Proposal for the Sustainability Institute at The Ohio State University

Enabling Ohio State's strategic vision for sustainability:
Ohio State is recognized as a world leader in developing durable solutions to the pressing challenges of sustainability and in evolving a culture of sustainability through collaborative teaching, pioneering research, comprehensive outreach, and innovative operations, practices and policies.

Submitted by:
- *Sustainable and Resilient Economy Discovery Theme Program*
- *Office of Energy and Environment*

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Introduction Letter from the Directors

In 2015, Ohio State's leaders adopted strategic sustainability goals that encompassed and aligned with Ohio State's core goals of teaching, research, outreach and engagement and resource stewardship. Since then Ohio State's commitment to sustainability has grown and deepened. The energy partnership with ENGIE-Axium is a singular, transformative example of innovation and investment in sustainability. Scores of other initiatives are underway to reach our goals and the lessons we have learned from our efforts have greatly informed this proposal.

Sustainability is an inherently interdisciplinary topic that transcends any single academic unit, discipline or sector. The societal challenges of sustainability underscore the need for interdisciplinary sustainability education, research and engagement efforts that generate and integrate knowledge from multiple disciplines and that apply this knowledge through partnerships with local, state, national and global stakeholders to solving the real-world challenges of sustainability. The complexity of these challenges requires deep integration across a breadth of disciplines, including natural and physical sciences, social and behavioral sciences, engineering, public health, business, law, planning, policy, arts and humanities. Given the urgent challenges faced by communities and societies around the world, sustainability is an integral pillar of 21st-century public, land grant, research and community-engaged institutions.

In spite of its many strengths, Ohio State lags behind its peers in terms of visibility and external resources with regard to sustainability. Competitive benchmarking analysis has identified a growing number of U.S. universities that have positioned themselves to become leaders in sustainability by forming new collaborative centers or institutes, often supported by major gifts. In contrast to these aggregative efforts, sustainability at Ohio State has been fragmented and diffused, and the university lacks a cohesive framework for achieving its sustainability goals and communicating to both internal and external stakeholders.

The merger of the Sustainable and Resilient Economy (SRE) Discovery Theme Program with the Office of Energy and Environment (OEE) and our proposal to create the Sustainability Institute provides an unprecedented opportunity for integration of sustainability and resilience scholarship and activities across the breadth of the university mission. Doing so will generate synergies that will establish Ohio State as a leading public institution of sustainability at which interdisciplinary collaboration and partnerships drive education, research, engagement and solutions. By providing an integrated, purposeful and inclusive approach to achieving the university sustainability goals, the Sustainability Institute will:

- Expand opportunities for sustainability education, including better coordination of existing curricular programs and creation of new learning programs that are responsive to current and emerging workforce needs
- Elevate the sustainability research that many faculty are pursuing and grow external resources, including support for graduate students and postdoctoral researchers
- Facilitate the convergence of basic and applied interdisciplinary research and

community engagement, so that the research questions are inspired by critical societal challenges and support the application of new knowledge to real-world innovations

- Create synergies through better alignment of academic and operational goals, including expanded opportunities for our campuses as living labs and greater integration of faculty expertise into our operational sustainability challenges and ambitions around energy, water, food, waste and climate impacts
- Accelerate progress toward greater efficiencies and resource capture enabled by Ohio State' substantial investment in SRE and OEE and the merger of these two entities
- Meet the expectations of prospective students and critical stakeholders of a meaningful investment in sustainability
- Provide a "front door" for potential partners and collaborators interested in engaging with Ohio State on sustainability issues
- Allow Ohio State to make its mark as a leader among other universities with well-publicized sustainability initiatives
- Engage a diversity of people, ideas and disciplines to foster an inclusive community of students, faculty and staff involved in sustainability and resilience topics

This proposal represents the culmination of 18 months of dialogue with over 177 faculty and staff at Ohio State (**See Appendix A, *Key Stakeholders and Supporters***) to realize a vision that is within reach. Our consensus is that the proposed Sustainability Institute will significantly enhance Ohio State's contributions to the transformative societal changes needed to make our communities, enterprises and world more sustainable and resilient.

Elena Irwin
Faculty Director
Sustainable and Resilient Economy

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Section I: Mission

A. Overview

As a comprehensive land grant research university with hundreds of faculty in sustainability, thousands of passionate students, an enduring land-grant mission, and a strong commitment to sustainability in its campus operations, Ohio State University is dedicated to leveraging its knowledge to enable more sustainable and resilient communities, including our state, nation and the global community. Over 500 faculty are engaged in sustainability research; we teach over 1,000 courses that support sustainability learning; and we are engaged in Ohio communities and around the world to improve social, economic and environmental conditions. This commitment to sustainability extends beyond our academic and outreach missions to the business and support units on campus. We have institutional commitments to reduce energy, water and carbon emissions, serve more local and sustainable food on our campus and engage our community partners at all levels. Despite these investments and many successes, Ohio State lacks the organizational structure and established leadership to support the kinds of interdisciplinary collaboration and partnerships that are needed to address the complex challenges of sustainability in bold and transformational ways.

The Sustainability Institute (SI) will provide the strategic leadership, coordination and support needed to integrate and catalyze sustainability education, research, engagement and partnerships across all units of the university (**See Figure 1*, Principal Functions of the Sustainability Institute***). In so doing, SI will enable a more purposeful, coordinated and inclusive approach to sustainability that facilitates interdisciplinary collaboration, campus stewardship and applied solutions.

Vision. Ohio State is a leading public institution of sustainability education, research, engagement and applied solutions that integrates knowledge and builds partnerships to improve the well-being of communities and all people while protecting the earth's life support systems.

Mission. The Sustainability Institute integrates, supports and leads sustainability across the university enterprise in ways that:

- Promote sustainability and resilience teaching and learning integrated across colleges and inclusive of various disciplines and ideas
- Catalyze interdisciplinary research that drives discovery and innovations in sustainable and resilient systems, technologies, policies and actions
- Engage public and private sector partners in Ohio, the nation and around the world to develop and apply sustainable solutions that improve well-being and equity
- Integrate sustainability scholarship with campus activities, including opportunities for students from diverse backgrounds and disciplines to engage in research and experiential learning using the campus as a living laboratory and test bed
- Provide a competitive advantage in attracting exceptional new talent, students,

partnerships and resource investments to the university

Goals. The Sustainability Institute (SI) will pursue the following strategic goals in support of this mission:

1. **Establish Ohio State as a leading public institution of sustainability research and applications** that engage with communities to provide innovative technology and policy solutions to local, regional and global challenges.
2. **Educate and empower Ohio State students** to become leaders, professionals and engaged citizens in solving societal issues related to environment, sustainability and resilience.
3. **Accelerate campus sustainability progress** by leveraging Ohio State expertise to advise on the enhanced management of campus facilities, resources and ecosystem services and to validate innovative practices using the campus as a living laboratory and test bed.
4. **Grow the resources available to Ohio State academic units, centers and programs** to further develop and sustain innovative research, teaching, outreach and engagement related to sustainability and resilience topics.
5. **Promote an inclusive culture of sustainability at Ohio State** by raising awareness and spreading an ethic of sustainability across the university enterprise, engaging with partners in local communities and around the world, and bringing a greater diversity of people and knowledge to Ohio State.

In pursuing these goals, SI provides **a transformative approach to achieving Ohio State's** **sustainability goals** *(***See Appendix B,** ***Ohio State Sustainability Goals****)* and unique opportunity for Ohio State to demonstrate **a new model of interdisciplinary scholarship for large public research institutions.** By integrating sustainability across the university mission, this model will foster a diversity of people engaged in new collaborations, linked through common questions and motivation, and inclusive of a wide range of disciplines, including natural and physical sciences, social and behavioral sciences, engineering, public health, business, law, planning, policy, arts and humanities. By integrating both the academic and practical aspects of sustainability, this model creates new possibilities and opportunities for students, faculty and staff to engage in actionable research and project-based learning by developing, testing and scaling innovative solutions and partnering with communities to address the most pressing issues of our time**.**

Figure 1: Principal Functions of the Sustainability Institute

B. Alignment with University Mission

Building on its land-grant history of excellence and impact, the University aspires to be a leading national flagship public research university guided by its founding promise to elevate the quality of life of our fellow citizens. Through its mission, the university is committed to creating and discovering knowledge that improves well-being; educating students and preparing them to be leaders and engaged citizens; fostering a culture of engagement and service; and weaving diversity and inclusion into all that we do in striving for excellence.

The goal of sustainability—to improve societal well-being while protecting earth's life support systems (**See Figure 2, *What is sustainability?***)—provides a powerful organizing principle for advancing this mission. Sustainability requires both deep integration of knowledge across disciplines *and* application of this knowledge in practical ways to create innovative and durable solutions. It doesn't focus on the environment in isolation, but instead on interactions among human, engineered and environmental systems and the implications of these for the well-being of communities and people. By integrating sustainability across all units of the university and strengthening partnerships with our many private and public stakeholders who are engaged in real-world sustainability, Ohio State can be a model of how a 21st-century public research community-engaged institution uses its sustainability goals to advance its mission and generate transformational change and impact.

Ohio State's strategic plan sets forth the aspiration, goals, targets and type of initiatives envisioned for the five pillars of our university: teaching and learning; access, affordability and excellence; research and creative expression; academic health care; and operational excellence and resource stewardship.

The mission, goals and proposed activities of SI are in strong alignment with the university's mission and strategic goals and provide a transformational approach to achieving the university's sustainability goals.

1. Teaching and learning: Ohio State seeks to be an exemplar of the best teaching and learning to improve student outcomes. In terms of sustainability goals, the university seeks to (a) deliver a curriculum that provides Ohio State students at all stages of instruction with opportunities to understand sustainability holistically, framed by the environment, science, technology, society, the economy, history, culture, and politics; and (b) address the complexities of sustainability through a variety of learning formats, strategies, and occasions. Through the Sustainability Education and Learning Committee (**See Appendix C, *SELC – Sustainability Faculty Working Group Goals)***, SI will provide the needed leadership, support and persistence to develop and implement an interdisciplinary framework for teaching and learning that is inclusive of natural and physical sciences, social and behavioral sciences, engineering, public health, business, law, planning, policy and humanities. In addition, SI will pursue improved coordination and expansion of experiential learning opportunities, including much greater

coordination and use of campus as a living lab that will engage students and faculty with facility and campus operational managers. By supporting the interactions of a diversity of people, ideas, disciplines, and backgrounds, this approach will create new possibilities and opportunities for teaching and shared learning, and advance the university's strategic goals by making Ohio State an exemplar of interdisciplinary teaching and learning that also promotes a diversity of people and ideas through sustainability education.

2. Access, affordability and excellence: SI will support the university's goal of access, affordability and excellence by nurturing the substantial investments in scholarships enabled by our partnership with ENGIE-Axium to attract talented low- and moderate-income students who have a passion for sustainability. SI's goals of providing students with access to experiential learning and connections to faculty, staff and other students will help meet the larger mission university mission. Also, SI-funded opportunities in support of students allow them to engage in opportunities they may not otherwise be able to afford, such as subsidized event fees, buying data/software in support of research projects, supporting projects for campus as a living laboratory, etc. In addition, greater engagement of faculty and staff in developing more sustainable campus operations will reduce long term costs while also creating more synergies with our academic mission.

3. Research and creative expression: The university strategic plan lays out goals, targets and initiatives for Ohio State to enhance its position among the top public research

What is sustainability?

Sustainability is the improvement of the well-being of people and communities in ways that protect the earth's life support systems by reducing environmental impacts, enhancing resource efficiency and ensuring economic prosperity for all. It is motivated by the fundamental dependence of humans on the natural environment and the desire to foster life on Earth now and in the future. Sustainability also depends on the **resilience** of natural and human systems, such as those providing energy and food, and the ability of communities to recover, adapt and flourish in the face of changing environmental, economic and social conditions.

Achieving a sustainable and resilient society requires a thoughtful transition away from fossil fuels and nonrenewable inputs to **sustainable energy systems and resources**. Sustainability also requires a substantial reduction in pollution and its adverse impacts on **ecosystems** and **human health**. **Sustainable technologies** that improve resource efficiency, ease demand for scarce resources and reduce environmental impacts are essential. However, technological advances alone are insufficient. Sustainable solutions also depend on **human decision-making**, including policies, behavior and social norms, as well as the **values** that individuals and communities hold, their perceptions and beliefs, and the ethical judgments they make. In short, sustainability requires a holistic **systems approach** that accounts for interdependencies across human and natural systems and assesses the benefits, costs and risks of technological, social and environmental changes.

Figure 2

universities and drive significant advances for critical societal challenges. This reinforces the university's mission to create and discover knowledge to improve the well-being of our state, regional, national and global communities. In addition, as articulated by the university's sustainability goals, the university seeks to advance sustainability research by (1) rewarding sustainability scholarship, including the scholarship of engagement, and (2) magnifying sustainability scholarly output and impact to create new knowledge and solve real-world problems. By building a stronger bridge between basic research and practical solutions that advance sustainability, SI will be a conduit for driving toward the university's research mission and goal of actionable science and impact. By strengthening relationships with external stakeholders, SI will facilitate the further convergence of basic and applied interdisciplinary research and community engagement so that the research questions are more often linked to critical societal needs and support the application of new knowledge to real-world innovations in sustainable technologies, policies and actions. In addition to supporting approximately 30 SRE DT faculty (**See Appendix D, *SRE Faculty Hiring Portfolio***) and engaging a substantial number of additional faculty working in core areas of sustainability research across a diversity of disciplines, SI will support a diverse group of faculty leaders and will cultivate interdisciplinary teams of researchers in targeted sustainability research areas. The investments that SRE/OEE has already made in professional staff, including a business development director and proposal development specialist, are key aspects of SI's strategy to support interdisciplinary teams and faculty leaders in identifying pressing research questions, partnering with external stakeholders and securing external resources. In so doing, SI will create added value for faculty engaged at the forefront of sustainability research, thus helping to recruit and retain leading scholars at Ohio State.

4. Academic health care: SI will partner with the many emerging sustainability initiatives underway at the Wexner Medical Center. We will support and integrate the efforts to conserve resources and increase the quality of life for patients, staff and faculty.

5. Operational excellence and resource stewardship: One of the core tenets of sustainability is a focus on resource efficiency. While sustainable practices may necessitate additional up-front investments, the key is to make those investments with a plan for long-term savings. SI will be a strong partner in Ohio State's commitment to operational excellence and resource stewardship. We will continue to support and facilitate the $150 million academic collaboration components of the Comprehensive Energy Management Project. The plans for our Energy Advancement and Innovation Center on campus, combined with the innovation underway to modernize our campus infrastructure, will create a truly unique living laboratory and test bed for sustainable energy innovation that can save dollars while reducing Ohio State's environmental footprint. SI will nurture additional programs and projects that engage our talented

faculty in contributing to responsible resource stewardship while simultaneously creating opportunities for teaching, research and engagement.

The university strategic plan emphasizes the essential role that **diversity and inclusion** play in all these pursuits. Solving sustainability challenges requires input from people who bring different perspectives, ideas, disciplines and approaches; therefore, diversity and inclusion are essential components of sustainability. SI will promote diversity and inclusion in multiple ways through its teaching and learning, research, campus stewardship and community engagement goals, as articulated above and throughout this proposal.

C. Interdisciplinary Nature

Sustainability is an inherently interdisciplinary topic that transcends any single academic unit, discipline or sector. The societal challenges of sustainability underscore the need for interdisciplinary sustainability education, research, engagement and solutions that integrate knowledge from multiple disciplines, including natural and physical sciences, social and behavioral sciences, engineering, public health, business, law, planning, policy and humanities, to understand the dependencies among human and natural systems and to develop innovative solutions that achieve a more sustainable and resilient society.

Interdisciplinary Orientation of SRE/OEE

From their inception, SRE and OEE have fostered interdisciplinary collaboration and activities to address the challenges of sustainability.

SRE is a Discovery Themes program and was founded with the intent of building the capacity and effectiveness of interdisciplinary sustainability research at Ohio State. Since its initial funding in January 2015, SRE has advanced interdisciplinary research and collaborations in multiple ways, including:

- Partnered with 18 academic units across 6 colleges to implement the hiring plan, which has yielded 29 SRE/DT tenure-track faculty positions. We have successfully completed 26 hires to date (**See Appendix D*, SRE Faculty Hiring Portfolio***).
- Established a mentoring program that integrates faculty from outside the faculty's home department and discipline to encourage more interdisciplinary collaboration and supports DT faculty in developing goals that contribute to the mission of SRE (**See Appendix E, *Mentoring and Goal Setting for SRE DT Faculty).***
- Led and supported interdisciplinary teams to develop an integrated model of the food, energy and water systems in the Great Lakes region. The teams were successful in securing $3.4 million in 2017-18 to fund this research (**See Figure 3, *Food-Energy-Water Systems, FEWS*).**
- Facilitated the establishment of the Sustainability Education and Learning Committee (SELC) that comprises 15 faculty from 7 colleges, including representation from the regional campuses, and that is charged by OAA to develop recommendations for improving the coordination and communication of existing sustainability programs; identifying the best opportunities for new interdisciplinary programs, including degree enhancements and new

degree programs; and providing guidance to a new sustainability track of the proposed General Education Curriculum revision, conditional on this proposal being accepted.

OEE has supported and fostered interdisciplinary work in many ways, including:

- Providing over $2 million in research support to interdisciplinary teams since 2011. For example, OEE created the Subsurface Energy Resource Center (SERC) in 2011 and has provided $50,000 a year for the past three years to support water-energy nexus proposals through the Ohio Water Resources Center.
- Engaging the Ohio State community in establishing comprehensive sustainability goals and developing strategic plans to guide implementation
- Communicating and marketing Ohio State faculty, staff and student success in understanding and solving sustainability challenges
- Hosting and partnering on more than 80 events that have engaged well over 17,000 faculty, staff and students
- Managing faculty, student and staff engagement in university initiatives such as the academic collaboration component of our Comprehensive Energy Management Project.

Food-Energy-Water Systems (FEWS)

SRE leads research on integrated modeling of FEWS by facilitating interdisciplinary teams of faculty strengths and collaborating with key partners, including the InFACT Discovery Theme and the Byrd Polar and Climate Research Center. SRE and InFACT collaborated on a $100K grant from NSF to lead an interdisciplinary FEWS workshop in November 2015. In Fall 2015, SRE formed an interdisciplinary integrated modeling team facilitated by SRE's scholar in residence and supported with GRA funds. SRE faculty Y. Cai and InFACT faculty D. Jackson-Smith joined the group for a 2017 submission to NSF's Innovations at the Nexus of FEWS (INFEWS) program that was successful with a $2.4M award. SRE built on this success partnering with climate change researchers from BPRC and facilitating the submission of a $1M proposal (led by SRE faculty affiliate R. Wilson) to USDA NIFA's "Resilient Agriculture under a Changing Climate" program that was funded in 2018. In collaboration with the Proposal Development Office, SRE supported another NSF INFEWS proposal, led by SRE DT faculty N. Sintov, in Fall 2018.

Figure 3

Together, OEE and SRE have engaged 235 faculty from 8 colleges and 41 departments (**See Appendix F, *Distribution of Faculty Involved in SRE/OEE***). These are faculty who have actively participated in SRE/OEE programs, including as chair of an SRE DT search committee or chair of a department with a DT faculty; mentor for an SRE DT faculty; recipient of OEE or SRE financial support; participant in an interdisciplinary research team or project committee; or as having had engagement with government officials. Of these, **27 are SRE DT faculty from 6 colleges and 16 departments** who provide the cornerstone for faculty involvement in SI. In addition, there are **dozens of faculty currently providing leadership to key sustainability programs and initiatives of the university**, including as members of the Energy Academic Collaboration Committee, Sustainability Education and Learning

Committee, President and Provost's Council on Sustainability, and the SRE leadership team. On a broader level, **OEE and SRE regularly communicate with a total of 471 tenure track and clinical faculty from 12 colleges and 56 departments** primarily through a biweekly newsletter that OEE has distributed since 2011 and occasional distribution of announcements to an email list of over 150 affiliated SRE faculty.

D. Goals Not Met with Existing Centers

Ohio State students, faculty and staff are engaged in a range of sustainability research and activities that have laid a strong foundation for building sustainability as a focal point of the university (**See Appendix H, *Ohio State Sustainability Ecosystem***). These foundational elements include:

- Existing **centers and departments that support faculty research** in key areas of sustainability, including materials and energy technology innovation, green chemistry, environmental health sciences, climate science, behavioral science, environmental economics and policy, integrated systems, resilient infrastructure, environmental humanities and sustainable design.
- By realigning incentives and resources, the bold **investments of the Discovery Theme Initiative** have advanced greater coordination and collaboration across academic units and disciplines. An emerging coalition of the willing is strengthening as a result of these investments. This coalition brings together interdisciplinary networks of faculty, academic units and research centers from across the university with university programs, professional staff and support units engaged in transforming the Ohio State community and campus.
- Ohio State's success in building **strong partnerships with companies, government, foundations** and others continues to evolve and present new opportunities. Examples of efforts in which OEE or SRE are playing a pivotal role include Ohio State's energy partnership with ENGIE-Axium, the partnership with Schmidt Futures through the Alliance for the American Dream, and the University Climate Coalition (UC3).

Despite these strengths and ongoing successes, **traditional college and department structures do not provide an adequate organizational platform** to support the kinds of interdisciplinary research collaboration, integrated education and multi-sector partnerships that are so often required to address complex sustainability challenges. Current efforts are limited by a lack of coordination and cross-college leadership that leads to fragmented knowledge, limited impact and duplicated resources. For example:

- There are approximately 74 undergraduate majors and graduate programs that identify one or more sustainability-related learning outcome, 458 sustainability courses at Ohio State, and another 672 courses that include sustainability-related content distributed across 12 colleges at Ohio State (**See Appendix G, *Sustainability Programs and Courses).*** Most of these programs are independent of each other, and students can quickly become frustrated and overwhelmed trying to find the right program for their interests. Better coordination and communication of these programs would improve student learning opportunities and enhance Ohio State's ability to recruit students who are passionate about sustainability.
- There are over 30 centers and institutes at Ohio State that are aligned with sustainability

but lack a comprehensive approach because they focus on a limited number of components. Many of these centers have their own program staff working independently to provide, for example, program coordination, communications, event planning and proposal development support. While some programs and centers work collaboratively with each other, these efforts are hampered by the "siloed" structure of the university and are particularly limited across colleges. Our highly decentralized structure can make finding partners internally challenging, and it is a particularly difficult for external partners to navigate Ohio State. We need a front door to sustainability.

- Our administrative support units (Facilities, Operations and Development; Planning and Real Estate; Transportation and Traffic Management, etc.) are all working to reduce the impact of Ohio State's resource consumption on the environment, and the Office of Student Life has an office dedicated to support the student sustainability experience.

E. Diversity and Inclusion

Solving sustainability challenges requires input from people who bring different perspectives, ideas, disciplines and approaches. In addition, social equity is a core pillar of sustainability scholarship. For these reasons, recruiting and engaging a diversity of faculty, staff and students and promoting a culture of diversity, inclusion and equity are of fundamental importance for SI. We will go beyond individual practices of diversity and inclusion to a set of strategies that will instill and grow a culture of diversity, inclusion and equity that infuses our programs, leadership, and partnerships. We seek to place diversity and inclusion principles and practices at the core of SI, so that these are not separate activities, but become woven into the SI fabric.

Current SRE/OEE Practices

SRE and OEE have both sought to increase diversity and promote inclusion in multiple ways. First and foremost, **SRE and OEE are both led by women**, which is notable given the relative dearth of female leadership in college or university-level administrative positions at Ohio State. For example, of the eight Discovery Themes programs, only two are led by women and only SRE is active in the traditionally male-dominated STEM fields.

