be a wise and strategic investment. We expect this program would lead to a very high return on investment, both in terms of grants won as well as driving the interdisciplinary and transdisciplinary sustainability strategy and culture at OSU.

Promotion and tenure systems at universities rarely reward the kinds of community-engaged and solutions-driven research and activities that are central to sustainability. OSU, with its long experience as a land grant university, is in a strong position to innovate promotion and tenure processes in ways that incentivize, recognize, and reward sustainability-related research, learning, and engagement. Some steps towards new reward systems can be taken immediately. For instance, creating a presidential or provost level award for sustainability innovation, and celebrating it very publicly, should have a positive impact on faculty (and staff) annual reviews. One idea is to create the Carmenton Award for Applied Sustainability Research that could be funded by partners or revenues from Carmeton facilities.

OSU made a smart investment in the RAISE initiative as a means of diversifying its faculty. Recruiting and especially retaining faculty from underrepresented groups can be strengthened by rewarding and recognizing community-engaged and solution-oriented activities in sustainability. OSU should also consider extending the RAISE program to post-doctoral fellows with a clear pathway to tenure-track faculty positions.

Another suggestion to drive sustainability initiatives at OSU is to tap into student energy and enthusiasm. Gen Z is recognized as the sustainability generation, with an overwhelming majority supporting sustainability principles and practices. While students broadly support sustainability, they are quick to recognize when institutions, including universities, make sustainability proclamations but do not follow through with actions and deeds. Walking the talk is vital for gaining student support. This means that OSU should engage sustainability faithfully in operations, academics, and engagement. Another opportunity is to use the sustainability general education theme to demonstrate how all students, regardless of major, can play a role in advancing OSU's sustainability strategies.

Don't underestimate or undervalue staff for long-term commitments to collaborative sustainability initiatives. In our meetings, faculty frequently mentioned they "wished they had more time" and that this lack of time was holding them back from major innovation and risk-taking. Staff can be the most cost-effective and most use-appropriate solution to the conundrum of freeing up faculty time. Strategic investment in staff can provide the 'glue' to hold together university-wide sustainability projects over long durations. The university's ability to engage staff in ambitious and strategic projects, while celebrating and recognizing staff successes, is also important for recruitment and retention of talented people at OSU.

Because sustainability focuses on improving human well being, caring for the environment, improving well being, and is guided by principles of fairness and justice for present and future generations, it is a field that attracts philanthropic gifts. Philanthropy is important for providing resources to try new things, but also for cultivating allies and supporters for your efforts. Gifts large and small can help to galvanize internal support for sustainability at the university. If not underway already, we recommend creating a development strategy with the OSU Foundation to seek substantial gifts (\$100M+) for endowing sustainability efforts at OSU.

Building the narrative and telling the story of sustainability successes at OSU should be a priority. At large institutions like OSU, it is easy for these stories to be lost in all the activities underway. The narrative can and should be told in a variety of ways—in text, speeches to various stakeholders, art, music, dance, architecture, and other forms of expression. Thinking about how to use the high visibility of OSU athletics to communicate sustainability messages would be a very worthwhile endeavor. To keep the communication channels and collaboration potential open, the SI leadership should be invited to the Council of Deans meetings, perhaps once or twice a year, to report on university-wide sustainability activities and to seek new ideas and opportunities.

Sustainability efforts are scattered across OSU, which is not uncommon for large higher education institutions. Indeed, this is partly a sign of success because it demonstrates the value that sustainability approaches can bring to multiple ways realms of research, education, and engagement. However, for internal and external constituents, it is important to know where to go to begin, or where to find the “front door” for sustainability at OSU. The committee also recognizes that OSU needs more than a front door to help people navigate where to go on sustainability interests. We therefore recommend that OSU also needs a “front porch” where people with a variety of interests can converse, exchange ideas, build networks, and foster creative and innovative approaches and solutions to sustainability challenges. An amplified Sustainability Institute, with funds to incentivize such conversations, interactions, experimentation, and innovations, could fulfill this critical role.

Recommendations

Time horizon	Recommendation
Immediate	<p>Publicly affirm the importance of sustainability and the excellence of existing efforts at OSU in many units of many sizes – individual students, individual faculty PIs, departments, centers, institutes, schools, colleges, and also facilities and operations</p> <p>Communicate that while no unit should “own” sustainability, efforts and initiatives at OSU need to be coordinated, with SI serving as the “front door” and “front porch” for internal and external constituents</p> <p>Invite ongoing feedback, and consider effective mechanisms to continue the conversation campus-wide, including faculty, staff, and students</p> <p>Adopt a broad definition of sustainability and demonstrate that value using OSU’s breadth for achieving sustainability goals</p> <p>Create a sustainability innovation award (presidential or provost level) and give it high visibility at OSU and beyond</p> <p>Assess the value of the hires already done, and communicate the value added while also acknowledging any pain points</p>

<p>Near-term (12-24 mos)</p>	<p>Model what finances would look like in a growth scenario (federal funding, state funding, corporate partnerships, tuition from all types of students, philanthropy both near-term and future, sustainability patent income, grateful voters, etc.).</p> <p>Work with ERIK to expand its faculty leadership offerings and proposal development support in sustainability-centered ways</p> <p>Extend RAISE initiative to post-doctoral fellows as pathways to tenure-track positions, including sustainability</p> <p>Identify the most important quick wins in the curriculum offerings for core programs and elevate them, ideally including a few marquee offerings accessible and attractive to every matriculated student, along with some courses for lifelong learners and curricula for the extensions</p> <p>Foster university-wide conversations, including every college, about the most important topical areas for sustainability at OSU and associated strategic hires</p> <p>Create a strategy to elevate sustainability-focused applied-research in communications, engagement and policy development based upon Ohio's demographic, cultural, and geographic characteristics</p> <p>Develop and deliver lifelong learning opportunities in sustainability and create a strategy for informal learning and engagement opportunities, professional development and certificates, including through athletics</p> <p>Use the power of the OSU athletics brand to communicate sustainability initiatives</p> <p>Create an external advisory board for sustainability at OSU with representatives from private, public, and non-profit leaders in sustainability</p> <p>Engage in national and international organizations for sustainability institutions of higher education</p> <p>Work with the OSU Foundation to craft a development strategy for sustainability. This could include or be separate from a strategy to fund the Byrd Ice Core library and related Byrd Center climate activities, which should be a high priority focus.</p> <p>Expand and develop new partnerships for sustainability-focused internships, placements, and field learning</p> <p>Enhance campus planning and facilities to embrace visible sustainability investments including active transportation, waste reduction, preservation, and conservation</p>
<p>Long-term (>2)</p>	<p>Create a sustainability 'extension' or community-engagement mechanism</p>

yrs)	<p>that serves the State of Ohio as well as national and global partners</p> <p>Create bi-directional pathways for students between Columbus, other OSU regional campuses and facilities, and possibly other institutions</p> <p>Develop and adopt faculty and staff review processes (including promotion and tenure) that recognize and reward interdisciplinary, transdisciplinary, and solutions-oriented activities</p> <p>Track and publicize workforce successes in sustainability-related careers for OSU graduates and alumni</p> <p>Consider university budget models that incentivize long-term interdisciplinary and transdisciplinary sustainability collaborations across and between colleges and institutes</p> <p>Create a comprehensive system for tracking, measuring, and assessing impacts from sustainability activities at OSU</p>
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