As a Discovery Themes program, SRE follows the required and best practices identified by OAA for recruiting a diverse pool of candidates for faculty positions. This includes a diversity representative on the search committee, implicit bias training for all members of the search committee, and language about the university's commitment to diversity and inclusion. However, because it is challenging to recruit a diversity of candidates in many of the STEM-based disciplines of sustainability, **SRE goes beyond these established practices in order to increase the diversity of the candidate pools**, including placing strong emphasis on building a diverse pool of candidates and using recruitment strategies that are inclusive, e.g.,

- Search committees are instructed to purposefully craft position descriptions using broad language and avoiding language that may unintentionally discourage a greater diversity of applicants. For example, in describing areas of scholarship, search committees are encouraged to use language such as "areas of interest broadly include, but are not limited to…" and "we welcome scholars employing a variety of

methodological approaches." In addition, we encourage statements indicating that preference will be given to candidates with relevant experience, e.g., "experience with research, teaching or mentoring programs focused on members of underrepresented groups is preferred."

- SRE encourages search committees to name scholarly subject areas relating to issues of equity and inclusion, where appropriate. Social equity has been emphasized in multiple SRE position descriptions, including assistant professor positions in Geography, City and Regional Planning, and the School of Environment and Natural Resources.
- SRE explicitly instructs search committees that the expectation is that if a highly qualified diversity candidate is in the final pool, that person should receive the offer first.
- In multiple cases in which search committees identified a highly qualified minority or female candidates, SRE committed additional resources to support their recruitment (Departments of Chemistry and Biochemistry and History, ASC; City and Regional Planning, Knowlton School of Architecture, COE).
- In several cases in which searches ended up with only a single finalist who was non-diverse, SRE either outright declined to invest in the hire or strongly urged the department to restart the search in the subsequent year with a renewed focus on increasing diversity. This occurred in FY18 with both Geography and Civil, Environmental and Geodetic Engineering — both searches are underway again in FY19 with revised language and strategies.

These strategies have yielded success in SRE's recruitment of female and minority faculty. Since 2015, SRE has partnered with departments and colleges to jointly hire **nine SRE DT female faculty members, of which one is African American and another is Hispanic.** In addition, **two of the three senior SRE DT faculty are women** and **seven of the nine female SRE DT faculty are in STEM areas.**

In addition to these faculty recruitment strategies, SRE and OEE have sought to promote the diversity and inclusion of female and minority students in multiple ways, including:

- OEE and SRE are committed to promoting female student leaders in sustainability. Last year we hosted what we hope will be an annual "Women in Sustainability" breakfast that was largely organized by a female student and featured a panel of female sustainability leaders designed to inspire our next generation of female student leaders. This event quickly reached a maximum capacity of 75, most female, students.
- OEE has provided support and mentorship to many female student sustainability leaders serving on the Student Sustainability Council and within the Wexner Medical Center.
- SRE is leading an NSF-funded project on food, energy and water systems in the Great Lakes region that is developing a pilot program to engage graduate students from underrepresented groups in STEM fields through participation in the research project, as well as in a seminar series on interdisciplinary team science and Ohio Sea Grant

Stone Lab summer course on integrated systems modeling of food, energy and water. The project is currently supporting two female graduate students, one of whom is Latino, and two female postdoctoral researchers in interdisciplinary STEM research.

Future Plans

We will build on the existing practices of SRE and OEE to develop a comprehensive set of strategies to ensure that SI programs, leadership and activities are grounded in a culture of diversity, inclusion and equity. We will develop this in partnership with diversity staff in academic units and across the University, including the Office of Diversion and Inclusion. These strategies include:

- **Continue to recruit new female or minority faculty through SRE Discovery Themes funding**. SRE is currently partnering with the College of Engineering on a targeted diversity search for a senior-level Engie-Axium endowed chair position in Resilient Energy Systems.
- **Ensure a diverse leadership of SI.** We are committed to recruiting leaders with a diversity of backgrounds and who embrace diversity, inclusion and equity as core goals of SI. We have identified eight dimensions of diversity across which we will seek representation on the Faculty Advisory Board: campus location, college, discipline, gender, position, race/ethnicity, rank and subject matter expertise. We plan to recruit diverse leaders to the External Advisory Board and will seek strong representation of social justice and equality perspectives on both advisory boards and other key committees, including the Sustainability Education and Learning Committee (SELC).
- **Support research on social justice aspects of sustainability**. We are actively cultivating social equality as a key research theme and will seek to grow this research area in the future. For example, SRE has an open search for a junior faculty in the Department of Geography in urban sustainability that emphasizes social justice an area of interest. In addition, we are laying a foundation for future research in this area by working with the Center for Urban and Regional Analysis to develop the Sustainable Columbus Observatory, which will curate data on social, environmental and economic measures of well-being, including inequality measures. The goal is to facilitate research on the sustainability and well-being of the central Ohio region, and to assess how new technologies or changes in policies impact community well-being and equity, including access of underrepresented groups and underserved neighborhoods to basic services, education, and public goods.
- **Create new learning opportunities to involve students from underrepresented minority groups in STEM areas**. We are working with Ohio State Energy Partners and the Institute for Materials Research to develop a $3 million NSF proposal for graduate student training in sustainable energy systems that will include recruitment of female and minority students. In addition, we are working through SELC to support new undergraduate learning programs and activities that integrate sustainability and social justice themes.
- **Recruit and support students from underrepresented groups with an interest in sustainability.** Through its facilitation of the Energy Academic Collaboration Council (EACC), OEE is helping to craft recommendations for the use of Engie-Axium scholarship endowment funds to support recruitment and retention of

underrepresented students interested in sustainability at the undergraduate, graduate and professional levels of education. This aligns with President Drake's access and affordability initiatives.

- **Support outreach and engagement in underserved minority communities**. For example, we are working with the STEAM Factory to develop a postdoctoral research position to expand engagement with central Ohio residents on topics related to energy, sustainability and equity. This will include an emphasis on underserved communities, including the Franklinton community in which the STEAM Factory is located. Other opportunities include partnering with the Diversity, Inclusion, Justice and Education committee in the School of Environment and Natural Resources (co-founded and co-led by SRE DT faculty member) to provide outreach to K-12 students in low socioeconomic neighborhoods with underrepresented minorities to share information about the possibilities for higher education and careers in environment and sustainability areas.
- **Engage underrepresented groups in SI events, networking and other programmatic activities.** As we work to educate and inform all people about the benefits and opportunities of sustainability to reduce social inequities and improve the quality of life for all, we will develop purposeful communications and engagement strategies to involve faculty, staff, and students from underrepresented groups.

Section II: The University Community

A. Faculty, Academic Units and Other Centers

1. Faculty Involvement with SRE/OEE

SRE/OEE has developed a strong initial base of sustainability faculty who are involved at varying levels in SRE/OEE programs and activities. There are three broad types of faculty involvement:

- **SRE DT faculty** are the Discovery Themes faculty hired in partnership with SRE, OAA and the academic units. These faculty have 100% of their TIU in the academic unit, but they are expected to contribute to the mission of SRE by pursuing interdisciplinary research collaborations and scholarship as well as to engage in the broader SRE community and contribute to the broader sustainability mission through teaching and learning, outreach and engagement, or campus stewardship activities.
- **Engaged faculty** are SRE DT faculty and others who have provided leadership or actively participated in SRE/OEE programs as described in Section IC.
- **Informed faculty** are SRE DT faculty and engaged faculty as well as faculty who receive regular communications from OEE or SRE but may not have actively engaged with OEE or SRE programming.

In addition, SRE has a **faculty in residence** who provides thought leadership and support to SRE's interdisciplinary research teams, collaborates with SRE interdisciplinary teams on targeted sponsored projects, and supports the SRE faculty director and other senior SRE scholars on high-impact proposal opportunities.

The involvement of faculty in SRE/OEE programs and activities is notable in terms of both its depth and interdisciplinary breadth ***(*See Appendix I*, List of Informed Faculty*, and Appendix F*, Distribution of Faculty Involved in SRE/OEE)***. For example, there are:

- 27 SRE DT faculty from 16 departments with appointments in the following colleges: Engineering (11), Food, Ag and Environmental Sciences (9), Arts and Sciences (6), Public Affairs (2), Public Health (2) and Business (1).[1]
- 235 engaged faculty from 8 colleges and 41 departments, representing about 19% of the total number of faculty in these departments.
- 471 informed faculty from 12 colleges and 56 departments, representing 54% of the 103 departments cumulatively across these colleges.[2]

2. Criteria for Faculty Membership and Support from Chairs

Faculty involvement with the Sustainability Institute will be comprised of several levels of membership:

a. **Lead faculty** will have primary responsibility for developing the overall direction, goals and strategies for the research and education programs that are led or facilitated by the Sustainability Institute. They will work with the SI directors and staff to develop these programs in collaboration with academic units, centers, offices and external partners to grow and sustain these programs. Lead faculty will represent either significant research or teaching efforts affiliated with SI, specifically: (i) **Research lead faculty** will work with the SI faculty director and research development staff to identify funding opportunities, engage external partners, cultivate highly effective interdisciplinary research teams, develop proposals and manage research; (ii) **Teaching lead faculty** will work with the SI directors and staff to pursue interdisciplinary sustainability curriculum efforts, such as enhancing the coordination of existing curriculum and identifying and developing opportunities for new curricular programs and project-based learning, including campus as a living laboratory and test bed. Faculty leaders will be selected by the Sustainability Institute directors and the Sustainability Faculty Advisory Board (SFAB) (see Section IIIC) on the basis of their established leadership and scholarship in the program area and their willingness and ability to build capacity, networks and relationships in support of the program area. The responsibilities and compensation of each faculty leader will be agreed upon by the Sustainability Institute directors, the home department and the faculty member. Together, this group represents a core part of the faculty leadership of the Institute with a diversity of backgrounds, disciplines and knowledge. Initially we anticipate having 8 faculty leaders: 2 each for 3 research programs and for 1 teaching program. The SFAB will also include several additional members who are not program leaders but who provide leadership to sustainability in other ways, including their role in helping to mentor and evaluate SRE DT faculty.

[1] Four of these positions have joint appointments across two colleges, and therefore are counted twice in these college appointment totals.

[2] All SRE DT faculty are by definition engaged, and all engaged faculty are included in regular communications from either OEE or SRE, and therefore are informed.

b. **Core faculty** are SRE Discovery Themes faculty who were jointly hired by their home department and SRE and continue to be partially supported through the SRE/OAA Discovery Themes funds. With the merger of SRE with OEE and the transition to the Sustainability Institute, these joint appointments will be with their home department and the Sustainability Institute. The promotion and tenure expectations of these faculty are detailed in their Letter of Offer (LOO) and the MOU between SRE/OAA and the home department and remain the same with the transition to the Sustainability Institute. Likewise, the responsibilities that the Sustainability Institute has for supporting these faculty through mentoring, goal setting and other support services, including research and proposal development, remains the same. We anticipate growing the number of regular faculty to 29 next year and that we will reach a maximum of about 32 within the next several years.

c. **Affiliated faculty** are faculty who are engaged in sustainability research, teaching, engagement or campus stewardship activities and who are interested in pursuing interdisciplinary collaboration, research networking, student or community engagement, or related activities that will comprise the core benefits for an affiliated faculty member. Affiliated members will contribute to the mission of the Institute without a formal agreement or compensation. Through their involvement in SI, e.g., as a research team member or a member of an SI-led committee, they will be able to access SI support services as appropriate, e.g., business or proposal development support for interdisciplinary teams or research capacity building through networking events, ideation workshops or communities of practice that meet regularly to discuss research, applications for research seed grant funding, and involvement in developing sustainability teaching and learning programs. Affiliated faculty membership will be determined through an application process. Criteria will include relevance of the research or teaching area to sustainability; alignment with SI's mission and vision, including its interdisciplinary and collaborative approach; and willingness and availability to engage in one or more programs, activities or teams that are led or supported by SI. We currently have 235 engaged faculty, all or some of who could become affiliated faculty. We plan to invite applications from the current set of engaged faculty once SI is established and to launch an open invitation to faculty to submit an online application within the first year. In addition, we plan to develop a faculty database with keywords that will help us to identify additional faculty who may have an interest. We anticipate that many faculty who are not currently part of the SRE/OEE network will become affiliated faculty and that our total number of affiliated faculty will grow to roughly 15-20% of the total number of faculty at the university (given there are roughly 3,000 faculty, this translates into about 450-600 engaged faculty).

d. **Faculty in residence** are faculty who provide thought leadership through varied means, including identifying cutting-edge research areas, developing a research program that includes recruiting a team of interdisciplinary researchers, and contributing compelling research questions to proposal development. Faculty in residence may also facilitate research networks, serve as part of red team reviews, mentor junior faculty, and communicate research findings. These faculty may be tenure-track, clinical or emeritus faculty. The responsibilities and compensation of

each faculty leader will be agreed upon by the Sustainability Institute directors, the home department and the faculty member. We anticipate maintaining one faculty in residence in the first several years of SI with the possibility of expanding in the future.

e. **Informed faculty** are faculty who are broadly interested in sustainability and who wish to be kept informed of sustainability news, including regular updates on sustainability research accomplishments and campus activities. Informed faculty are welcome to attend open events or programs hosted by the Sustainability Institute but aren't expected to be actively engaged in SI programs. We currently have 236 faculty who only receive OEE or SRE communications and are not engaged. We plan to pursue a comprehensive communications strategy and to use our faculty database with keywords to communicate to a larger and broader set of faculty. We anticipate that we may double the number of informed faculty to over 500.

Several department chairs serve in leadership positions for SRE, demonstrating their strong support for SRE/OEE. In addition, the 16 departments that have partnered with SRE to jointly hire and mentor faculty have also demonstrated an ongoing commitment to supporting these faculty and their involvement in SRE. Many of these departments, as well as others, have a number of other faculty who are engaged in SRE/OEE. We have solicited and received expressions of support from many of these department chairs that state their support for the involvement of their faculty in SI (**See Appendix J, *Letters of Support for Faculty Involvement from Department Chairs*).**

3. Academic Partnerships with Units and Other Centers

OEE and SRE have cultivated numerous partnerships with academic units, research centers, offices and programs across the university. These partnerships are an essential foundation of the Sustainability Institute. For example:

a. **Shared investments with academic units through the Discovery Themes:** The core group of SRE DT faculty represent a meaningful and ongoing partnership between SRE and the 16 academic units and 6 colleges. SRE partners with these units to provide a comprehensive mentoring program for these faculty through a cross-unit mentoring team and a set of goals that include interdisciplinary research collaborations and other goals related to teaching, outreach or other scholarly activities (**See Appendix E*, Mentoring and Goal Setting for SRE DT Faculty***). In addition, the SRE faculty director provides a review to each faculty and the department chair as input into the annual review process and provides a letter of evaluation as input into promotion and tenure decisions.

b. **Sustainability Education and Learning Committee:** SRE/OEE leads a university-wide effort to develop sustainability education and learning programs at the undergraduate and graduate levels (**See Appendix C, *SELC – Sustainability Faculty Working Group Goals***). This committee is composed of 15 faculty from seven colleges, including two representatives from the Mansfield regional campus. The committee is working to identify ways to better connect and communicate existing sustainability programs as well as the best opportunities for new curricular programs and for expanding co-curricular programs. The committee collaborates

with OAA and is guided by the Academic Programs Advisory Committee, which is composed of the academic deans of all 15 colleges, including a representative of the regional campuses.

c. **Energy Academic Collaboration Committee:** The EACCis specifically focused on the $150 million academic collaboration component of the Comprehensive Energy Management Project. The EACC is charged with developing recommendations for the Provost that will advance the sustainability-related academic mission of Ohio State through broad, university-wide interaction (**See Appendix K*, EACC Charge*).
d. **Sustainable Columbus Observatory:** SRE/OEE partners with the Center for Regional and Urban Analysis (CURA), faculty in City and Regional Planning and in Geography, and the Translational Data Analytics (TDAI) Institute to develop the Sustainable Columbus Observatory (**See Appendix L*, Sustainable Columbus Observatory***), an online instrument that will provide massive data warehousing and a data portal as well as data processing and an interactive dashboard of sustainability indicators. The instrument will support a community of researchers conducting research on social, environmental, and economic factors related to sustainability in central Ohio with the goal of supporting evidence-based policy and facilitating new forms of convergent sustainability science.
e. **Environmental Professionals Network (EPA):** SRE/OEE partners with the Environmental Professionals Network, developed by the School of Environment and Natural Resources, which brings professionals in the environmental field to campus for weekly seminars and networking with faculty andstudents.
f. **Food, energy, water systems research:** SRE leads research on integrated modeling of FEWS by facilitating interdisciplinary teams of faculty strengths and collaborating with key partners, including the InFACT Discovery Theme and the Byrd Polar and Climate Research Center. This interdisciplinary research program has generated over $3.4 million in external funding from NSF and USDA awarded in 2017-18. (**See Figure 3, *Food-Energy-Water Systems***).

4. Plans for Future Growth

Research: SI will build from this strong base of involved faculty and partnership with academic units and centers to further accelerate and catalyze sustainability research and teaching. A key strategy for expanding faculty involvement and building partnerships is to develop interdisciplinary research programs in targeted areas that build on the past and current efforts and investments that SRE and OEE have made and that leverage existing and potential partnerships with external stakeholders.

On this basis we have identified the following five research program areas:

Our initial goal is to recruit faculty leaders and align efforts with the programs and activities of academic units and other centers in three priority areas:

- ***Healthy land and water systems*** (key partners include the Ohio Sea Grant Program; Water Resources Center; College of Food, Agricultural and Environmental Sciences; College of Engineering). We will align with the ongoing efforts of the CFAES Water Quality Taskforce initiative by facilitating interactions among the community of researchers across the university working at the interface of healthy land and water systems. We will expand engagement of stakeholders in participatory research to guide research questions and data collection and modeling and to translate research findings into policy-relevant information to aid decision makers. We will support research on ecosystem services data collection, modeling and valuation, and decision support tools.
- ***Smart and resilient communities*** (key partners include the Center for Urban and Regional Analysis (CURA); College of Arts and Sciences; City and Regional Planning; Civil, Environmental and Geodetic Engineering; Smart Columbus; STEAM Factory). We will continue to work with CURA and other partners to develop the Sustainable Columbus Observatory and will host several ideation sessions to engage researchers in the types of data collection and research questions the Observatory should support. In addition, we will continue to facilitate the resilience theory and modeling community of practice, which was started in Fall 2018 through the combined efforts of an SRE DT faculty member and SRE's faculty in residence, and will foster additional research areas or projects that may emerge from this group.
- ***Sustainable energy*** (key partners include the Center for Energy Research, Training and Innovation [formerly Subsurface Energy Research Center], College of Engineering, Glenn College of Public Affairs, Ohio State Energy Partners). We will work with these partners to develop strategies for building an interdisciplinary community of researchers at Ohio State engaged in sustainable energy from a diversity of perspectives, including technological innovations, physical and environmental systems, social and behavioral sciences, policy, arts, culture and society. We will identify opportunities for engaging with the Comprehensive Energy Management Project on campus and integrating this research with campus as a living laboratory and test bed.

In addition to recruiting faculty leaders and partnering with other centers and units, we will grow interdisciplinary research in these areas by targeting our business development and proposal development efforts in these areas.

Education: SI will continue to lead and facilitate the work of the Sustainability Education and Learning Committee in developing a framework for sustainability education and learning that can be used to guide existing and new sustainability curriculum development. We will support this goal by recruiting 1-2 faculty leaders who will lead the committee and the development of recommendations for undergraduate sustainability learning programs. We plan to present these recommendations in the form of a report to the Provost and plan to begin implementing some of these recommendations in Spring 2019. In addition, SI is supporting a more coordinated approach to opportunities to engage with campus as a living laboratory and test bed with the goal of reducing the barriers and time costs for instructors who wish to provide these opportunities to students.

B. Involvement with and Support of Staff, Offices, Operations

Over the past 10 years, many Ohio State units have hired staff and/or developed sustainability programming aligned with their other core functions. As sustainability becomes more integrated in our academic and support units, the need for a central "hub" to ensure efficient and effective integration and leverage has grown. A distinguishing feature of the proposed Sustainability Institute will be its focus on engaging our faculty and staff experts in helping Ohio State be a more sustainable organization. This functionality will build on work OEE has been doing for a number of years and will be enhanced with the merger of OEE and SRE. For example:

1. OEE was the convenor of faculty, staff and students on our Local and Sustainable Food Panel, which is on track to deliver a report this December to the Provost on meeting our 40% local and sustainable food goal by 2025. As we move further into implementation, the need for effective coordination and communication between faculty, students and university "business" leaders (in this case primarily University Dining Services and the Wexner Medical Center) will become even more important to achieve long term success.
2. In partnership with Administration and Planning, OEE convened a panel of faculty, staff and students to develop a strategic plan to reach our "ecosystem services" sustainability goal. This goal is primarily focused on land management. A marquee recommendation of this panel was to encourage use of the campus as a living laboratory and test bed for faculty and students to develop sustainability solutions that create more benefits to the university community from different land mangagment practicies (i.e.increasing our tree canopy, reducing maintained acreage and making our soils more productive. Our experiences at Ohio State can then enhance the sustainabile land managemenet practices in other communities.
3. Facilities, Operations and Development (FOD) has begun updating Ohio State's Green Building policy. SI will ensure that the faculty experts we have in green building technology (some recently hired through the SRE discovery themes program) can be

utilized by our professional staff to create more innovative university policy in this area.

4. Ohio State's Transportation and Traffic Management (TTM) has a strong commitment to sustainability. OEE has funded many sustainability enhancements in our campus transportation system. TTM has identified new aspirations for enhancing the sustainable mobility of the campus population that will be benefit from partnering with our academic experts in this area. In essence, SI will be that bridge from our Kinnear road transportation facility to the academy.
5. The size and consumption of resources by the Wexner Medical Center also increases its need to develop more sustainable practices. Some of the WMC sustainability challenges are unique to its mission of providing health care. While WMC has increased its focus on sustainability, SI will help ensure that WMC sustainability connects and integrates with other campus areas.

In addition to helping engage faculty in our operational sustainbility goals, SI also will provide a forum for the sustainability staff throughout multiple Ohio State units (Wexner Medical Center, FOD, Athletics, Business Advancement and Student Life) to connect, collaborate and leverage each other's experiences.

C. Student Education and Engagement

Ohio State has over 80 active student organizations with some focus on sustainability and in many ways, Ohio State's students are driving our sustainability agenda. Undergraduate, graduate and professional students are not only pushing Ohio State to have more sustainable operations, they are seeking more opportunities to grow their sustainability skills and experiences both inside and outside of the classroom.

OEE and SRE have provided strong engagement of students in sustainability activities on campus. For example:

- OEE communicates opportunities—including events, speakers, and co-curricular activities—to students from across campus through a biweekly student newsletter.
- OEE works closely with the Office of Student Life and partners on many co-curricular sustainability-related activities ranging from funding student projects, scholarships, and research to advising the many student groups in the student-led Sustainability Committee. For example, each year, the student-led *Time for Change* week attracts more students and more faculty to a range of events that celebrate the many faces of sustainability on our campus.
- SRE and OEE support the SUSTAINS Learning Community by providing the staff leadership for this program. SUSTAINS launched in 2014 and accepts approximately 40 first- and second-year students per year. This program provides an introductory course for all first-year students in the program during fall semester and offers a mentoring program, professional development, service, and campus and community engagement opportunities via a yearlong calendar of programmatic offerings for its students.

The creation of a Sustainability Institute will send a strong signal to our student body about the university's commitment to sustainability. We hope to remove barriers for students to navigate the many opportunities to grow as sustainability leaders through our support of

curricular and co-curricular development and offerings. SI will support student involvement in driving the sustainability mission of the university in multiple ways. In addition to continuing and expanding the efforts listed above, SI will provide:

- **Centralized support for campus as a living lab:** SI will provide greater coordination and support for students to engage in campus-based research and learning opportunities. Currently the barriers to individual students or student groups engaging in campus sustainability in these ways are high. SI staff will be dedicated to working with campus operations to identify opportunities for student involvement, including greater engagement in research and hands-on student learning projects relating to sustainability such as ecosystem services, energy consumption and food waste management on campus.
- **Greater opportunities for project-based and experiential learning:** SI will serve as a clearinghouse for student opportunities to engage with communities or businesses, e.g., through internships, externships or other types of project-based learning. In addition, employers are keenly interested in workforce development, training and recruitment. SI will serve as a conduit for these kinds of interactions and opportunities and will seek to cultivate these through external partnerships and relationship building.
- **New and existing curricular programs:** SI will provide leadership and new opportunities for student involvement in the development and creation of new curricular programs related to sustainability and resilience. SRE served as the catalyst and leader of the new Sustainability Learning and Education Committee (SELC), a faculty committee dedicated to developing curricular opportunities in sustainability at all levels of the institution and across disciplinary boundaries. The committee's leadership is staffed by SRE/OEE, and SI will continue to provide this support and leadership in the future. This committee will provide recommendations on how to improve and expand communication about our existing academic programs; consider possibilities for new undergraduate, graduate, certificate programs and degree enhancements; and will serve as a faculty advisory group for the proposed GE sustainability theme. In so doing, SI will provide ample opportunities for students to be involved in the development of these existing and new programs, including through seeking student input into the committee's recommendations and working with students to assess their interests and priorities for educational programs and learning opportunities.
- **Academic Collaboration with ENGIE-Axium:** Ohio State's new private public energy partnership with ENGIE-Axium creates innovative opportunities for students to engage with a global energy leader. SI will help ensure that student opportunities ranging from internships to scholarships to participation in the new Energy Advancement and Innovation Center are fully maximized.

Section III: Administration

This section presents the proposed structure, directors' responsibilities, key functions and oversight plans for SI.

A. Overview

Our proposed structure recognizes that many Ohio State faculty, academic units, centers, programs and support units address specific topics related to sustainability. Rather than duplicating efforts, SI will complement and strengthen these efforts by being a university-wide platform for sustainability that supports, connects and integrates people, activities and knowledge from across all units of the university (**See Figure 1, *Principal Functions of the Sustainability Institute***).

SI will build this university-wide platform by providing support services and expertise that complement the services provided by existing units in ways that increase the university's overall efficiency and effectiveness. For example, OEE communications staff have well-established relationships with all of the college communication units and regularly collaborate with these units in ways that augment their capacity to promote the sustainability efforts of faculty, staff and students. In addition, OEE has an established role as a strategic partner with Administration and Planning, Business and Finance, and Student Life's many efforts to meet our sustainability goals around reducing resource consumption and waste. SI will pursue an analogous approach to supporting, catalyzing and promoting sustainability across the university enterprise, including in curriculum coordination and development, student co-curricular activities, research and proposal development, campus stewardship, community outreach and relationship building, and communications and marketing. In all cases, SI staff will work in partnership with the appropriate faculty, staff and students that are already engaged in units across the university to add value and multiply impact.

This is a highly networked model of organization that relies on continual communication, relationship building and collaboration. SI's organizational structure (**See Figure 4, *Current and Planned Staffing for the Sustainability Institute***) is designed to support this through a highly effective and collaborative professional staff that collectively provides needed expertise in key areas. In addition, we will adopt a model in which staff are largely incentivized to bring resources and recognition not to SI, but instead to our partnering units and to the university as a whole. This will enable SI to achieve its essential strategy of adding value in ways that complement and augment existing efforts.

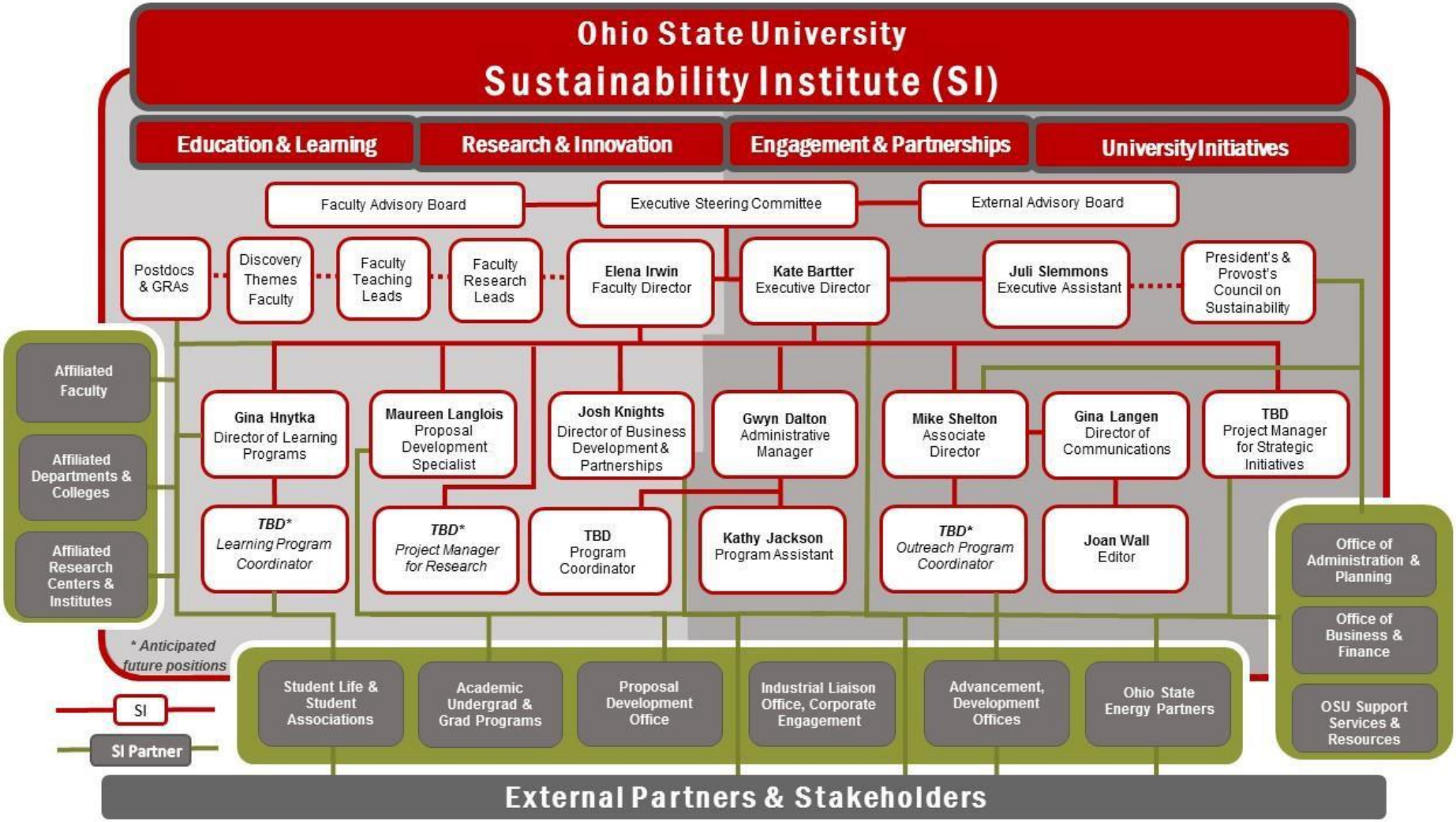


Figure 4: Current and Planned Staffing for the Sustainability Institute

B. Responsibilities of Directors and Staff

Executive Director and Faculty Director

SI will be co-directed by a faculty director and executive director. SRE Discovery Theme Program Faculty Director Elena Irwin will transition into the SI Faculty Director role and OEE Director Kate Bartter will become the SI Executive Director (**See Appendix M, *Biographical Sketches*)**. SI leadership will also be shared across a larger group of lead faculty and faculty in residence, as described in Section IIA.

The Executive Director (ED) and Faculty Director (FD) will jointly be responsible for developing the strategic priorities and metrics of success for SI. Each co-lead will have clearly defined roles and responsibilities within the organization. Each will back up the other in all areas.

The ED will manage university sustainability initiatives, such as the academic collaboration component of the Comprehensive Energy Management Project, and will have primary responsibility over building effective external sustainability partnerships. In addition, the ED will represent OAA on key sustainability commitments such as the Energy Academic Collaboration Council and President and Provost's Council on Sustainability. The ED also will coordinate with other senior non-academic leaders in departments such as Corporate Engagement, Industry Liaison Office, Administration and Planning, Business and Finance and Student Life on university sustainability initiatives and partnerships as appropriate, including retaining her service on Ohio State's government affairs team. The ED will have primary management of non-faculty SI staff and will provide leadership and support to staff engaged in sustainability in non-SI units at Ohio State.

The FD will have primary responsibility for developing and nurturing SI's academic activities including interdisciplinary research programs, curriculum development and other scholarly activities. The FD will be the primary point of contact for SI faculty research and teaching leads and will work with them to build cross-college interdisciplinary teams and programs and pursue external funding to support SI programs and activities. The FD will be a compelling advocate and energetic spokesperson for SI and sustainability at Ohio State. The FD will partner with academic units and college leaders to recruit, retain and mentor Discovery Themes faculty and will be responsible for providing written evaluative feedback regarding the annual reviews and promotion and tenure of these faculty.

Institute Staff

A key distinguishing feature enabling SI to serve as a platform of support for faculty, students and staff will be its professional staff to support research and business development, education and learning programs, university initiatives, community engagement and communications. Over the next five years, SI is expected to add 3.5 FTE program staff for a total of 14.5 FTEs to support growth in Ohio State's sustainability research, teaching, outreach and campus operational efforts. Additional staff will be the result of growth or development of initiatives led by the Sustainability Institute.

Internal and External Collaboration

By pursuing a highly networked organizational model, SI will serve as Ohio State's sustainability hub. It will connect and collaborate with other academic programs, centers and institutions that have a central or partial mission focused on sustainability and with other campus support units focused on sustainability ranging from Energy Management and Sustainability in Student Life to Energy Services and Sustainability in Facilities, Operation and Development. It will also serve as a connector for external stakeholders and organizations engaged in sustainability and interested in collaborating with Ohio State.

C. Reporting Lines and Oversight

SI will be a unit reporting to the Office of Academic Affairs. This structure largely maintains the current reporting relationship of both OEE and SRE. The Executive Vice President and Provost and Senior Vice President of Research will designate responsible parties to provide day-to-day support and supervisory functions to SI. The Faculty Director will have a dual report to the designee identified by the Senior Vice President for the Office of Research.

Given the operational reality that issues of sustainability weave throughout the enterprise of Ohio State, four groups will provide oversight and advice and ensure effective, efficient collaboration on this topic within the university:

1. Sustainability Executive Steering Committee

A Sustainability Executive Steering Committee (SESC) will provide strategic advice to the Provost and Executive Vice President on the overall mission and strategies for SI. The SESC shall meet at least twice a year. Initial membership of the SESC will be as follows:

a. Vice Provost for Strategic Planning and Implementation, Chair
b. Senior Vice President for Research
c. Dean, College of Engineering
d. Vice President for Agricultural Administration and Dean, College of Food, Agriculture and Environmental Sciences
e. Executive Dean, College of Arts and Science, or his/her Divisional Dean designee
f. Dean at large (rotating from College of Business, Public Health, Public Affairs, Law or a regional campus), chosen by the Provost
g. Senior Vice President for Administration and Planning
h. Vice President for Advancement or his/her designee
i. Senior Vice President for Student Life

2. Sustainability Faculty Advisory Board

The SI Faculty Director will chair a Sustainability Faculty Advisory Board (SFAB) composed of approximately 12 faculty representing a diversity of colleges and disciplines that are relevant to sustainability. The overall purpose of the SFAB (**See Appendix N, *Draft Charter for the Sustainability Institute Faculty Advisory Board***) is to advise on the goals, strategies and implementation of SI's academic mission, including interdisciplinary research program areas, faculty recruitment, curriculum development and student learning programs and to

advise on the successful integration of academic and non-academic activities, e.g. faculty and student research with operational sustainability goals. Members of the SFAB will include one of the faculty leads from each of the SI program areas. Additional faculty will be selected to complement these faculty leads in terms of their backgrounds, disciplines and subject matter expertise. These faculty will provide leadership in other ways, including providing assistance to the Faculty Director in mentoring and evaluating the SRE DT faculty. Initially these additional faculty members will be selected from among the faculty currently serving on the SRE Leadership Team. In the future, potential members will be invited to apply or may be nominated. At least 1-2 of these faculty should be regular faculty of SI that hold joint appointments with academic units and SI. The Faculty Director will seek input on the selection of members from the existing SFAB and the ED and will recommend members to the Sustainability Executive Steering Committee for their approval. The SFAB will meet at least once each semester. Appointments will be made on the basis of a three-year term such that every year a quarter of the SFAB is rotating off and new members are rotating on.

3. President and Provost's Council on Sustainability

The SI Executive Director will chair the President and Provost's Council on Sustainability (PPCS) and an important function of SI will be to manage the Ohio State Sustainability Fund.

4. Sustainability External Advisory Board (SEAB)

Finally, recognizing Ohio State's existing commitment to partner with external entities in the achievement of the University Sustainability Goals, the Faculty Director and Executive Director will develop a Sustainability External Advisory Board (SEAB). The SEAB will meet once a year and be chaired by the Executive Director. Membership of the SEAB will be developed with input and engagement from the SESC and SFAB and will draw from a wide array of private and public sector organizations, including local, state and national industry partners, government agencies and non-profit organizations.

D. Pattern of Administration

This Administration section of the Institute proposal contains much of the structure and roles for faculty as well as staff. A formal POA will be developed and submitted for approval within a year of being designated a university-level institute.

Section IV. Budget and Funding

Since 2012, Ohio State has invested over $10 million in OEE and over $11 million in SRE. By bringing these two foundational programs together, we send a signal both externally and internally that Ohio State is committed to sustainability and the smart, efficient use of our valuable resources.

This section presents a detailed first-year operating budget, a five-year budget projection, an analysis of funding sources, and information about facility and equipment needs. This aligns with the recent funding history of both OEE and SRE of having the university center largely fund the operational costs of both entities.

The budget proposed for SI builds on three foundational elements:

- The $1.5 million per year that Ohio State has invested in the Office of Energy and Environment since 2012
- The $1.75 million per year investment in new DT faculty salaries, along with $5.9 million in one-time cash for new faculty start up, and a total of $2.5 million in program budget to support SRE programs and staff in the first five years
- The need to increase research and programmatic **capacity** to the Ohio State community of faculty, staff and students engaged in sustainability *if* we are going to effectively nurture the significant number of new faculty hires in sustainability (over 50) enabled by the Discovery Theme program and leverage the substantial expertise among existing faculty (over 500) working in this space to meet our aspirations to be a global leader in higher education with a truly holistic approach to sustainability.

A. Expected Budget for First Year

The following table shows the proposed budget for FY 2019, which reflects a beginning balance that is carried over from the FY 2018 budgets of OEE and SRE.

SUSTAINABILITY INSTITUTE AT OHIO STATE (SI) Financial Statement: Summary Fiscal Year 2019					
	SI Operational	**Research Investment Fund**	**Ohio State Sustainability Fund**	**Development Funds**	**Totals**
Beginning Balance	384,261	658,131	247,256	10,155	1,289,648
INCOME SOURCES:					
OAA Allocation	778,000				778,000
OR Allocation	-				-
SRE DT Allocation	500,000				500,000
SRE DT Ops	213,120				213,120
OEE MOU FY18 payments	169,243				
Gifts				120	120
Total Operating Revenue	1,660,363	-	-	120	1,660,483
					-
Sustainability Funding			874,011		874,011
					-
Total Other Income	-	-	874,011	-	874,011
Total Income	**1,660,363**	**-**	**874,011**	**120**	**2,534,494**
EXPENSES:					
OPERATIONS					
Personnel: Salary & Fringe	1,535,381	-	-	-	1,535,381
Operations	100,000	-		-	100,000
Marketing/Communications	50,000	-	-	-	50,000
Outreach/Engagements	60,000	-	-	-	60,000
Outreach: OEP	10,000	-	-	-	10,000
Business Development	20,000				20,000
TEACHING & LEARNING					
Student Programming	30,000	-	-	-	30,000
New Course Development	50,000		-	-	50,000
Faculty Teaching Leads (2@$15k)	30,000	-	-	-	30,000
RESEARCH INVESTMENT					
Seed Grants		247,000	-	-	247,000
Targeted Investments		100,000	-	-	100,000
Undergrad Student Research Support		50,000	-	-	50,000
GRA or Post Doctoral Researchers		150,000	-	-	150,000
Focus Area Investments		150,000	-	-	150,000
Faculty Co-Leads: 3 Rsch Focus Areas (2per area @ $15k each)		90,000	-	-	90,000
Projects Supported, Sustainability Fund		-	1,110,739	-	1,110,739
Total Expenses	1,885,381	787,000	1,110,739	-	3,783,120
Net Year to Date	(225,018)	(787,000)	(236,728)	120	(1,248,746)
Adjustments	-	-	-	-	-
Total Net	**159,242**	**(128,869)**	**10,529**	**10,275**	**40,902**
YEAR-END BALANCE:					
+ Total Net	159,242	(128,869)	10,529	10,275	51,177
+ Projected Income	-	-	-	-	-
- Projected Expenses	-	-	-	-	-
- Restricted Funds	-	-	10,529	10,275	20,804
Projected 6/19 Balance	**159,242**	**(128,869)**	**-**	**-**	**30,374**

B. Five-Year Budget

We have proposed a five-year budget that aligns human and financial resources with SI's mission and five core goals (outlined in Section I):

1. Combine the current OEE and SRE staff (11 FTEs) and add 3.5 new FTEs to SI in targeted areas. These additional staff are phased in over a three- to five-year period.
2. Maintain the appropriate support structures to assist and mentor the approximately 30 SRE DT faculty and to provide them and their chairs with timely and regular feedback regarding their progress and contributions to the SI mission.
3. Provide annual compensation and seed funding to research faculty leads to support research clusters in five targeted areas phased in over five years; provide compensation to two teaching faculty leads to lead and support the work of SELC.
4. Continue to manage the Ohio State Sustainability Fund (funded by the OSEP $15 million sustainability endowment)
5. Share annual costs of GRAs and/or postdocs to support interdisciplinary research in key sustainability knowledge domains that can be leveraged across focus areas (e.g., in integrated systems modeling, behavioral science)
6. Provide $100,000 annually in targeted investments for research and teaching, such as engaging researchers in programs that support campus as a living laboratory and test bed
7. Manage a $125,000 annual seed grant program to increase the breadth of interdisciplinary sustainability research by supporting projects outside of the research focus areas
8. Increase investment in student learning (curricular and co-curricular) from the current $95,000 per year to over $350,000 annually in Year 5

Five-Year Budget Summary

To implement the strategies needed to achieve the SI mission and the measureable outcomes articulated in Section V, we have developed a five-year budget plan that reflects the need to phase in new staff and programming over the next five years. The following is a summary of our five-year budget plan.

***SUSTAINABILITY INSTITUTE**

The Ohio State University
5 - Year Budget Projection

	FY2019	FY2020	FY2021	FY2022	FY2023
Beginning Equity	**384,261**	**30,374**	**-1,324,235**	**-3,075,471**	**-4,806,885**
Sources:					
OAA Allocation (OEE)	778,000	778,000	778,000	778,000	778,000
OAA Allocation (SRE)	500,000	500,000	500,000	500,000	500,000
DIR Allocation	213,120	219,514	226,099	232,882	239,868
Research Investment	658,131	-	-	-	-
Sustainability Fund	643,000	668,720	695,469	723,288	752,219
MOU FY18: OEE/COAS	169,243	-	-	-	-
Total Sources	**2,961,494**	**2,166,234**	**2,199,568**	**2,234,170**	**2,270,087**
Uses:					
Administration Costs:	**1,775,381**	**1,991,722**	**2,274,374**	**2,230,605**	**2,288,523**
Personnel : Salary & Fringe	1,535,381	1,741,722	1,874,374	1,930,605	1,988,523
Operations *	100,000	100,000	250,000	150,000	150,000
Marketing/Communications	50,000	50,000	50,000	50,000	50,000
Outreach/Engagement	70,000	80,000	80,000	80,000	80,000
Business Development	20,000	20,000	20,000	20,000	20,000
Teaching & Learning	**110,000**	**110,900**	**121,827**	**147,782**	**148,765**
Student Programming	30,000	30,000	40,000	40,000	40,000
New Course Development	50,000	50,000	50,000	75,000	75,000
Faculty Teaching Leads	30,000	30,900	31,827	32,782	33,765
Research Investment	**787,000**	**749,500**	**859,135**	**863,909**	**893,826**
Seed Grants	247,000	125,000	125,000	125,000	125,000
Targeted Investments	100,000	100,000	125,000	125,000	150,000
GRA/Post Doctoral Researcher	150,000	154,500	159,135	163,909	168,826
Focus Area Investments	150,000	200,000	250,000	250,000	250,000
Undergrad Student Research	50,000	50,000	50,000	50,000	50,000
Faculty Research Leads	90,000	120,000	150,000	150,000	150,000
Ohio State Sustainability Fund	**643,000**	**668,720**	**695,469**	**723,288**	**752,219**
Supported Projects	643,000	668,720	695,469	723,288	752,219
Total Uses	**3,315,381**	**3,520,842**	**3,950,805**	**3,965,584**	**4,083,334**
Margin	-353,887	-1,354,609	-1,751,236	-1,731,414	-1,813,246
Ending Equity	**30,374**	**-1,324,235**	**-3,075,471**	**-4,806,885**	**-6,620,131**

	FY2019	FY2020	FY2021	FY2022	FY2023
Adjusted Projected Ending Equity	*30,374*	*-1,324,235*	*-1,575,471*	*-1,656,885*	*-1,720,131*
Estimated Funding Needs per Fiscal Year	-	*1,500,000*	*1,650,000*	*1,750,000*	*1,800,000*
Adjusted Year-End Projections with additional funding	*30,374*	*175,765*	*74,529*	*93,115*	*79,869*

C. Additional Budget Highlights

1. Resourcing SI

Given the many academic and support units engaged in sustainability, a central hub that can build and maintain networks of communication and coordination and facilitate ways to integrate and leverage these distributed resources is necessary. For this reason, it makes administrative sense to fund SI centrally. The Provost and Executive Vice President plays a unique role in crossing academic and support units. Hence, we expect SI to be funded primarily by the Office of Academic Affairs, with the Office of Research providing some additional funding to support SI's research mission. Over time, we expect to supplant central funding support with an increasing share of external funding. However, we also anticipate that a substantial portion of the external resources that SI will generate will flow to other units in support of our shared sustainability mission.

2. Indirect Costs

With 26 faculty hires to date, SRE has nearly exhausted the faculty hiring resources provided through the Discovery Themes Initiative. Per the Discovery Themes Administrative Guidelines (April 2015) we expect that OAA will use a share of IDC generated by these faculty to offset the OAA investment in SI. We also acknowledge that there are ongoing conversations about the financial model that OAA will follow to sustain the Discovery Theme investments, and that the use of the IDC generated by these faculty will be determined by these discussions.

3. External Funding

In July of 2018, OEE and SRE partnered to hire a professional staff person focused on securing external resources. It is important to note, however, that the primary responsibilities for our Director of Business and Development and Partnerships is to bring in external resources for the entire community of faculty, staff and students working on sustainability at Ohio State, not for the SI unit. However, a secondary priority will be to work with Ohio State Advancement to cultivate a major named gift for the Institute (**See Appendix O, *Sustainability Endowments at Academic Institutions***).

4. One-time costs

The only major one-time cost we have projected is that associated with a needed redesign of our current office space. This is necessary to accommodate adequate office space for the combined current OEE and SRE staff along with the projected 3.5 new FTEs.

5. Recurring costs

OAA has committed to cover the recurring costs of $1.4 million for the SRE Discovery Themes faculty. The 6 colleges and 16 departments that have partnered with SRE to-date

are providing a match of the recurring funding for salary and benefits of these faculty hires. Other recurring costs for professional staff have been noted above.

D. Equipment, Space and Facilities

OEE and SRE are already co-located in Smith Laboratory in space controlled by the Office of Energy and Environment and the Office of Academic Affairs. We are committed to a collaborative, open environment and are currently developing plans to accommodate all SI staff in this existing space. However, we are very limited in space in which the many other contributors to sustainability at Ohio State can collaborate. We would like to explore the possibility of moving this team into Energy Advancement and Innovation Center being planned through our partnership with ENGIE-Axium to enable more collaboration with more units. However, if feasible this opportunity is not likely to avail itself within the first three years.

Section V: Evaluative Criteria and Benchmarks

The following table highlights the key goals, objectives and measurable outcomes that SRE and OEE have developed as part of a strategic plan (plan available upon request). Specific annual targets will be developed and tracked annually to evaluate SI's progress and success.

Objective	Measurable Outcomes
GOAL 1: Establish Ohio State as a leading public institution of sustainability research and applications that engage with communities to provide innovative technology and policy solutions to local, regional and global challenges.	
1.1 Cultivate faculty leadership in key sustainability research program areas	• No. faculty co-leads for each program area • Diversity of faculty co-lead group (discipline, state of career, college, gender) • External recognition of leading faculty in sustainability research areas
1.2 Develop and execute research development strategies for targeted program areas	• No. & diversity of faculty engaged in developing strategies • Business development team supporting priority program areas, with PDO and other internal partners

Objective	Measurable Outcomes
1.3 Build the capacity of research teams, faculty, staff, students, and academic units engaged in interdisciplinary sustainability research	• No. research collaborations across DT programs, centers, or academic units supported by SI • Degree of interdisciplinarity of these collaborations • No. joint programs or initiatives w other programs • No. & diversity of SRE DT faculty hired • No. & diversity of faculty mentors • No. & amount of seed grants awarded • No. research networking events (co)sponsored by SI • No. & diversity of attendees
1.4 Build networks with external partners to increase opportunities for co-production of research with stakeholders	• No. funded research projects with participatory component • No. representatives from external organizations serving on research advisory teams • No. "in residence" non-academic experts co-located with OSU researchers
GOAL 2: Educate and empower Ohio State students to become leaders, professionals and engaged citizens in solving societal issues related to environment, sustainability and resilience.	
2.1 Coordinate and enhance curricular programs in sustainability and resilience studies	• No. & diversity of faculty engaged in teaching sustainability • No. team taught interdisciplinary courses • No. & diversity of faculty or academic units engaged in developing sustainability education • No. new courses in sustainability or resilience • No. & diversity of students enrolled in sustainability courses • No. courses incorporating elements of sustainability on campus • No. courses engaging community stakeholders
2.2 Coordinate and enhance co-curricular programs and opportunities related to sustainability	• No. & diversity of students engaged in sustainability student organization, learning communities, activities • No. student-led projects & activities addressing sustainability on campus or in communities

Objective	Measurable Outcomes
GOAL 3: Accelerate campus sustainability progress by leveraging Ohio State expertise to advise on the enhanced management of campus facilities, resources and ecosystem services and to validate innovative practices using the campus as a living laboratory and test bed.	
3.1 Provide leadership and support to the broad array of campus units focused on operational sustainability challenges and opportunities	• Annual progress on meeting university resource stewardship sustainability goals (purchasing, including sustainable food; transportation, water use, energy use and land management) • No. of new sustainability partnerships and programs developed in other Ohio State units: A&P, B&F and Student Life • Ohio State ranking in national sustainability scorecards (AASHE Stars, Cool Schools etc…)
3.2 Engage faculty and students in using campus as a living laboratory for research and teaching, resulting in insights for sustainable campus living, operations and management	• Development of a strategic plan and programming that engages faculty in ecosystem management on campus • No. classes and programs using the physical campus as a living laboratory and test bed for research and/or teaching • Sustained faculty and student engagement in new campus local and sustainable food purchasing program
GOAL 4: Grow the resources available to Ohio State academic units, centers and programs to further develop and sustain innovative research, teaching, outreach and engagement related to sustainability and resilience topics.	
4.1 Secure significant external investments	• No. & amount proposals submitted by SI supported teams; with SRE DT faculty; by SRE DT faculty as PI or co-PI • No. & amount proposals funded; by type of funding sources • No. external relationships with corporations & foundations • No. & amount of research contracts with industry sponsors • No. & amount of philanthropic gifts • No. & amount of external funding secured for sustainability-related teaching and learning programs • No. & amount of external funding secured for external partnerships that use the Ohio State campus as a living laboratory and test bed for sustainability innovation
4.2 Consolidate and enhance program support for research, teaching, outreach and engagement on sustainability and resilience topics	• Implementation of new Ohio State model for funding sustainability related student research and projects across multiple campus units • No. of effective post-award project management services delivered to faculty, students and staff

Objective	Measurable Outcomes
GOAL 5: Promote an inclusive culture of sustainability at Ohio State by raising awareness and spreading an ethic of sustainability across the university enterprise, engaging with partners in local communities and around the world, and bringing a greater diversity of people and knowledge to Ohio State.	
5.1 Raise Ohio State's visibility as a leader in sustainability scholarship and campus activities	• No. & prestige of scholarly recognitions & awards for faculty, students, staff working in sustainability research areas • Institutional rankings and recognition of research or teaching excellence in sustainability • Institutional ratings of campus sustainability, e.g., by ASSHE STARS • Development and implementation of on-line system to allow the campus community to track measurable progress on university sustainability goals • No. & prestige of earned media state, national and global sustainability stories • Measurable annual progress of sustainability awareness/literacy by faculty, staff and students • Increased attendance at sustainability related campus events (Time for Change Week, seminars, conferences, DT lecture series, etc.)
5.2 Provide leadership and support for sustainability-related programs, projects and activities	• Diversity of campus units and measurable success of sustainability projects funded by the Ohio State Sustainability Fund • Active participation by senior leaders in the President and Provost's Council on Sustainability • Effectiveness and leverage of the academic collaboration component of the Comprehensive Energy Management Project ○ No. satisfied student interns ○ Productivity of new faculty hires ○ No. scholarships and quality of new students rewarded ○ No. new external partnerships leveraged by ENGIE-Axium partnership ○ Impact of philanthropic contributions ○ Development of new energy innovation center on campus • No. partnerships and activities leveraged by Ohio State's participation in University Climate Coalition • No. Ohio State faculty actively engaged with the Smart Columbus partnership

Objective	Measurable Outcomes
5.3 Build partnerships with external stakeholders, including private companies, public agencies, communities and non-profit organizations	• No. active relationships with private companies • No. active Ohio State sustainability partnerships with the NGO community • No. collaborative sustainability programs with government agencies (Ohio EPA, ODNR, DOE, USDA, etc.) • No. sustainability-related local partnerships (MORPC, City of Columbus, Columbus Partnership, etc.) • No. Ohio State faculty-led policy briefings for state and federal legislators

Section VI: Letters of Support for Sustainability Institute at Ohio State

Name	Title
Michael Bisesi	Senior Associate Dean, College of Public Health
Chris Boone	Dean and Professor, School of Sustainability, Arizona State University
Jan Box Steffensmeier	Interim Executive Dean and Vice Provost, College of Arts and Sciences
Dan Brown	Corkery Family Director and Professor, School of Environmental and Forest Sciences, University of Washington
Trevor Brown	Dean, John Glenn College of Public Affairs
Molly Calhoun	Associate Vice President, Office of Student Life
Tim Carter	President, Second Nature
Casey Hoy and Brian Snyder	Faculty Director and Executive Director, InFACT
Jay Kasey	Senior Vice President, Administration and Planning
Cathann Kress	Vice President and Agricultural Administration and Dean, College of Food, Agricultural and Environmental Sciences
William Murdock	Executive Director, Mid-Ohio Regional Planning Commission
Steve Ringel and Jay Sayre	Executive Director and Director of Innovation, IMR
Matthew Saltzsman	Professor and Director, School of Earth Sciences
Jeff Sharp	Director and Professor, School of Environment and Natural Resources
Serdar Tufekci	CEO, Ohio State Energy Partners LLC
Dave Williams	Executive Dean of the Professional Colleges, Dean of the College of Engineering
Mike Wiseman	Associate Chief Advisor, Honda North America, Inc.

The Ohio State University College of Public Health

Michael S. Bisesi, PhD, REHS, CIH
Senior Associate Dean and Director, Academic Affairs
Professor and Interim Chair, Environmental Health Sciences
(614) 247-8290 bisesi.12@osu.edu

September 29, 2018

Elena Irwin
Director, Sustainable and Resilient Economy DTI
Ohio State University

Kate Bartter
Director, Office of Energy and Environment
Ohio State University

Dear Elena and Kate,

I am writing to express my strong support to merge the respective efforts and activities from the current Sustainable and Resilient Economy (SRE) initiative and the Office for Energy and Environment (OEE) to establish the Sustainability Institute at Ohio State. The College of Public Health via its Division of Environmental Health Sciences looks forward to continued and expanded involvement.

Our College already has a strong relationship with SRE and OEE. We have partnered with SRE to hire outstanding Discovery Theme faculty members, Mark Weir and Karen Dannemiller, and have other faculty who are involved with SRE and/or OEE working to advance sustainability research, teaching, engagement or campus stewardship. This involvement includes myself who serves on the SRE Leadership Team, the Sustainability Education and Learning Committee, and, the CERTAIN (formerly SERC) Faculty Advisory Committee, plus, Jiyoung Lee who serves as an SRE mentor.

I believe that the Sustainability Institute can benefit these and other faculty members by continuing to build a more connected and coordinated approach to interdisciplinary collaboration, and, leverage and grow resources to support sustainability research, teaching, and applications. I support the involvement of my faculty from the College, especially from the Division of Environmental Health Sciences, in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Michael S. Bisesi
Senior Associate Dean and Director of Academic Affairs
Interim Chair and Professor, Division of Environmental Health Sciences
College of Public Health

cc. Karen Dannemiller
Jiyoung Lee
Mark Weir

School of Sustainability
Arizona State University

September 16, 2018

Elena Irwin, Faculty Director
Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Dear Elena and Kate,

On behalf of Arizona State University and ASU's School of Sustainability, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State.

Your carefully and thoughtfully designed Sustainability Institute will enable Ohio State to transcend disciplinary boundaries to inform, conceive, and generate real-world solutions, the fundamental purpose of sustainability programs. Here at Arizona State University, our Julie Ann Wrigley Global Institute of Sustainability is the hub of sustainability initiatives. The School of Sustainability that I lead is the first comprehensive degree-granting program of its kind in the United States, with a focus on finding real-world solutions to global environmental, economic, and social challenges.

Similar to the plans for the OSU Sustainability Institute, we have created a university-wide network of sustainability scientists and scholars who now number more than 500 and are drawn from all colleges at ASU. Our scholars are organized around the 17 United Nations Sustainable Development goals and the explicit mission-orientation of these far reaching and critical objectives.

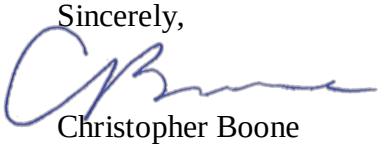
I am proud of the successes we have achieved at ASU and look forward to working with you and your colleagues at OSU to advance our mutual sustainability goals. Having an institute to guide sustainability efforts across all facets of the university, and branching into the local and even world communities, has enabled ASU to:

- Create a student consulting nonprofit organization
- Markedly increase sustainability enrollment (2,500 students are studying in sustainability programs at ASU)
- Host resilience and sustainability workshops for executive and professional education
- Create the Sustainable Cities Network that allows students and faculty work on projects that make cities across the state better places to live
- Develop experiential learning in a desert laboratory
- Support and promote the work of superb students and faculty

- Solve sustainability problems by working with community and industry on projects such as The Sustainability Consortium, making consumer products more sustainable and a partnership with Hawai'i Green Growth to plan for system-wide sustainability in a state with intense challenges
- Promote ASU and national and international sustainability thought leadership
- For other achievements, see: https://issuu.com/asusustainability/docs/2017_sustainability_at_asu_highligh/6)

ASU is pleased to support the Sustainability Institute and eager to work with you to further our joint mission as large public institutions leading the way in developing innovative solutions that achieve a more sustainable, resilient and inclusive society. I am personally committed to assisting you in any way I can to launch your Sustainability Institute. For us to meet ever growing global challenges, we need the strength and expertise of excellent institutions like Ohio State to fully engage in sustainability solutions.

Sincerely,



Christopher Boone
Dean and Professor
School of Sustainability
Arizona State University
cgboone@asu.edu
(480) 965-2236

THE OHIO STATE UNIVERSITY

College of Arts and Sciences

186 University Hall
230 N Oval Mall
Columbus, OH 43210-1321

614-292-1667 Phone
614-292-8666 Fax

artsandsciences.osu.edu

September 18, 2018

Elena Irwin, Faculty Director
Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Dear Elena and Kate,

On behalf of the College of Arts and Sciences (ASC), I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State.

With over 150 faculty conducting research in energy, environment and/or sustainability and numerous academic units and centers advancing sustainability knowledge, ASC welcomes the opportunity the Sustainability Institute will provide to coalesce efforts in education, research and engagement to find practical solutions with other disciplines across the university.

Our faculty, academic units and centers have benefited from both the Sustainable and Resilient Economy Discovery Theme program as well as the research collaborations, grant assistance and outreach activities of the Office of Energy and Environment. Of particular note:

- ASC partnered with SRE on a total of six new SRE DT faculty hires in four of our academic units, and we plan to pursue a seventh hire this year or next. The faculty bring key disciplinary knowledge and interdisciplinary research experience in the areas of human-natural systems, resilience theory and modeling, energy generation, sustainable resources, urban sustainability, environmental history, ethics, and well-being.

- ASC has had substantive involvement in the $150 million academic collaboration with ENGIE-Axium resulting from the Comprehensive Energy Management Project, including faculty involvement in the Energy Academic Collaboration Committee (EACC) that is providing recommendations for the investments in endowed chairs, student fellowship programs, and philanthropic projects.

- ASC faculty are pursuing exciting new research programs with SRE/OEE support and involvement, including the Sustainable Columbus Observatory project led by the Center for Urban and Regional Analysis and the Blue Empires documentary series on world

water issues led by SRE DT and affiliated faculty in the Department of History. In addition, ASC centers including the Byrd Polar and Climate Research Center and the Subsurface Energy Research Center have benefited from past support from OEE and will benefit in the future from the faculty networks, research support and external engagement that can be expanded through their partnerships with the Sustainability Institute.

- Over 70 ASC faculty across 13 departments and three divisions are engaged with SRE or OEE. Many have provided strong leadership to sustainability efforts at Ohio State, including faculty who have participated in the creation and implementation of the university's sustainability goals and served in leadership positions with the SRE leadership team, SRE/OEE sustainability education and learning committee, and working groups that are advancing campus sustainability goals.

The proposed Sustainability Institute aligns very well with the College's goals of boosting research scholarship and elevating teaching and learning programs, including interdisciplinary scholarship and academic programs, and expanding community support and involvement to address societal challenges. The College is pleased to support the Sustainability Institute and eager to watch the university further its work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Respectfully yours,

Janet M. Box-Steffensmeier
Interim Executive Dean and Vice Provost
steffensmeier.2@osu.edu

SCHOOL OF ENVIRONMENTAL AND FOREST SCIENCES
UNIVERSITY of WASHINGTON
College of the Environment

September 17, 2018

Elena Irwin, Faculty Director
Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Dear Elena and Kate:

I have reviewed the proposal for the Sustainability Institute at the Ohio State University and am pleased to express my strong support based on my experience as interim dean at the School of Environment and Sustainability at the University of Michigan and now as director of the School of Environmental and Forest Sciences in the College of the Environment at University of Washington. Having observed the tremendous opportunities available through development of strong institutional collaboration on education, research, and practice of sustainability, I see great potential in the institute you are proposing.

Creating a Sustainability Institute will enable Ohio State to better support its students and faculty in finding solutions to improve the well-being of not only your campus but also communities on a local and global scale. My experience suggests that sustainability efforts require coordination, and how that coordination can be most effective varies by campus. At the UW, the College of the Environment brings together strong education and research programs on environment under one dean, who also chairs the Environmental Stewardship Committee, with oversight responsibilities for UW Sustainability's comprehensive efforts that aim to:

- Provide value to students, faculty and staff
- Improve internal business practices
- Build capacity for a sustainable university
- Enhance resources for students and for meeting university sustainability goals

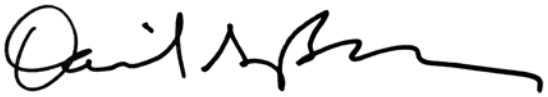
Creating a cohesive coordinated approach to sustainability at UW has resulted in successes similar to the goals of the proposed Sustainability Institute at Ohio State. Among them:

- Amplifying the scale and impact of our research and academic programs through the College
- Creating student opportunities to study, observe and implement sustainability on and off campus
- A sustainability dashboard with an extensive ability to monitor our operation successes
- Cross-disciplinary work with medicine and the arts
- Community and campus living labs or testbeds to further research and accomplishments of our faculty and students

- Consistent sustainability branding to improve communications/messaging

I am pleased to support the Sustainability Institute and eager to work with you to further our joint mission as large public institutions leading the way in developing innovative solutions that achieve a more sustainable, resilient, and inclusive society.

Respectfully yours,



Daniel G. Brown
Corkery Family Director and Professor
School of Environmental and Forest Sciences
College of the Environment
University of Washington

From: "Brown, Trevor" <brown.2296@osu.edu>
Subject: Support for the Sustainability Institute
Date: September 27, 2018 at 9:55:43 PM EDT
To: "Irwin, Elena" <irwin.78@osu.edu>, "Bartter, Kate" <arnold.680@osu.edu>

Dear Elena and Kate,

I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from the John Glenn College of Public Affairs.

Our college already has a strong relationship with SRE and OEE. We have partnered with SRE to hire two outstanding DT faculty, John Horack and Chris Rae, and we have other faculty who are involved with SRE or OEE working to advance sustainability research, teaching, engagement or campus stewardship, including Rob Greenbaum who serves on the SRE Leadership Team, Jeff Bielicki who is a member of the Energy Academic Collaboration Council, Noah Dormady who serves as an SRE mentor and has received seed grant funds from SRE/OEE, and Jill Clark serves on the Sustainability Education and Learning Committee.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research, teaching, and applications. I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Trevor

THE OHIO STATE UNIVERSITY

Trevor Brown
Dean
John Glenn College of Public Affairs

Executive Director
State of Ohio Leadership Institute

300 Page Hall, 1810 College Road, Columbus, OH 43210
614-292-4533 Office
brown.2296@osu.edu glenn.osu.edu

Glenn College Newest Events and Offerings:

Leadership Forum

Alliance for the American Dream

Dialogue with WOSU

State of Ohio Leadership Institute

THE OHIO STATE UNIVERSITY

Office of Student Life

600 Lincoln Tower
1800 Cannon Drive
Columbus, OH 43210

614-292-9334 Phone
614-292-6581 Fax

September 24, 2018

Dr. Elena Irwin, Professor
Agricultural, Environmental and Development Economics
Faculty Director, Sustainable and Resilient Economy

Kate Bartter, Executive Director
Office of Energy and the Environment

Dear Elena and Kate:

The Office of Student Life supports the merger of the Office of Energy and Environment and Discovery Theme of Sustainable and Resilient Economy to create the Sustainability Institute at The Ohio State University. This institute will further position Ohio State as a leader in providing opportunities for students to engage with sustainability in research, classroom and co-curricular experiences.

Student Life has embraced the opportunity to partner with the Office of Energy and Environment to support student projects and other initiatives. OEE merging with SRE will enhance the strong relationships we've developed through our programming efforts and will strengthen our ties with the academic and research communities. All of this will support the extraordinary student experience.

We urge the university's leadership to approve the creation of the Sustainability Institute. Under the collective leadership of Dr. Elena Irwin and Kate Bartter, the Sustainability Institute at Ohio State will be the model of collaboration, a model for universities across the country.

Sincerely,

Molly Calhoun
Associate Vice President
Office of Student Life
The Ohio State University

Second Nature

September 28, 2018

Kate Bartter
Director, Office of Energy and Environment
Ohio State University
3018 Smith Laboratory, 174 W. 18th Avenue, Columbus, OH 43210

Dear Ms. Bartter-

Please find this letter as a strong endorsement of your proposal for new sustainability institute at The Ohio State University. As a leading national organization in the area of sustainability in higher education, Second Nature recognizes the leading work of The Ohio State in partnership with the University Climate Change Coalition and as part of the Climate Leadership Network and this is a clear extension of your climate and sustainability leadership.

The rationale for the new sustainability institute represents a clear and well-articulated solution to what existing and emerging issue for higher education sustainability and resilience – effective and coordinated research, education and community engagement. More than ever public universities, research universities, and universities situated in urban areas, all of which a true of The Ohio State, are leveraging their resources to make a positive impact on their communities and accelerate climate solutions. This proposal places The Ohio State one step ahead of the pack by centralizing this work and taking a targeted approach to tackle them.

By breaking down silos and bringing together the Office of Energy and Environment (OEE) and the Sustainable and Resilient Economy Discovery Theme (SRE) you are building capacity to cultivate a long-lasting, interdisciplinary and collaborative institution. All of these qualities are what is necessary to make transformative change on sustainability and resilience issues. This type of intitative is precisely what we'd like to see more of in higher ed.

Please do not hesitate to contact me directly with any questions you may have and best of luck with this ambitious proposal.

Sincerely,

Tim Carter
President

18 Tremont Street, STE 930, Boston, MA 02108 | 617.722.0036 | info@secondnature.org

CARBON COMMITMENT CLIMATE LEADERSHIP
CLIMATE COMMITMENT CLIMATE LEADERSHIP
RESILIENCE COMMITMENT CLIMATE LEADERSHIP

THE OHIO STATE UNIVERSITY

InFACT

Initiative for Food and AgriCultural Transformation

3138B Smith Lab
174 West 18th Avenue
Columbus, OH 43210

614-292-9211 Phone

Discovery.osu.edu/infact

September 26, 2018

Elena Irwin, Faculty Director
Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Dear Elena and Kate:

On behalf of the Initiative for Food and AgriCultural Transformation (InFACT), we are writing to express our strong support for the proposal to establish the Sustainability Institute at Ohio State.

As two of the eight Discovery Themes programs, InFACT and SRE were both launched in 2015 to create transformational change at Ohio State in the ways we conduct scholarship and engage with communities to address the most pressing challenges of our time. InFACT's focus on solving food insecurity and creating more sustainable and resilient food systems is inextricably related to achieving other sustainability goals, including an economy that promotes healthy water, sustainable energy, and greater social equity. Likewise, the mission of the Sustainability Institute to improve the well-being of communities through innovations in sustainable technologies, policies and actions can only be realized with a more resilient and equitable food system. In other words, the two programs are synergistic by definition.

We recognize the close connections that our two programs have and have appreciated the opportunities to collaborate with SRE and OEE. In particular:

- SRE and InFACT Faculty Directors Elena Irwin and Casey Hoy collaborated on a $100K grant from NSF to lead an interdisciplinary Food-Energy-Water Systems (FEWS) workshop in November 2015. This eventually led to a successful $2.4 million NSF FEWS award led by Elena Irwin that is supporting a highly interdisciplinary collaboration between InFACT faculty, particularly Doug Jackson-Smith, and several SRE faculty.
- SRE and InFACT have collaborated on several research networking events, including a showcase of recent seed grant research supported by both of our programs.
- InFACT has served in a leadership role to help OEE achieve the challenge established jointly by the Provost and Vice President for Student Life for Ohio State to purchase 40% of the food in all its venues from local and sustainable sources by 2025.

We look forward to building on our existing partnership and collaborations to pursue

additional opportunities. In particular, we see strong potential for partnering with the Sustainability Institute to continue to build the capacity for interdisciplinary collaboration and to integrate sustainability scholarship, particularly in food and agriculture, with campus stewardship of our land and ecosystem services. In addition, we feel that, in working jointly, the new Sustainability Institute and InFACT can set a strong standard of community partnership in tackling some of the greatest challenges of our times through our common commitment to respecting the knowledge and experience of individuals, businesses and other organizations outside Ohio State.

In brief, InFACT is eager to continue to build our collaborative efforts as we work together towards developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Respectfully yours,

Casey Hoy
Faculty Director

Brian Snyder
Executive Director

THE OHIO STATE UNIVERSITY

Office of the Senior Vice President
Administration & Planning

101 Bricker Hall
190 North Oval Mall
Columbus, OH 43210

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614-292-3036 Fax

ap.osu.edu

September 21, 2018

Elena Irwin, Faculty Director
Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Dear Elena and Kate:

I am pleased to provide this letter of support for the merger of the Office of Energy and Environment with the Sustainable and Resilient Economy Theme.

The Sustainability Institute of Ohio State proposal to unify academic, research, engagement and university initiatives just makes sense for the breadth and depth of our university. I see many opportunities for the new entity to create real world impact in sustainability and resilience for our local and state communities by capitalizing on the research, education, outreach and practical solutions in a cohesive sense.

Leveraging our faculty expertise and the leadership and engagement of our students will certainly enable us to accelerate campus sustainability progress in our facilities, resources and ecosystem services. I'm especially looking forward to seeing the impact that combined efforts in research and education will have on furthering the university as a living laboratory to solve challenges in sustainability and resilience facing not only our campus but society itself.

Sincerely,

Jay Kasey

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Cathann A. Kress
Vice President for Agricultural Administration and Dean
140 Agricultural Administration
2120 Fyffe Rd., Columbus. OH 43210
Phone: (614) 292-3676
http://cfaes.osu.edu/

Elena Irwin, Faculty Director
Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

September 17, 2018

Dear Elena and Kate:

On behalf of the College of Food, Agricultural and Environmental Sciences (FAES), I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State.

With more than 160 CFAES faculty pursuing energy, environment and/or sustainability research, I welcome the opportunity the Sustainability Institute will provide to coalesce efforts in education, research and engagement to find practical solutions with other disciplines across the university. Our faculty have benefited from both the Sustainable and Resilient Economy Discovery Theme program as well as the research collaborations, grant assistance and outreach activities of the Office of Energy and Environment. Of particular note:

- CFAES has partnered with SRE on a total of 8 new SRE DT faculty hires in four of our academic units, and we are on the cusp of completing a ninth hire in FABE. These faculty bring key knowledge in the areas of agricultural sciences, biopolymer engineering, hydrological systems, environmental economics, behavioral science, sustainability policy and green building design.
- CFAES has had substantive involvement in the $150 million academic collaboration with ENGIE-Axium, including my role in providing recommendations for the investments in endowed chairs, student fellowship programs, and philanthropic projects, in addition to the participation of Engineering faculty in the EACC and the Visionary Project Advisory Committee.
- Approximately 58 FAES faculty across 8 departments are engaged with SRE or OEE. FAES faculty have provided strong leadership to sustainability efforts at Ohio State, including faculty who have served on the President and Provost's Council on Sustainability, SRE leadership team, and the SRE/OEE sustainability education and learning committee, and on multiple committees working to advance campus sustainability goals ranging from sustainable food to increasing the ecosystem services generated by the Ohio State campus.

I would also note that many of our faculty already are actively involved in interdisciplinary sustainability efforts including those identified by the CFAES Water Quality Taskforce and the

many faculty engaged in research, teaching and outreach in other key areas including bio-based resources and materials, resilient agriculture, food-energy-water systems, and sustainable community development.

The proposed Sustainability Institute aligns very well with the College's strategic plan and our signature areas that align Ohio's highest needs with the College's greatest strengths: environmental quality and sustainability; advanced bioenergy and biobased products; and food security, production and human health. The college is pleased to support the Sustainability Institute and eager to watch the university further its work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Cathann A. Kress
Vice President for Agricultural Administration and Dean
College of Food, Agricultural, and Environmental Sciences

morpc
Mid-Ohio Regional
Planning Commission

111 Liberty Street, Suite 100
Columbus, Ohio 43215

T 614.228.2663
TTY 1.800.750.0750

www.morpc.org

September 20, 2018

Dr. Elena Irwin, Faculty Director
Ms. Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Subject: Support Letter for the Sustainability Institute at The Ohio State University

Dear Dr. Irwin and Ms. Bartter:

On behalf of the Mid-Ohio Regional Planning Commission (MORPC), I would like to express strong support for the proposal to establish the Sustainability Institute at Ohio State.

MORPC takes pride in bringing communities of all sizes and interests together to improve the lives of the residents of Central Ohio through smart and sustainable growth. Ohio State has not only been a source of leading research and best practices to make our region more sustainable and resilient, it has led by example. The university's goals of reducing greenhouse gas emissions, improving water conservation, and zero waste have helped make Central Ohio a more desirable place to live and work.

We believe that the proposed Sustainability Institute will further enhance the reputation of Central Ohio as home to world-class initiatives like Smart Columbus that make our region stand out nationally and elevate the regional sustainability efforts at MORPC in energy planning for local governments. Ohio State's commitment to excellence in research, teaching, and innovation is already well-known. The proposed institute will help Ohio State pursue greater interdisciplinary research, create more opportunities for students to learn about sustainability and resilience, and bring public and private partners together to develop and apply sustainable development solutions.

In October, MORPC will again host our Summit on Sustainability, Central Ohio's signature environmental conference that brings hundreds of community leaders together to explore and share sustainable ideas and solutions. The energy from that gathering underscores the commitment within the region to a sustainable future. The proposed Sustainability Institute at Ohio State would help make that vision a reality and cement Ohio's leadership nationally.

Kind Regards,

William Murdock, AICP
Executive Director

THE OHIO STATE UNIVERSITY
INSTITUTE FOR MATERIALS RESEARCH

E337 Scott Laboratory
201 West 19th Avenue
Columbus, OH 43210

614-247-4670 Phone
614-247-2581 Fax

imr.osu.edu

September 22, 2018

RE: Sustainability Institute Letter of Support

Elena Irwin, Faculty Director
Kate Bartter, Executive Director
The Ohio State University

Dear Elena and Kate:

The Institute for Materials Research (IMR), which manages the Materials & Manufacturing for Sustainability (M&MS) Discovery Theme, is delighted to express our scholarly support for the establishment of the Sustainability Institute.

In particular, the plan to create a sustainability educational program and a cross-college curriculum for students would be an outstanding addition that supplements the IMR's historic focus on research and innovation in the area of sustainable materials, energy efficiency in systems, advanced and sustainable manufacturing, and development of cleantech and clean energy technologies. The Sustainable and Resilient Economy (SRE) and M&MS are both programs within the Energy and Environment Discovery Theme and as such, are natural counterparts now and in the future. M&MS and SRE have collaborated on several faculty hires, project-based learning opportunities, and in several larger R&D initiatives, including the Manufacturing USA REMADE Institute.

We see the Sustainability Institute's desire to develop OSU's campus as a living and learning laboratory as a great complement to our ongoing leadership in innovation, particularly in that there will be great synergy for our students across these activities.

Sincerely,

Steven A. Ringel, PhD
Distinguished University Professor
Neal A. Smith Chair Professor of ECE
Associate Vice President for Research
IMR Executive Director

Jay Sayre, PhD
Assistant Vice President, Office of Research
Director of Innovation, IMR
Research Associate Professor, MSE

THE OHIO STATE UNIVERSITY

College of Arts and Sciences

School of Earth Sciences

275 Mendenhall Laboratory
125 South Oval Mall
Columbus, OH 43210-1398

614-292-2721 Phone
614-292-7688 Fax

earthsciences@osu.edu
www.earthsciences.osu.edu

September 28, 2018

Dear Elena and Kate,

On behalf of the School of Earth Sciences, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my school in the Institute.

Our school already has a strong relationship with SRE and OEE. We have a total of 23 faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to amplify the work that faculty in my school are doing related to improving the coordination and communication of sustainability-related academic programs and expanding the educational opportunities for students seeking sustainability-related careers. I also am excited about increasing our engagement with industry and community partners to pursue applied research that can generate practical solutions.

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Matthew R. Saltzman
Professor and Director,
School of Earth Sciences
Saltzman.11@osu.edu
614-292-0481

THE OHIO STATE UNIVERSITY

College of Food, Agricultural, and Environmental Sciences

School of Environment and Natural Resources

210 Kottman Hall
2021 Coffey Rd.
Columbus, OH 43210-1085

614-292-2265 Phone
614-292-7432 Fax

senr.osu.edu

September 28, 2017

Elena Irwin, Faculty Director
Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Dear Elena and Kate:

On behalf of the School of Environment and Natural Resources (SENR), I am writing to express my support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my school in the Institute.

SENR already has a strong and productive relationship with SRE and OEE. There are 33 SENR faculty who have had some sort of involvement with SRE or OEE. Most if not all SENR faculty are working in areas that are either at the core of sustainability and human-natural systems or working on research that is foundational to sustainability, e.g., on soils, forests, wetlands, and other environmental systems.

SENR engagement with SRE and OEE has been mutually beneficial to all units. Some of the highlights include:

- SENR has partnered with SRE to hire three junior faculty (Nicole Sintov, Scott Demyan, Matt Hamilton). While Dr. Hamilton has only just arrived, Drs. Sintov and Demyan have been here for over a year and are making meaningful contributions to interdisciplinary research and are active participants in the SENR, SRE, and campus communities.
- SENR faculty members serve in key leadership roles, e.g., Robyn Wilson has been on the SRE leadership team since the beginning and Greg Hitzhusen has been a member of the President's and Provost's Council on Sustainability. In addition, Greg is also providing leadership to the sustainability learning committee, of which I am also a member.
- SRE's leadership and support of interdisciplinary research teams has included working closely with several SENR faculty on interdisciplinary research collaborations—most notably Robyn Wilson and Doug Jackson Smith who are co-PIs on a $2.4 million NSF research project on food, energy, and water systems. Other funded research projects supported by SRE include a $1 million USDA/NIFA grant on resilient agriculture for which Dr. Wilson is the

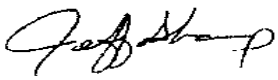
PI that also includes Kai Zhao and a $150,000 project funded by Ford on electric vehicle adoption for which Nicole Sintov is a co-PI.

- SRE and OEE have provided support for the ESS lab, including partial funding of a post doc and the annual sustainability survey of students. In addition, SRE/OEE helped to foster a collaboration between the ESS Lab and the Ohio State Energy Partners (Ohio State's partnership with Engie) to conduct behavioral research with students on campus on energy consumption. These partnerships are a great example of using campus as a living lab by creating opportunities for faculty and students to conduct research and for students to learn about sustainable practices in their everyday lives.

I believe that the Sustainability Institute will continue to benefit our faculty, students, and SENR as a whole by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to improve the coordination and communication of sustainability-related academic programs and expand the educational opportunities for students seeking sustainability-related careers

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,



Jeff Sharp
Director and Professor
School of Environment and Natural Resources

OHIO STATE ENERGY PARTNERS

1971 Neil Ave
Suite 406
Columbus, OH 43210

Sep 28th, 2018

Dr. Elena Irwin, Faculty Director
Ms. Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Dear Elena and Kate:

On behalf of OSEP, I would like to express my support for the proposal to establish the Sustainability Institute at Ohio State.

Our partnership demonstrates that Ohio State is willing to break new ground in the field of sustainability and innovation by using its campus as a living laboratory to make its energy consumption more efficient. As a critical partner, OSEP is invested in the success of Ohio State in reaching its resource stewardship goals over the long term. We have also experienced firsthand the university's commitment to excellence in research, teaching, and innovation. The proposed Sustainability Institute is a logical next step.

Not only would the proposed institute would accelerate Ohio State's progress in all areas of its resource stewardship, it would leverage the considerable potential of its faculty, students, and staff to develop new solutions to current and future sustainability challenges. Moreover, it would build on the interdisciplinary approach of the Sustainable and Resilient Economy Discovery Theme so that the momentum for greater collaboration across colleges and centers is not lost. Finally, it could help both The Ohio State University and OSEP meet the expectations among many students we interact with to be a sustainability leader among the big land-grant universities.

We fully support Ohio State's efforts to provide integrated solutions to current and future sustainability challenges. For this reason, the proposed Sustainability Institute makes good sense. As a close partner, we are eager to watch the university further its work toward developing innovative solutions that achieve a more sustainable, resilient, and diverse society.

Sincerely,

Serdar Tufekci

Serdar Tufekci, CEO
Ohio State Energy Partners LLC
1971 Neil Avenue, Suite 406
Columbus, Ohio 43210

College of Engineering

Office of the Dean

142 Hitchcock Hall
2070 Neil Avenue
Columbus, OH 43210

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THE OHIO STATE UNIVERSITY

September 17, 2018

Elena Irwin, Faculty Director
Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Dear Elena and Kate:

On behalf of the College of Engineering (COE), I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State.

With more than 190 faculty conducting research in energy, environment and/or sustainability, the College of Engineering and Knowlton School of Architecture welcome the opportunity the Sustainability Institute will provide to coalesce efforts in education, research and engagement to find practical solutions with other disciplines across the university. Our faculty — in all of our departments, in fact — have benefited from both the Sustainable and Resilient Economy Discovery Theme program as well as the research collaborations, grant assistance and outreach activities of the Office of Energy and Environment. Of particular note:

- COE has partnered with SRE on a total of 11 new SRE DT faculty hires in four of our academic units, and we plan to pursue an addition two hires this year. These faculty bring key disciplinary knowledge and interdisciplinary research experience in the areas of materials science and engineering, integrated energy systems, manufacturing systems, environmental engineering and health, water sciences and engineering, and green building design.
- COE has had substantive involvement in the $150 million academic collaboration with ENGIE-Axium resulting from the Comprehensive Energy Management Project, including my role as a member of the Energy Academic Collaboration Committee (EACC) that is guiding investments in endowed chairs, student fellowship programs, and philanthropic projects, in addition to the participation of multiple faculty in the EACC and the Visionary Project Advisory Committee.
- COE faculty have provided strong leadership to sustainability efforts at Ohio State, including faculty who have participated in the creation and implementation of the university's sustainability goals and served in leadership positions with the President and Provost's Council on Sustainability, SRE leadership team, SRE/OEE sustainability education and learning committee, and the multiple committees working on advancing our campus sustainability goals.

The college is pleased to support the Sustainability Institute and eager to watch the university further its work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

David B. Williams, Ph.D., Sc.D.
Monte Ahuja Endowed Dean's Chair
Executive Dean of the Professional Colleges
Dean of the College of Engineering

HONDA Honda North America | 24025 Honda Parkway | Marysville, OH 43040

October 8, 2018

Dr. Elena Irwin, Faculty Director
Ms. Kate Bartter, Executive Director
The Ohio State University
3018 Smith Laboratory
174 W. 18th Ave.
Columbus, OH 43210

Dear Elena and Kate:

On behalf of Honda North America, I am writing to express enthusiastic support for the proposal to establish the Sustainability Institute at The Ohio State University.

Honda and Ohio State have a strong relationship based on more than three decades of collaboration and partnership. Starting with the Transportation Research Center, Honda has worked closely with Ohio State to advance automotive research and train the next generation of engineers who will help our industry meet the expectations of consumers for performance and sustainability. We value Ohio State's commitment to excellence in research, teaching, and innovation.

Honda's environmental statement reads, *As a responsible member of society whose task lies in the preservation of the global environment, the company will make every effort to contribute to human health and the preservation of the global environment in each phase of its corporate activity. Only in this way will we be able to count on a successful future not only for our company, but also for the entire world.*

Having a world-class Sustainability Institute at a nearby university partner is an exciting proposition that could further deepen our relationship. The proposed institute would help Ohio State foster greater interdisciplinary research, create more opportunities for students to learn about sustainability and resilience, and bring public and private partners together to develop and apply sustainable development solutions.

We applaud the University's efforts to tap the full potential of its researchers to address current and future challenges through the proposed Sustainability Institute. As a close partner, we are eager to engage as the University furthers its work toward developing innovative solutions that achieve a more sustainable and healthy society.

Best regards,

Mike Wiseman
Associate Chief Advisor
Honda North America, Inc.

Appendices

Appendix A

Key Stakeholders and Supporters

Appendix A

Key Stakeholders and Supporters

	First	Last	Unit
Faculty			
	Bhavik	Bakshi	COE/ISE
	Nick	Basta	CFAES/ESGP
	Jeff	Bielicki	COE/Civil
	Mike	Bisesi	COPH/EHS
	Jan	Box Steffensmeiser	ASC/
	Nick	Breyfogle	ASC/History
	Trevor	Brown	JGCPA
	Rudy	Buchheit	COE
	Tarunjit	Butalia	COE/CEGE
	Yongyong	Cai	CFAES/AEDE
	Joseph	Campbell	CFAES/SENR
	Chen	Chen	COE/ISE
	Zhenhua	Chen	COE/Knowlton
	Jordan	Clark	COE/CEGE/FABE
	Dave	Cole	ASC/SES
	Maria	Conroy	COE/Knowlton
	Santina	Contreras	COE/Knowlton
	Katrina	Cornish	CFAES/HC&FABE
	Keely	Croxton	FCOB/Logistics
	Justin	D'Arms	ASC/Philosophy
	Karen	Dannemiller	COE/CEGE
	Tom	Darrah	ASC/SES
	Scott	Demyan	CFAES/SENR
	Grant	Donnelly	FCOB/Marketing&Logistics
	Sean	Downey	ASC/CBC
	Lisa	Downing	ASC/Philosophy
	Neil	Drobny	FCOB/CFAES
	Jennifer	Eaglin	ASC/History
	Bartow	Elmore	ASC/History
	Courtney	Falato	CFAES/FABE
	Jonathan	Fresnedo-Ramirez	CFAES/Horticulture&CropScience
	John	Freudenstein	ASC/EEOB
	Kris	Germillion	ASC/Anthropology
	Ben	Givens	University Senate
	Tom	Goldsby	FCOB/Marketing
	Sathya	Gopalakrishna	CFAES/Steam factory
	Rob	Greenbaum	JGCPA
	Dorota	Grejner-Brzezinska	COE/CEGE
	Tim	Haab	CFAES/AEDE
	Chris	Hadad	ASC/CHEM
	Peter	Hahn	ASC

Matthew	Hamilton	CFAES/ SENR
Wendy	Herford	Humanities DT
James	Hill	FCOB/Management Science
Greg	Hitzhusen	CFAES/SENR
Jay	Holleck	ASC/Physics
John	Horack	COE/JGCPA/MAE
Ian	Howat	Byrd Polar/SES
Casey	Hoy	CFAES/DT
Don	Hubin	ASC/COMPAS
Natalie	Hull	COE/CEGE
Doug	Jackson-Smith	CFAES/ SENR
Joel	Johnson	COE/ECE
Jason	Kentner	COPE/Knowlton
Sami	Khanal	CFAES/FABE
Rachel	Kleit	COE/knowlton
Dan	Kramer	OR
Cathan	Kress	CFAES
Rattan	Lal	CFAES/SENR
Scott	Levi	ASC/History
Eden	Lin	ASC/Philosophy
Stu	Ludsin	ASC/EEOB
Berry	Lyons	ASC/SES
Raghu	Machiraju	ASC/TDAI
Allison	MacKay	COE/CEGE
Jay	Martin	CFAES/FABE
Ken	Martin	CFAES/EXT.
Bruce	McPheron	OAA
Jim	Metzger	CFAES/Horticulture&CropScience
Fred	Michel	CFAES/FABE
Harvey	Miller	ASC/Geography
Daniela	Miteva	CFAES/AEDE
Darla	Monroe	ASC/Geography
Mark	Moritz	ASC/Anthropology
Ellen	Moseley Thompson	ASC/Byrd
Randy	Moses	OR
Agus	Munoz-Garcia	ASC/EEOB
Stephen	Myers	OAA
Elizabeth	Newton	JGCPA
Terry	Niblack	CFAES
Morton	O'Kelly	ASC/Geography
Mike	Oglesbee	DT/Infectious disease
Susan	Olesik	ASC/CHEM
Andre	Palmer	COE/CBE
Joel	Paulson	COE/CBE
Gary	Pierzynski	CFAES
Farhang	Pourboghrat	COE/ME
Judit	Puskas	CFAES/FABE
Steven	Quiring	ASC/Geography
Alan	Randall	SRE/DT
Christopher	Rea	JGCPA
Phil	Renaud	FCOB/Risk Institute

Steve	Ringel	COE/DT
Giorgio	Rizzoni	COE/CAR
Matthew	Saltzman	ASC/Earth Sciences
Ryan	Schmiesing	OAA
Cristo	Sevov	ASC/CBC
Abdollah	Shafieezadeh	COE/CEGE
Jeff	Sharp	CFAES/SENR
Scott	Shearer	CFAES/FABE
Nicole	Sintov	CFAES/SENR
Ramteen	Sioshansi	COE/ISE
Randy	Smith	OAA
Brent	Sohngen	CFAES/AEDE
Christine	Thomas	ASC/CBC
Dave	Tomasko	COE/CBC
Piers	Turner	ASC/Philosophy
Xiaoguang	Wang	COE/CBE
Xiaoxue	Wang	COE/CBE
Peter	Ward	FCOB/MS
Linda	Weavers	COE/CEGE
Mark	Weir	COPH
Jan	Weisenberger	OR
Carol	Whitacre	OR
David	Williams	COE
Susan	Williams	ASC
Robyn	Wilson	CFAES/SENR
Chris	Winslow	OR/CFAES
Ryan	Winston	CFAES/FABE/CEGE
Kay	Wolf	OAA

Staff

Kamal	Aboshama	DT/Food for Health
Zia	Ahmed	Student Life
John	Bair	COE/CDME
Lori	Baldwin	Business Advancement
Christy	Bertolo	CEO
Shauna	Brummet	BioOhio Research Park
Pete	Calamari	FOD
Molly	Calhoun	Student Life
Mark	Conselyea	Wexner Medical Center
Chris	Delisio	ASC/Advancement
Aparna	Dial	Wexner Medical Center
Mike	Dixon	FOD
Elizabeth	Drotleff	ILO
Kurt	Ely	Corporate Relations
Steve	Fink	ASC/Assoc Dean
Sean	Gallagher	COE/Advancement
Brett	Garrett	FOD
Tony	Gillund	FOD

Key Stakeholders Supporters (continued)

Andy	Gurd	CFAES/Advancement
Katie	Hall	President
Brad	Harris	OAA
Ruth Ann	Hendrickson	OR
Marty	Kress	OR-COE
Lauren	Kulik	University Communications
Mary	Leciejewski	FOD
Carlos	Lugo	Student Life
Jenna	McGuire	ASC/TDAI
Matt	McNair	CEO
Andrew	Neil	FITS
Graham	Oberly	Athletics/BA/B&F
Scott	Osborne	CEO
Rob	Osterfeld	FOD/ESS
Mike	Papadakis	B&F
Eddie	Pauline	CEO
Mike	Penner	Athletics
Stacy	Rastauskas	Government Affairs
Lynn	Readey	VP FOD
Tom	Reeves	Student Life
Xen	Riggs	Business Advancement
Leanda	Rix	Advancement
Marilyn	Roberts	Advancement
Courtney	Ross	University Exploration
Sara	Rubin	Advancement
Jay	Sayre	OAA/DT
Steve	Schneider	OLS
Cathie	Smith	DT/Infectious disease
Pat	Smith	FOD/ESS
Beth	Snoke	VP TTM
Brian	Snyder	INFACT/DT
Amy	Spellacy	OR/DT
Chris	Svec	CEO
Brenda	VanCleave	FOD
Steve	Volkmann	PARE
Adam	Ward	CFAES
Maryn	Weimer	COE/CAR
Chris	Yates	COE/Advancement
Kaiguang	Zhao	CFAES/SENR

Appendix B

Ohio State Sustainability Goals

OHIO STATE SUSTAINABILITY GOALS

Strategic Vision

Ohio State is a recognized leader in developing durable solutions to the pressing challenges of sustainability and in evolving a culture of sustainability through collaborative teaching, pioneering research, comprehensive outreach, and innovative operations, practices, and policies.

As progress is made toward realizing institutional sustainability aspirations, four overarching, foundational principles of the university must take hold to ensure that accountability and a culture of sustainability becomes pervasive throughout Ohio State's culture, practices and programs:

- Ensure a transformational approach by establishing a generational timeline to consider the impacts and trade-offs of decisions and economic, environmental, and social outcomes over many years and decades, instead of only the perspective of short-term economic returns.
- Utilize a council of internal and external stakeholders (i.e., students, staff, faculty, alumni/ae, companies, non-governmental organizations, agencies) to serve in an advisory capacity for the ongoing formulation, development, implementation, and assessment of goals, initiatives, and outcomes.
- Conduct research on our progress by developing and/or adapting research methodology to review and assess operational goals, and evaluate and publish the results with the aim of developing best practices and innovation for sustainability measurement.
- Incorporate relevant elements of sustainability into all college and support units' strategic plans, physical plans, and other university guiding documents.

Teaching and Learning

1. Deliver a Curriculum that provides Ohio State students at all stages of instruction – from General Education to professional and technical programs – with opportunities to understand sustainability holistically, framed by the environment, science, technology, society, the economy, history, culture, and politics.

2. Address the Complexities of Sustainability through a variety of learning formats, strategies, and occasions.

Research and Innovation

3. Reward Sustainability Scholarship, including the scholarship of engagement, by providing incentives for students, faculty and staff to make discoveries and stimulate creative efforts that promote and achieve sustainability.

4. Magnify Sustainability Scholarly Output and Impact to create new knowledge, solve real world problems, including for our own operations, and increase Ohio State's national/international reputation as a sustainability research leader.

Outreach and Engagement

5. Foster Campus-to-Community, Students-to-Alumni Culture of sustainability-oriented practices and educational and research experiences that students and alumni transfer into local and global communities.

6. Catalyze Engagement, Ownership, and Buy-In to Sustainability via engaged and inclusive partnerships, on and off campus, that support the long-term economic, social and environmental welfare of the campus, surrounding neighborhoods and the global community.

Resource Stewardship

7. Implement specific, "world-leading" university-wide operational goals to reduce resource consumption, neutralize carbon emissions and minimize waste, including:

a. Achieve carbon neutrality by 2050 per American College and University Presidents Climate Commitment;

b. Reduce total campus building energy consumption by 25% by 2025;

c. Reduce potable water consumption by 5% per capita every five years, resetting baseline every five years;

d. Double the acreage that provides at least two ecosystem services, by 2025;

e. Reduce carbon footprint of university fleet by 25% by 2025;

f. Achieve zero waste by 2025 by diverting 90% of waste away from landfills;

g. Increase production and purchase of locally and sustainably sourced food to 40% by 2025; and

h. Develop university-wide standards for targeted environmentally preferred products and fully implement preferable products and services by 2025.

Appendix C

SELC – Sustainability Faculty Working Group Goals

SELC – Sustainability Faculty Working Group Goals

Sustainability Faculty Working Group Goals

In December 2017, the Sustainable and Resilient Economy (SRE) Discovery Themes program led the development of a framing document for furthering sustainability education at Ohio State coauthored by faculty from six different colleges at Ohio State. This document provides the vision and rationale for a comprehensive approach to environmental and sustainability education at Ohio State. It lays out high-level goals, centered on better coordination and communication of existing programs, enhancements of existing degree programs, e.g., through certificate programs, specializations or minors, and strategic opportunities to build new programs in key interdisciplinary areas. The document proposes the formation of a faculty working group to further develop these ideas. This document was shared with the curricular deans at Ohio State and other key leaders and has received broad support.

As a next step, SRE proposes to work with the Office of Academic Affairs to convene a sustainability faculty working group that will provide recommendations regarding the specific strategies and structures that Ohio State should implement for delivering innovative, interdisciplinary sustainability education with the outcomes described in the framing document. We propose the following work plan:

Objectives:

1. Assess the current landscape of sustainability academic programs related to the environment, earth resources, and human-environmental systems.
    - Identify current academic programs at Ohio State and their strengths.
    - Engage employers from the private and public sectors to provide feedback regarding workforce development and training needs in the areas of environmental, sustainability, and resilience management, engineering, planning, policy, etc. and including applications to energy, water, food, air and other natural resources.
    - Benchmark Ohio State relative to peer institutions to identify exemplar programs and strategic opportunities.
    - Gather input from key stakeholder groups, including current and potential students, to assess their demand for new or expanded programs in specific areas related sustainability.
2. Identify ways to improve coordination, messaging, and communication of existing programs.
    - Articulate specific strategies, including a central portal for students to learn about the multiple possible programs of study and to be tracked into a specific program of study and support services that need to be coordinated and made available to students to meet their educational and professional development goals.
3. Identify opportunities for new cross-college sustainability science programs that can complement existing programs, including “degree enhancements” such as certificates and minors (undergraduate) and specializations (graduate) and project-based learning.
    - Identify core themes and courses that align with these themes, including earth and environmental systems and human dependence and impacts on these systems; the role of technology, policy, economy, society, culture, and institutions; innovations in engineering, science, policy, management, governance systems to improve the sustainability, resilience, and well-being of local communities, nations, and global society.
    - Identify key application areas and courses that align with these, including: energy, food, water, climate, communities.
    - Describe the ways in which knowledge will be integrated from across multiple disciplines and courses; the ways in which students may customize the program to fit their major; options for focusing on a key application area, e.g., energy, water, food, climate, communities.

- Identify mechanisms and incentives for collaboration across units, including incentives for faculty to develop interdisciplinary and team-taught courses.
- Provide guidance regarding co-curricular sustainability learning programs, including student engagement in sustainability initiatives on campus, campus as a living lab, community service projects, internships, education abroad programs, and other experiential learning opportunities. Describe mechanisms and incentives for project-based learning, including capstone courses, and other impactful learning activities related to sustainability.

4. Provide recommendations for new GE sustainability theme guidelines and implementation.
5. Provide feedback regarding STARS feedback collection and metrics for academic program and course offerings in the area of sustainability.

SELC members are listed below for reference.

Name	**Email Address**	**Title**	**Affiliation**
Elliot Bendoly	Bendoly.2@osu.edu	Distinguished Professor and Associate Dean of Undergraduate Students and Programs	Management Sciences, Fisher College of Business
Michael Bisesi	Bisesi.12@osu.edu	Professor and Interim Chair; Senior Associate Dean of Academic Affairs	Environmental Health Sciences, College of Public Health
Nicholas Breyfogle	Breyfogle.1@osu.edu	Associate Professor	History, Arts and Sciences College (ASC)
Cinnamon Carlarne	Carlarne.1@osu.edu	Professor	Moritz College of Law
Jill Clark	Clark.1099@osu.edu	Assistant Professor	John Glenn College of Public Affairs
David Cole	Cole.618@osu.edu	Professor, Ohio Research Scholar	School of Earth Sciences, ASC
Maria Manta Conroy	Conroy.36@osu.edu	Associate Professor and Interim Section Chair	City and Regional Planning, Knowlton School of Architecture, College of Engineering
Kip Curtis	Curtis.457@osu.edu	Assistant Professor, OSU Mansfield	History
Gina Hnytka	Hnytka.4@osu.edu	Program Director, Sustainability Learning and Education	Sustainable and Resilient Economy (SRE)
Greg Hitzhusen	Hitzhusen.3@osu.edu	Assistant Professor of Professional Practice, SRE Faculty Lead for Teaching	School of Environment and Natural Resources, FAES
Elena Irwin	Irwin.78@osu.edu	Faculty Director (SRE) Professor (AEDE)	Sustainable and Resilient Economy Discovery Theme (SRE) and Agricultural, Environmental, and Development Economics, College of Food, Agriculture and Environmental Sciences (FAES)

Lawrence Krissek	Krissek.1@osu.edu	Faculty Emeritus, School of Earth Sciences	Office of Academic Affairs (OAA)
Roman Lanno	Lanno.1@osu.edu	Associate Professor	Evolution, Ecology, and Organismal Biology, ASC
Allison MacKay	Mackay.49@osu.edu	Professor and Department Chair	Civil, Environmental, and Geodetic Engineering, College of Engineering
Becky Mansfield	Mansfield.32@osu.edu	Professor	Geography, ASC
Agustin Munoz-Garcia	Munozgarcia.1@osu.edu	Assistant Professor, OSU Mansfield	Anatomy/Evolution, Ecology, and Organismal Biology
Jeff Sharp	Sharp.123@osu.edu	Director and Professor	School of Environment and Natural Resources, FAES

Appendix D

SRE Faculty Hiring Portfolio

SRE Discovery Theme Faculty

(As Of September 2018)

New Faculty	Email	Research Areas	Position	Lead College	Lead TIU	Partnering Units	Rank	Start Semester
Yongyang Cai	cai.619@osu.edu	Research focuses on dynamic and stochastic integration of climate and economics. Areas include global economic modeling, integrated assessment modeling, incorporating risk and uncertainty into global models.	Global Economic Modeling	Food, Agricultural, and Environmental Sciences	Agricultural, Environmental, and Development Economics		Assoc	Fall 2016
Chen Chen	chen.8018@osu.edu	Research focuses on design and implementation of optimization methods for polynomial optimization and mixed integer nonlinear programming problems. Application includes optimal power flow, as well as related power systems problems.	Complex Systems Modeling	Engineering	Integrated Systems Engineering		Assist	Fall 2017
Zhenhua Chen	chen.7172@osu.edu	Research includes infrastructur planning and policy, regional science, risk and resilience, and big data analytics.He has a strong background in regional computable general equilibrium (CGE) assessment.	Risk and Resilience in Urban Regions	Engineering	City and Regional Planning		Assist	Fall 2016
Jordan Clark	clark.1217@osu.edu	Research explores the science of sustainable buildings; energy efficiency in buildings and healthy indoor environments; leveraging advancements in sensor technology and data science to allow for better prediction of indoor environments and smarter ventilation, including natural ventilation.	Engineering/ Public Health	Engineering	Civil, Environmental and Geodetic Engineering	Food, Agricultural, and Biological Engineering	Assist	Winter 2018
Santina Contreras	contreras.78@osu.edu	Research involves the intersection of natural hazards, urban planning, and international development; with an exploration of how participatory processes unfold in complex settings.	Disaster Planning and Resilience	Engineering	City and Regional Planning		Assist	Winter 2018
Karen Dannemiller	dannemiller.70@osu.edu	Research studies indoor exposures to chemicals and microorganisms, their sources, and their impact on human health.	Environmental Health Sciences	Engineering	Civil, Environmental and Geodetic Engineering	Environmental Health Sciences	Assist	Winter 2016
Scott Demyan	demyan.4@osu.edu	Research interests include soil organic matter and mineral stabilization mechanics, inorganic carbon dynamics, and ex situ mineral carbonation as a sequestration method.	Soil Mineralogy	Food, Agricultural, and Environmental Sciences	School of Environment and Natural Resources		Assist	Winter 2017
Grant Donnelly	donnelly.177@osu.edu	Designs interventions to increase consumer well-being in three central domains: financial, physical, and (pro)social.	Sustainability Marketing & Communication	Fisher College of Business	Marketing and Logistrics		Assist	Fall 2018

SRE Discovery Theme Faculty

(As Of September 2018)

New Faculty	Email	Research Areas	Position	Lead College	Lead TIU	Partnering Units	Rank	Start Semester
Sean Downey	downey.205@osu.edu	Research explores the social and environmental dynamics of farming and foraging societies, past and present. His work is guided by a focus on human cultural and biological variability, which provides important insights into contemporary societies and the environmental sustainability.	Culture, Institutions & Sustainability	Arts and Sciences	Anthropology		Assoc	Fall 2017
Jennifer Eaglin	eaglin.5@osu.edu	Research focuses on alternative energy in Brazil, involving the ethanol industry, energy development, state intervention and private industrial development, and environmental history.	Environmental History and Sustainability	Arts and Sciences	History		Assist	Fall 2016
Bartow Elmore	elmore.83@osu.edu	Research informs transnational environmental histories of capitalism and environmental history with considerations of technology and science.	Environmental History and Sustainability	Arts and Sciences	History		Assist	Fall 2016
Jonathan Fresnedo-Ramirez	fresnedoramirez.1@osu.edu	Research areas include crop domestication, germplasm improvement, genetic improvement for biomaterials production, applied bioinformatics, plant genomics, and plant genetic resources.	Crop Domestication	Food, Agricultural, and Environmental Sciences	Horticulture and Crop Science		Assist	Fall 2016
Matthew Hamilton	hamilton.1323@osu.edu	Research focuses on how people work together to solve environmental problems; analysis of patterns of interactions among individuals, organizations, and institutions involved in the stewardship of natural resources and ecosystem services.	Sustainability Policy and Governance	Food, Agricultural, and Environmental Sciences	School of Environment and Natural Resources		Assist	Fall 2018
John Horack	horack.1@osu.edu	Research informs aerospace engineering, international collaboration in spaceflight, aerospace policy and innovation/entrepreneurship, earth observation, earth-science data applications and assessment of environmental impacts.	Armstrong Chair For Aerospace	Engineering	Mechanical and Aerospace Engineering	John Glenn College ofPublic Affairs, Materials & Manufacturing for Sustainability	Full	Summer 2016
Natalie Hull	hull.305@osu.edu	Research applies emerging molecular biology tools, novel sensors, big data analyses, and optimized treatment technologies to better understand and control water microbiomes for sustainable protection of public and environmental health.	Environmental Microbiology	Engineering	Civil, Environmental and Geodetic Engineering		Assist	Fall 2018
Eden Lin	lin.2659@osu.edu	Research areas of expertise include ethics, well being, theories of welfare, and desire satisfaction.	Well being and Ethics	Arts and Sciences	Philosphy		Assist	Fall 2016

SRE Discovery Theme Faculty

(As Of September 2018)

New Faculty	Email	Research Areas	Position	Lead College	Lead TIU	Partnering Units	Rank	Start Semester
Daniela Miteva	miteva.2@osu.edu	Research focuses on the spatial-temporal interactions between economic activities and the natural envrionment in the context of biodiversity conservation in devloping countries.	Sustainable Development and Economy	Food, Agricultural, and Environmental Sciences	Agricultural, Environmental, and Development Economics		Assist	Fall 2016
Joel Paulson	joelpaulson@berkeley.edu	Research aims to improve the quality, efficiency, and sustainability of engineered products and processes through the development and application of advanced decision-making strategies in the presence of uncertainty. My work specializes in formulating these strategies in terms of robust (or stochastic) mathematical optimization problems, which can then be applied to a broad range of applications, with a particular emphasis on complex (bio)chemical systems.	Sustainable Manufacturing	Engineering	Chemical and Biomolecular Engineering		Assist	Fall 2019
Judit Puskas	juditevapuskas@gmail.com	Research interests include green polymer chemistry, biomimetic processes and biomaterials, living/controlled polymerizations, polymerization mechanisms and kinetics, thermoplastic elastomers and polymer structure/property relationships, and probing the polymer-bio interface.	Biomaterials/ Biopolymer Engineering	Food, Agricultural and Environmental Sciences	Food, Agricultural and Biological Engineering		Full	Fall 2019
Christopher Rea	rea.115@osu.edu	Research interests include environment, politics, markets, regulations, institutional emergence, organizational change, science and technology, health politics and policy.	Regulation and Public Policy	John Glenn College of Public Affairs			Assist	Fall 2019
Christo Sevov	sevov.1@osu.edu	Research is developing strategies at the interface of homogeneous catalysis and electrochemistry for the sustainable application of electrical energy to organic synthesis, energy storage, and recycling of wastes.	Polymer/Organic Catalysis	Arts and Sciences	Chemistry and Biochemistry		Assist	Fall 2017
Nicole Sintov	sintov.2@osu.edu	Research studies behavior change, decision making, processes of change, smart grid, power systems, human-computer interaction, technology adoption, wildlife security, wildlife crime, poaching, and household consumption behavior.	Behavior Decision Making and Sustainability	Food, Agricultural, and Environmental Sciences	School of Environment and Natural Resources		Assoc	Winter 2017
Christine Thomas	thomas.3877@osu.edu	Research within the Thomas laboratory is exploring cooperation between different components of bifunctional catalysts. The research team is developing new transition metal complexes as catalysts for greener and more sustainable chemical transformations.	Catalysis and Synthesis	Arts and Sciences	Chemistry and Biochemistry		Full	Winter 2018

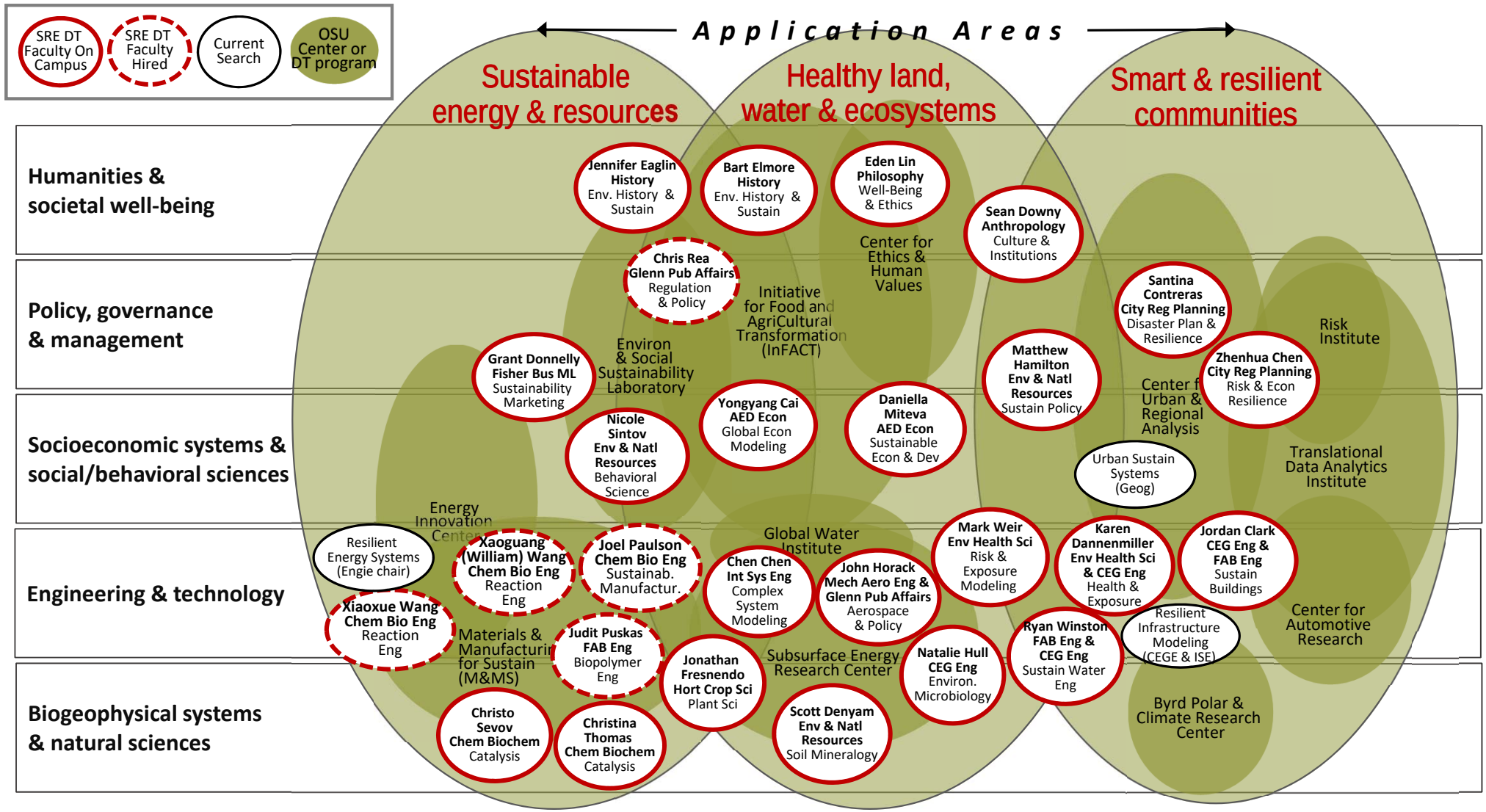
SRE Discovery Theme Faculty

(As Of September 2018)

New Faculty	Email	Research Areas	Position	Lead College	Lead TIU	Partnering Units	Rank	Start Semester
Xiaoguang (William) Wang	williamwang@seas.harvard.edu	Research objective is to utilize novel material synthesis, molecular and colloidal self-assembly, characterization, and microfabrication to create dynamic and anisotropic material systems that exhibits elementary sensors, actuators, and electronics in response to external cues via the reconfiguration of its shape, optical and physicochemical properties.	Sustainable Reaction Engineering and Energy	Engineering	Chemical and Biomolecular Engineering		Assist	Winter 2019
Xiaoxue Wang	wxx@mit.edu	Research interest is to develop flexible and stretchable electronics and optoelectronics with advanced soft materials, as well as to design new materials using computational methods. The target applications include flexible display, soft robotics, “point-of-care” biosensing devices and biocompatible optogenetics devices. Chemical vapor deposition (CVD) will be used as a unique tool for material synthesis, molecular engineering and device fabrication of soft materials.	Sustainable Reaction Engineering and Energy	Engineering	Chemical and Biomolecular Engineering		Assist	Fall 2019
Mark Weir	weir.95@osu.edu	Research interests include water systems engineering, sustainable water infrastructure, risk assessment, complex systems modeling andanalytics, and health effect optimization through environmental and engineering controls.	Environmental Health Sciences	Public Health	Environmental Health Sciences		Assist	Fall 2016
Ryan Winston	winston.201@osu.edu	Research interests focus on the management of stormwater runoff and its impacts on stream and lake ecosystems, as well as community level impacts like flooding and extending the useful life of infrastructure. We conduct field studies to understand watershed, sewer, and stream processes and stormwater treatment system function, and use these data to create and calibrate models for practical use.	Sustainable Water Engineering	Food, Agricultural, and Environmental Sciences	Food, Agricultural and Biological Engineering	Civil, Environmental and Geodetic Engineering	Assist	Fall 2018

Sustainable and Resilient Economy: Faculty Hiring Portfolio

September 2018



Appendix E

Mentoring and Goal Setting for SRE DT faculty

SRE Overview for New Faculty

August 2018

Welcome to the Sustainable and Resilient Economy Discovery Themes program, affectionately known as SRE! This is an exciting time for our program and we are thrilled to have you join our team. SRE catalyzes interdisciplinary scholarship on sustainability and resilience topics, including human-natural systems, integrated modeling, sustainability assessment and policy. We seek to foster interdisciplinary scholarship and collaborations among faculty, staff and students engaged in research, teaching, outreach and campus stewardship related to sustainability and resilience.

Here we provide an overview of what you can expect as a Discovery Themes faculty member hired jointly with your department and the SRE program. We are always looking for ways to improve our support and engagement of SRE faculty. Never hesitate to share your thoughts, feedback, and suggestions with us.

Sincerely,

Elena Irwin, Faculty Director, irwin.78@osu.edu
Kathy Jackson, Program Assistant, jackson.2942@osu.edu

Welcoming New SRE Faculty Hires

By now you should have received a brief welcome email from the SRE faculty director and a follow up email from the SRE program assistant with additional information regarding SRE welcoming and onboarding activities, request for your contact information and SRE overview materials that provide a description of SRE mission, goals, and activities. Don't forget you can always refer to our website for all that info and more: http://sre.osu.edu/.

SRE hosts a welcome event at the beginning of each fall semester that includes an orientation session to familiarize new faculty hires with the SRE program and the mentoring, goal setting and annual review processes that we have set up to support SRE faculty. We will provide you with information throughout the year regarding other opportunities to engage with sustainability research and activities at Ohio State, and hope that you will *judiciously* participate in these. We also offer other support to SRE and other sustainability-minded faculty, including proposal development support for strategic opportunities and a seed grants program that supports interdisciplinary teams doing exploratory work.

Establishing Your Mentoring Team

We encourage you to build your own SRE mentoring team and ask that this mentoring team be in place by the end of your first year on campus. Mentors should be faculty who can be helpful to you, e.g., in establishing contacts, collaborating on research, and generally providing guidance on how to be a successful faculty member at Ohio State. In addition, they support you

by providing input and advice about setting and making progress towards your SRE goals. They should show a strong interest in being a mentor and a sincere willingness to give their time and energy. We suggest 3-4 faculty mentors, at least one of whom is from your department and at least one of whom is from outside your department and who (ideally) is an SRE-affiliated faculty with related research interests. If your department has a mentorship program already, then we encourage you to blend the departmental and SRE mentors so that you have a single mentoring team. SRE is happy to work with you to help identify potential mentors, and you should consult your department chair as well.

Once you've identified your mentoring team, we ask that you provide us with each mentor's name, position, unit affiliation, email, areas of expertise, and expected role (e.g. research collaborator, co-instructor, overall mentor). We will confirm with each mentor that they are willing to serve in this capacity and confirm the mentoring team with your department chair.

SRE will work with you to set up an annual meeting with your mentoring team. You should also initiate additional group or one-on-one meetings to make the most of your mentoring team. We strongly encourage you to use your mentoring team by meeting regularly with them to discuss your SRE goals and seek their advice and guidance on how to be a successful faculty member at Ohio State. They will have a lot to offer, so don't be shy.

Goal Setting

All SRE faculty are expected to participate in a variety of scholarly activities that contribute to the overall success of SRE. To help you be successful in this regard, we ask that you define goals that can be used to guide and evaluate your contributions to SRE. The purpose of these goals is to achieve a high level of synergy between SRE and the department, and to provide you with a supportive and collaborative environment for success with an individual level of effort that is consistent with all OSU faculty members. Goals should be developed in consultation with your department chair, the SRE faculty director and your mentoring team.

We have developed goal setting guidelines and a worksheet to help you with this process. Towards the end of your first year, you can expect to meet with your department chair and the SRE faculty director to review and agree upon your goals. We will also ask that you review and update your goals annually in consultation with your department chair and the SRE faculty director.

Annual Reviews

Each year we will ask you to share your departmental annual report with the SRE program coordinator with the accomplishments and activities that contribute to your SRE goals clearly identified (e.g., by marking or highlighting these). SRE tracks this information so that we can use it in our own communications and program reporting. We also use it as input into our assessment of your contributions and progress towards your SRE goals. Each year the SRE faculty director will review your annual report and solicit additional input from your mentors and/or other collaborators whom you identify regarding your SRE-related activities.

These provide the basis for annual feedback from the SRE faculty director to you and your department chair regarding progress towards your goals.

Guidance for SRE Mentors

Thank you for considering being a mentor to a new SRE faculty member. This is a great way to provide support and guidance to a new faculty while also providing a broader service to SRE. Following are a few guidelines intended to clarify the mentor role. The commitment to be an SRE mentor is a meaningful one, and we hope that you will make a purposeful decision. If you have any questions regarding this commitment, please feel free to reach out to SRE faculty director Elena Irwin.78 or SRE program assistant Kathy Jackson.2942 at any time.

- SRE Discovery Themes faculty are jointly hired by their own department and SRE and are expected to participate in a variety of scholarly activities that contribute to the success of SRE. To support them, SRE encourages all SRE faculty to build their own mentoring teams during their first year. An effective mentoring team is essential to help faculty members achieve a high level of synergy between SRE and their department and to achieve a level of effort that is consistent with all OSU faculty members.
- As an SRE mentor, we ask that you judiciously give your time and support by providing sound, thoughtful advice to your mentee regarding how he or she can best achieve his or her own scholarly ambitions and also meet the expectations of being an OSU faculty member and a joint departmental/SRE hire. We also encourage SRE faculty to seek assistance from their mentoring teams in establishing contacts, finding potential collaborators, navigating SRE and the OSU campus, community and resources, and providing feedback to them in setting their SRE goals for research, teaching, and other scholarly activities. These goals are intended to help faculty satisfy their expected SRE contribution by developing disciplinary expertise in topics related to sustainability or resilience and engaging in interdisciplinary activities (for more on SRE goals, see the full set of goal setting guidelines for SRE faculty).
- An additional role of SRE mentors is to provide input into the annual review of SRE faculty. The SRE faculty director provides the department chair with an annual summary and assessment of each SRE faculty member's contributions to SRE and progress towards his or her SRE goals over the past year. Given the breadth and multi-disciplinary scope of SRE, it is necessary to seek additional input from faculty who are familiar with the specific disciplinary and interdisciplinary achievements. Towards this end, you will receive an email in January/February of each year with a link to a brief survey with several open-ended questions. This should not take much of your time, but will depend on you having some familiarity with the faculty member's scholarly work. We hope that you will view it as an opportunity to meaningfully articulate your mentee's achievements and contributions. The kind of feedback we will be seeking is open-ended, e.g., along the lines of: Based on your own knowledge, what are the ways in which this person is contributing to the overall mission of SRE? In your view, what are the most substantial contributions that this person has made to SRE over the past year? Are this person's SRE goals appropriate for supporting his or her future intellectual growth as a faculty member in department X and as a part of SRE?
- If the mentee's department already has a mentorship program established, then SRE encourages blending the two. This eases coordination and provides opportunities for communication among all mentors.
- The commitment to be a mentor is open-ended and may continue as long as the mentee and mentor both agree the relationship is providing value and working well.
- SRE assists in scheduling an annual meeting for mentees and their mentoring team. We also encourage mentees to reach out directly to arrange additional group or one-on-one meetings, and to use their mentors in ways that will bring the most value to them while also respecting their time and many commitments. SRE provides occasional opportunities for other networking throughout the year, and will let you know about these as they arise.

Fall2018

SUSTAINABLE AND RESILIENT ECONOMY

Faculty Goal Setting Guidelines

- SRE Discovery Themes (DT) faculty are expected to participate in a variety of scholarly activities that contribute to the overall success of SRE. As articulated in the Letter of Offer, SRE faculty should define measurable goals for guiding and evaluating their contributions via a consultative process with the SRE faculty director and the chair of the faculty member's department. These goals should be developed in concert with departmental expectations for faculty performance, as specified in the department's promotion and tenure document, and in accordance with these SRE goal setting guidelines. **The ultimate purpose is to achieve a high level of synergy between SRE and the department by providing a supportive and collaborative environment for success** with a level of individual effort that is consistent with all OSU faculty members.

- Goals are intended to support faculty in satisfying their expected SRE contribution by developing disciplinary expertise in topics related to sustainability or resilience and engaging in interdisciplinary activities that build on this disciplinary expertise. For this purpose, **interdisciplinary activities are collaborative scholarly activities (e.g., publishing, grant proposal writing, teaching) with scholars from other disciplines or scholarly activities that engage a broader interdisciplinary audience, including publishing in outlets not typically associated with the faculty member's discipline or teaching students from other disciplines.** The appropriate set of goals depends on the individual faculty and is determined in consultation with the SRE faculty director and department chair.

- Goals may be identified using keywords that describe the broad subject area and/or knowledge domain. Examples include but are not limited to: sustainable energy, resilient communities, land and water systems, circular economy, sustainable resources, sustainable technology, ecosystem services, human-natural systems, policy, decision making, risk and uncertainty.

- Goal setting is an ongoing process and it is expected that goals will evolve over time. Goals should be established by the end of the first year of a faculty member's appointment and updated annually. Goals will be reviewed by the SRE faculty director and department chair on an annual basis. An annual assessment by the SRE faculty director will be provided to the department chair and SRE faculty. SRE faculty are expected to provide evidence of progress towards goals in their annual departmental report that is shared with SRE.

- We suggest 3-5 goals. Not all goals have to be met to satisfy the expected contribution to SRE. We encourage faculty to set some aspirational goals that may not be fully realized. You can define trajectory (longer term) goals that are broken down into intermediate, shorter-term (annual) goals. Other annual goals may be stand alone.

- Disciplinary-based research that is relevant to sustainability or resilience is a necessary goal. Disciplinary publications on sustainability or resilience that establish the faculty members as an expert in their field are expected and recognized as an SRE contribution. It is acceptable that this work be sole-authored.

- Goals that focus on interdisciplinary scholarly activities beyond the faculty member's primary discipline are needed to provide a sufficient contribution to SRE. At least one of these goals should seek to develop interdisciplinary research collaborations. Other goals may include teaching and learning, outreach to broader audiences, and service to SRE that builds the university community, including campus stewardship and activities related to the university's sustainability goals.

- A sustained effort by the faculty member is expected to develop interdisciplinary collaborations. SRE cannot presage the specific nature of the collaboration and understands that this realistically cannot be promised in advance. What is crucial is that the faculty member outline goals towards this end and pursue opportunities to influence and be influenced by colleagues in other fields, thereby becoming an active participant and contributor to the SRE community.

Fall 2018

Appendix F

Distribution of Faculty Involved in SRE/OEE

DISTRIBUTION OF FACULTY INVOLVEMENT IN SRE/OEE ACROSS COLLEGES AND DEPARTMENTS

DT = SRE Discovery Theme Faculty

Engaged = Faculty have actively participated in SRE/OEE programs, including SRE faculty leadership team, faculty program lead, SRE DT search committee or department chair, SRE mentoring program, OEE or SRE seed grant recipient, SRE-led or supported research team, SRE or OEE committee

Informed = Faculty receive regular OEE or SRE communications

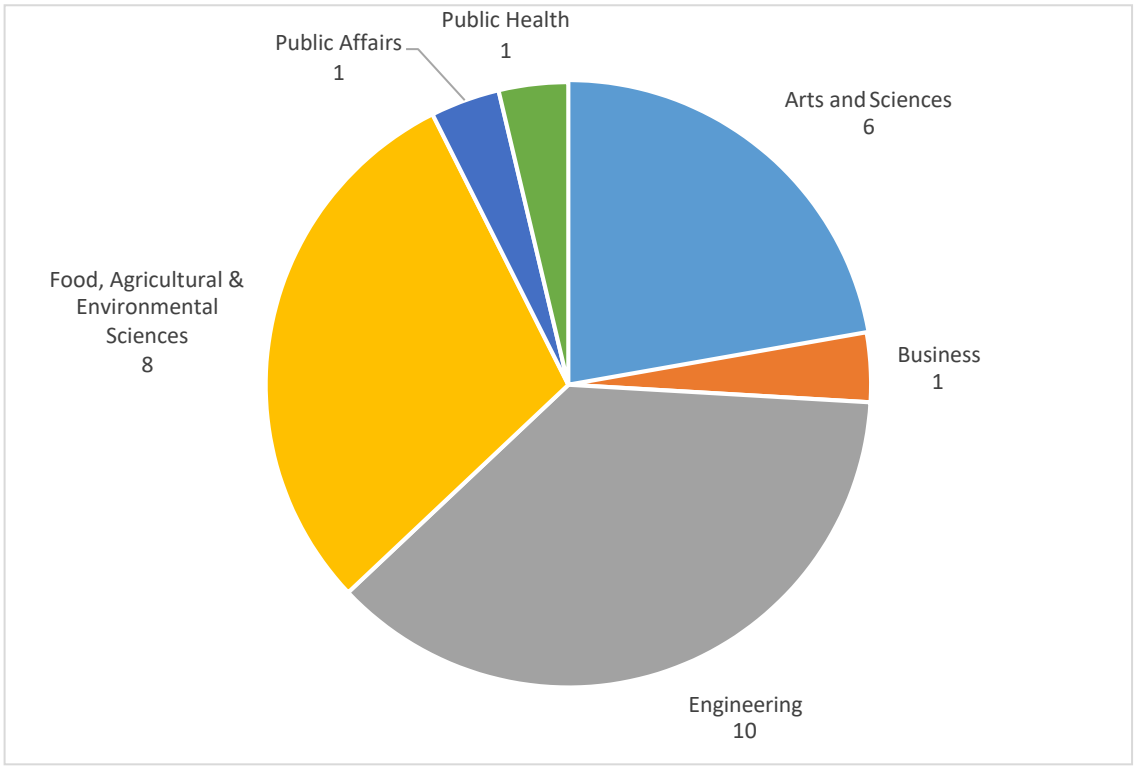


Figure 1: Distribution of SRE DT Faculty across Colleges (Total = 27)

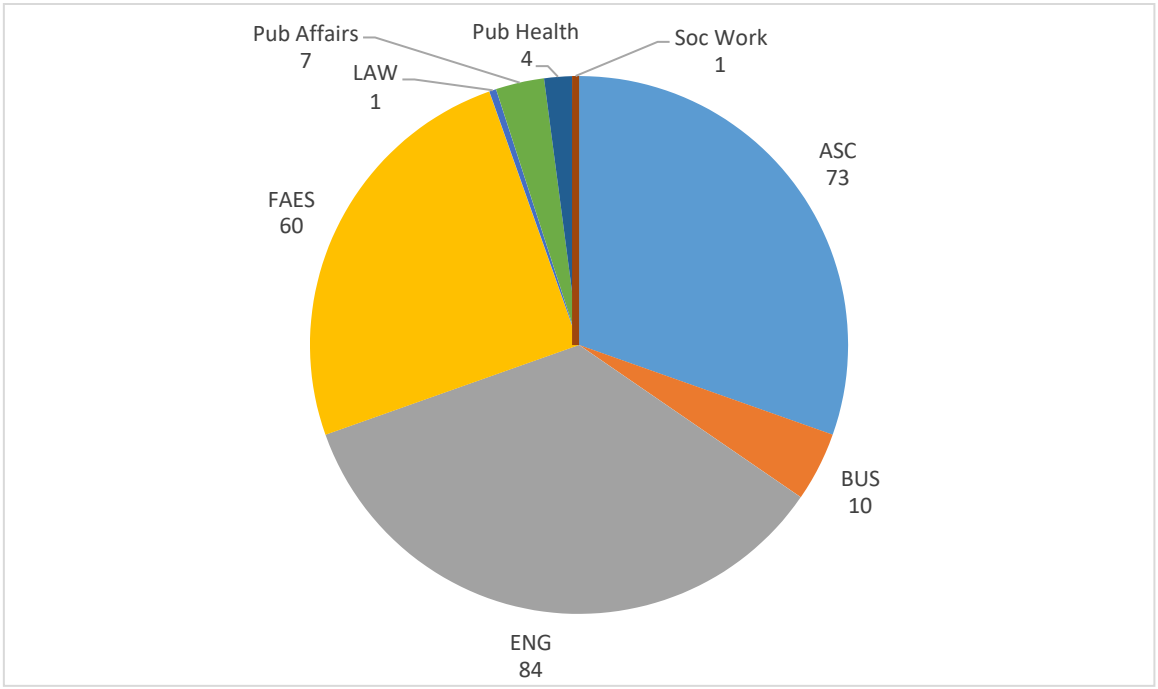


Figure 2: Distribution of SRE/OEE Engaged Faculty across Colleges (Total = 235)

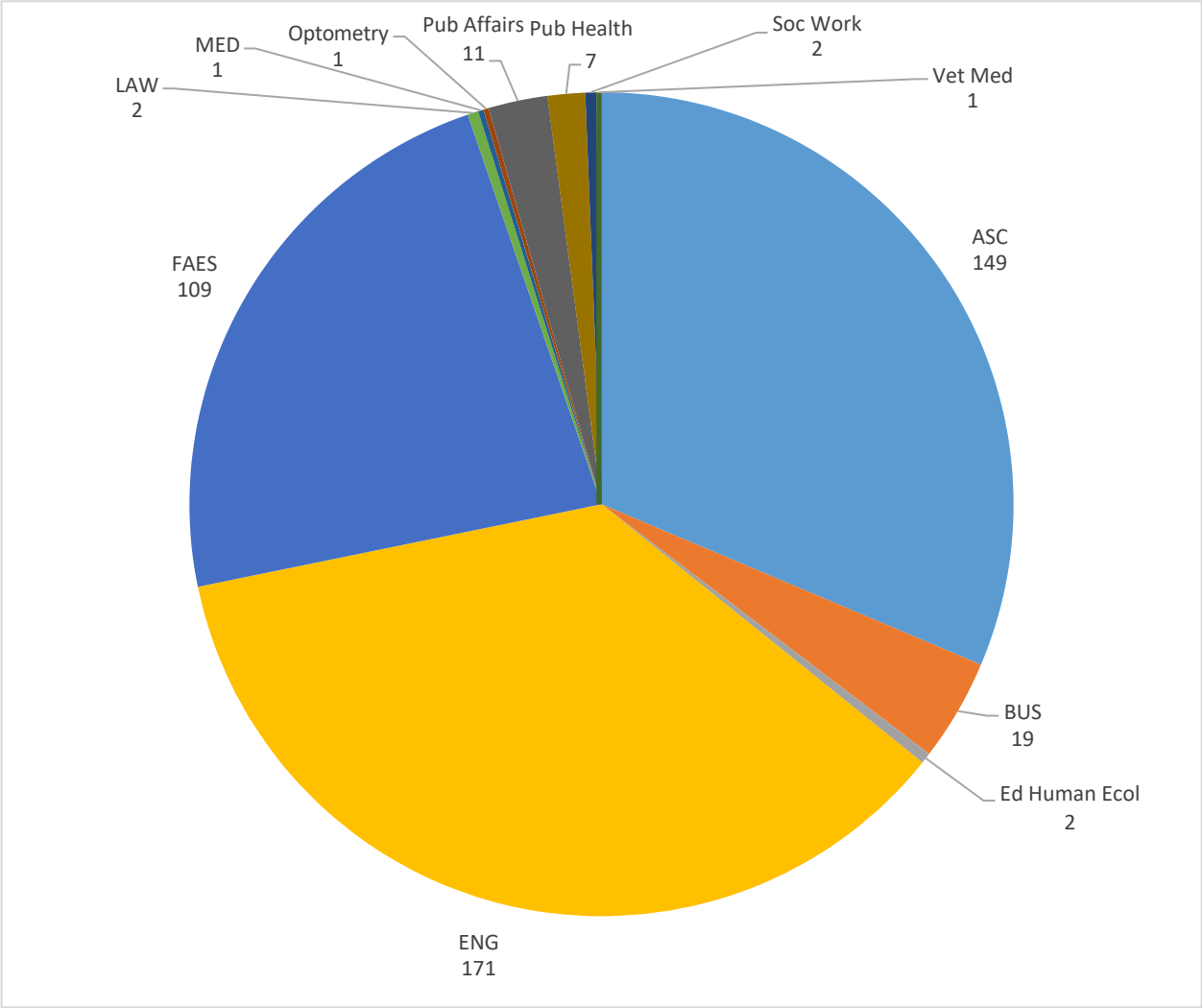


Figure 3: Distribution of SRE/OEE Informed Faculty across Colleges (Total = 471)

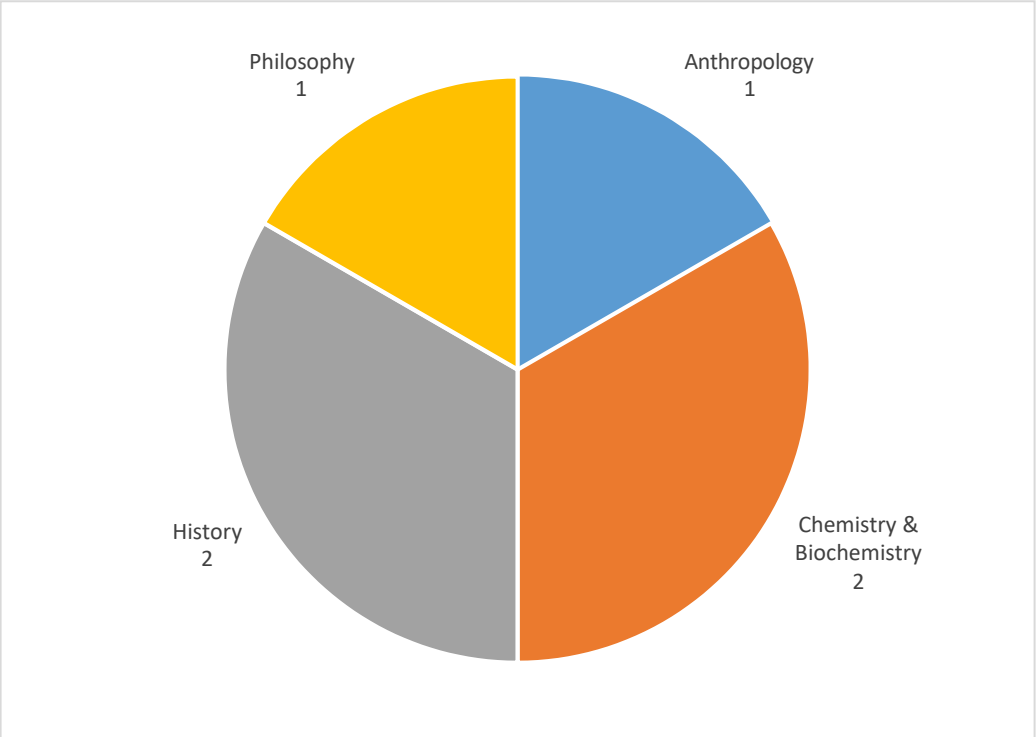


Figure 4A: Distribution of SRE DT Faculty in the College of Arts and Sciences across Departments (Total = 6)

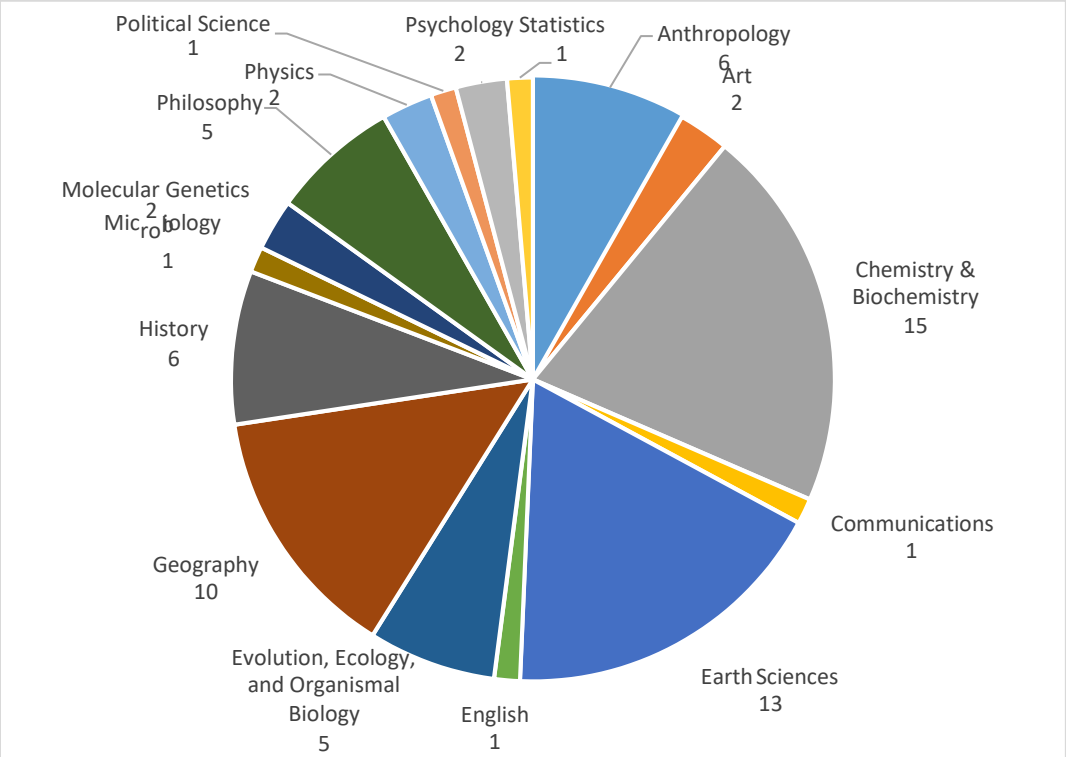


Figure 4B: Distribution of SRE/OEE Engaged Faculty in the College of Arts and Sciences across Departments (Total = 73)

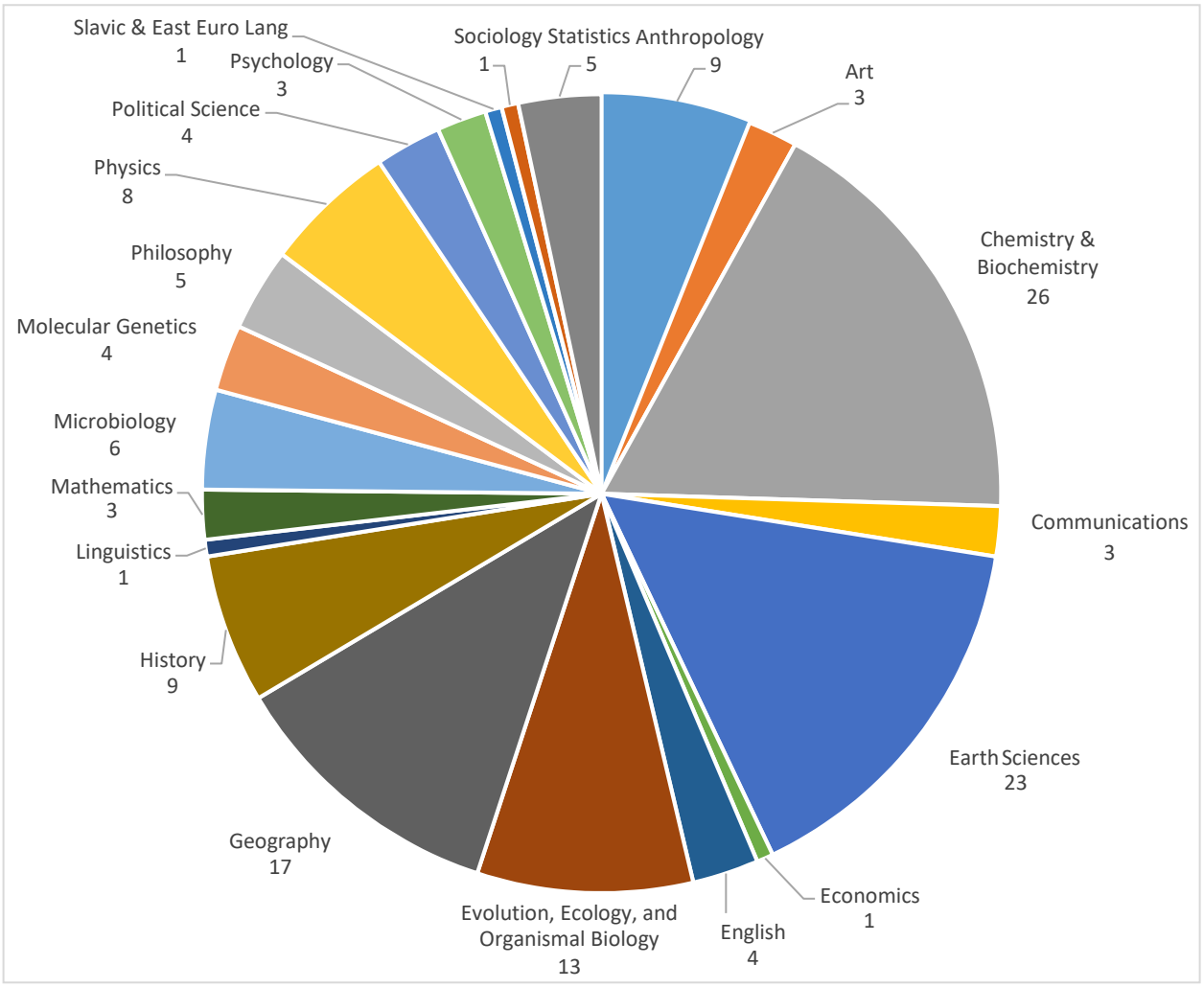


Figure 4C: Distribution of SRE/OEE Informed Faculty in the College of Arts and Sciences across Departments (Total = 149)

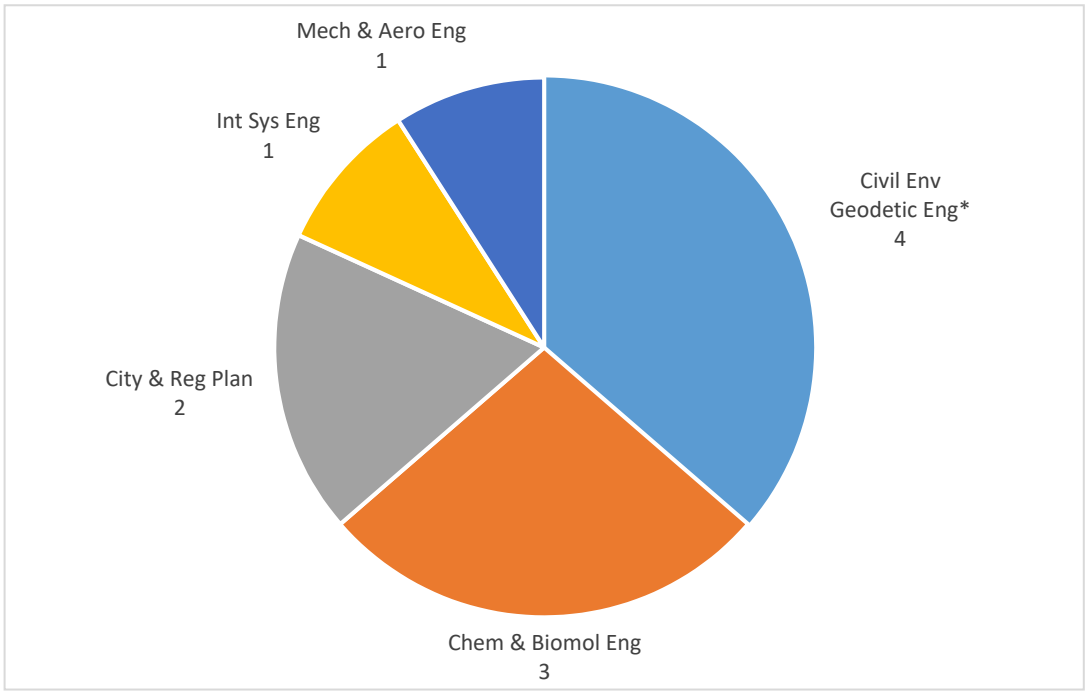


Figure 5A: Distribution of SRE DT Faculty in the College of Engineering across Departments (Total = 11)
(*includes 1 faculty with minor appointment in CEGE)

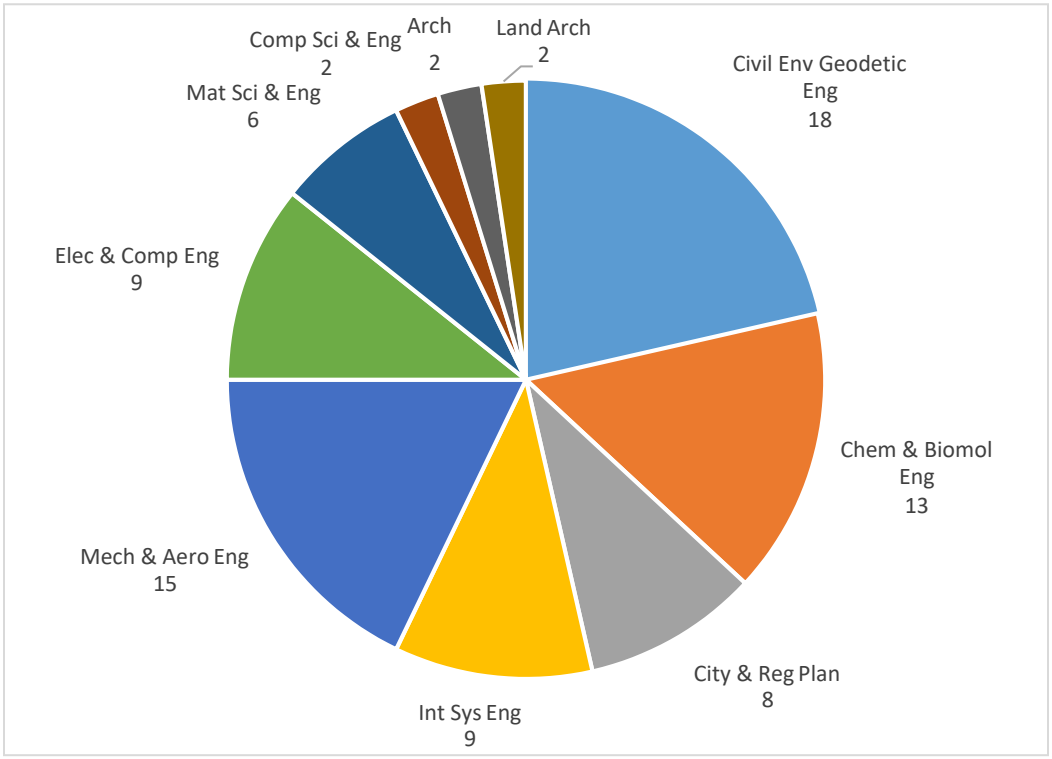


Figure 5B: Distribution of SRE/OEE Engaged Faculty in the College of Engineering across Departments (Total = 84)

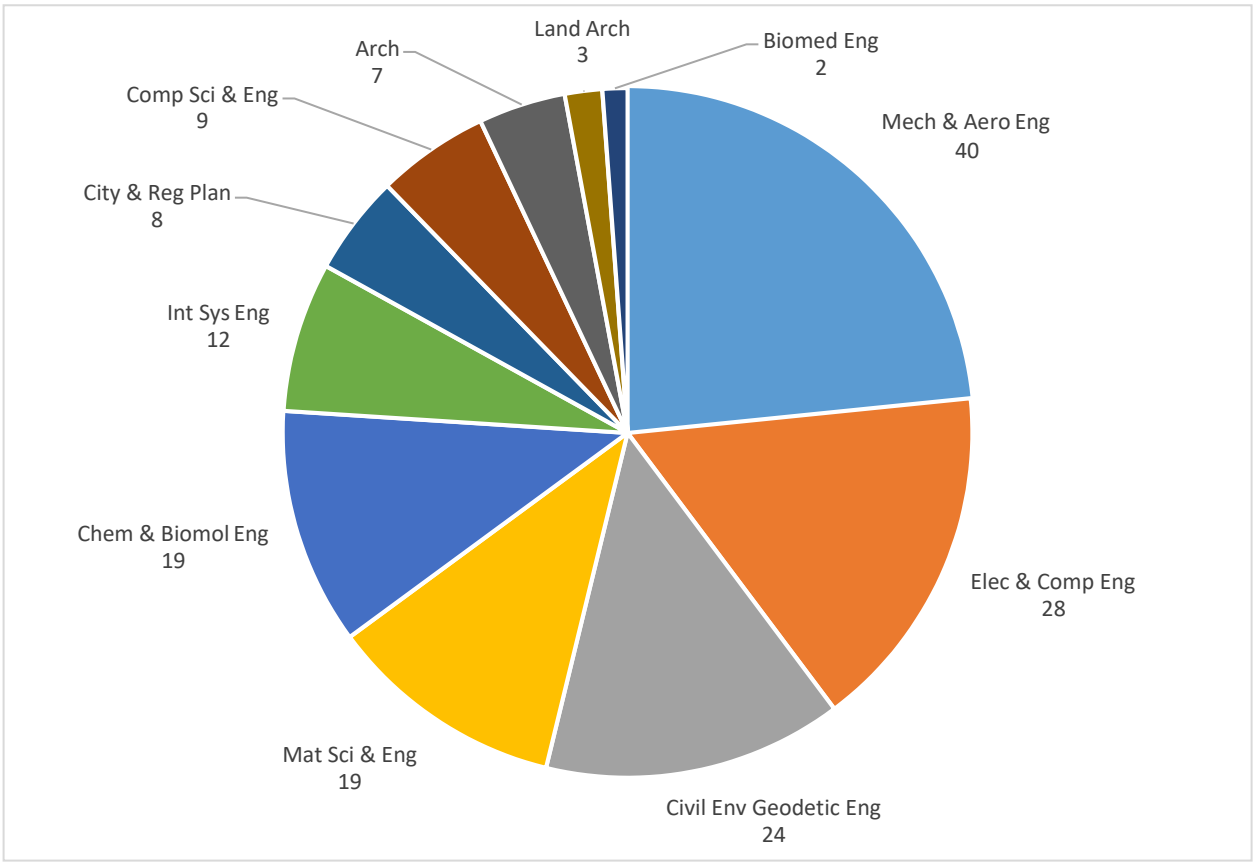


Figure 5C: Distribution of SRE/OEE Informed Faculty in the College of Engineering across Departments (Total = 171)

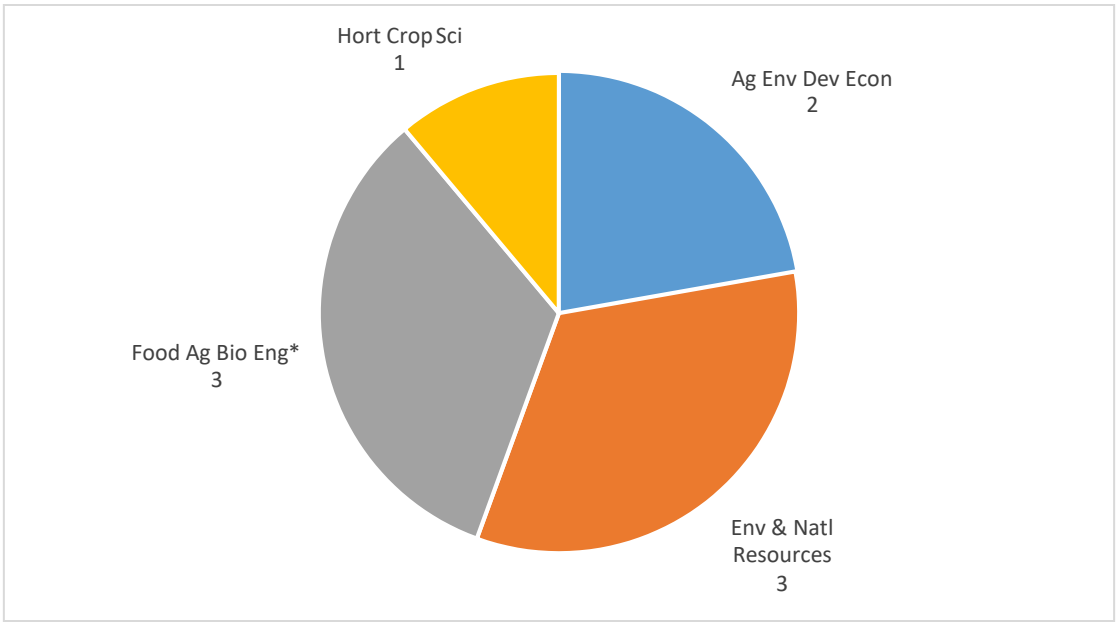


Figure 6A: Distribution of SRE DT Faculty in the College of Food, Agricultural, and Environmental Sciences across Departments (Total = 9)

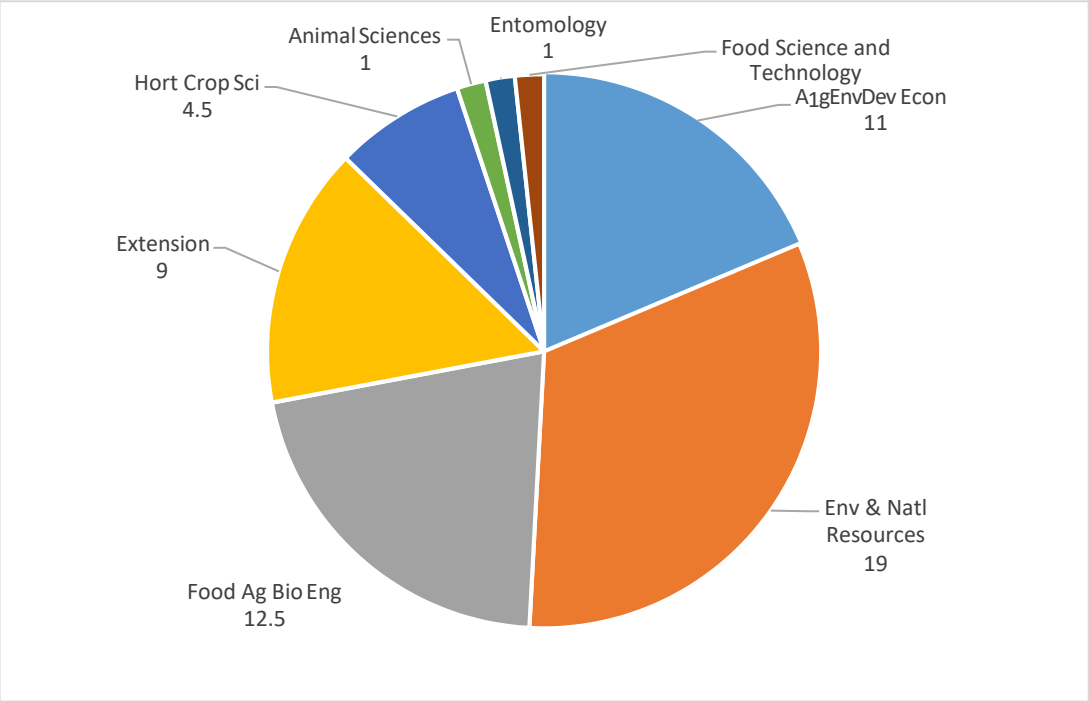


Figure 6B: Distribution of SRE/OEE Engaged Faculty in the College of Food, Agricultural, and Environmental Sciences across Departments (Total = 59)

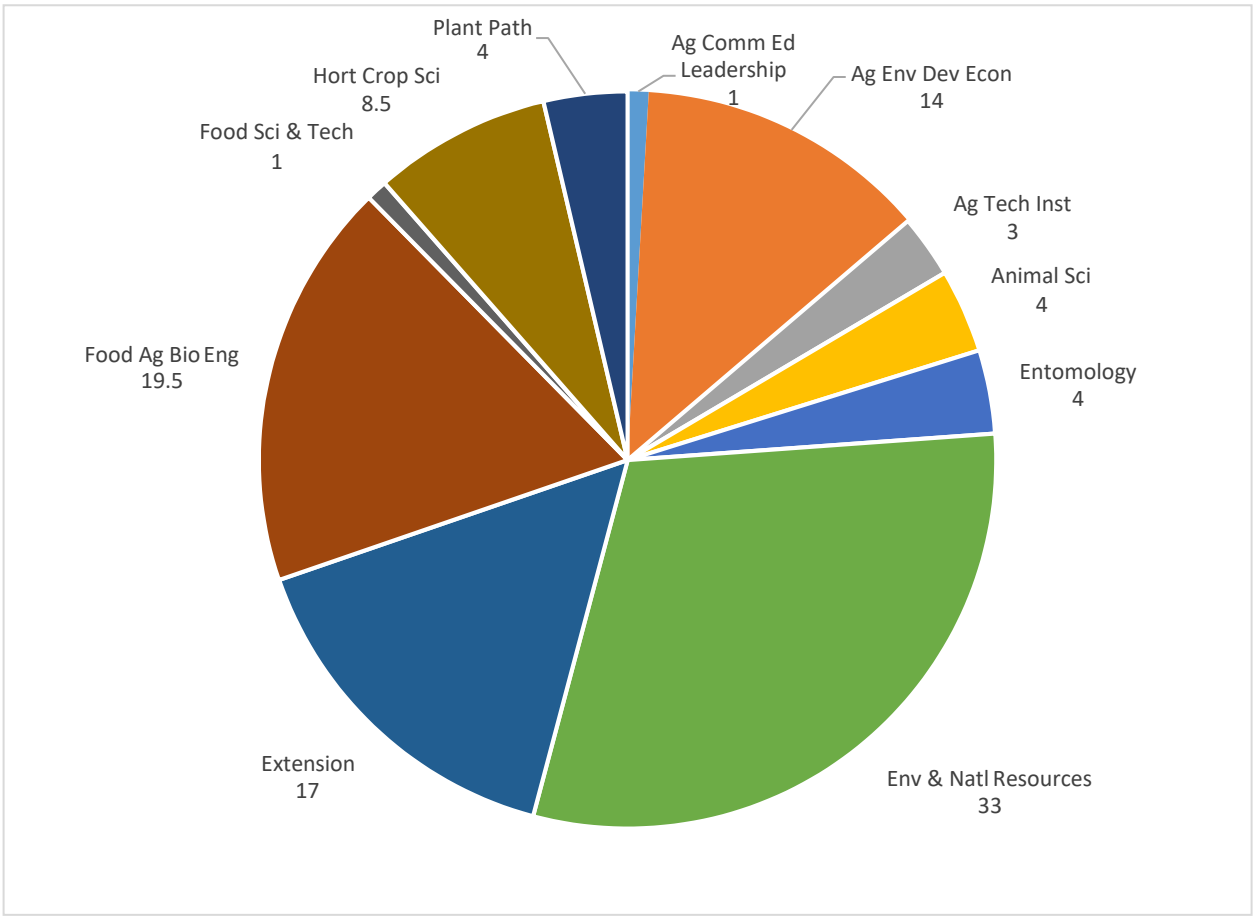


Figure 6C: Distribution of SRE/OEE Informed Faculty in the College of Food, Agricultural, and Environmental Sciences across Departments (Total = 109)

Appendix G

Sustainability Programs and Courses

Sustainability Programs and Courses

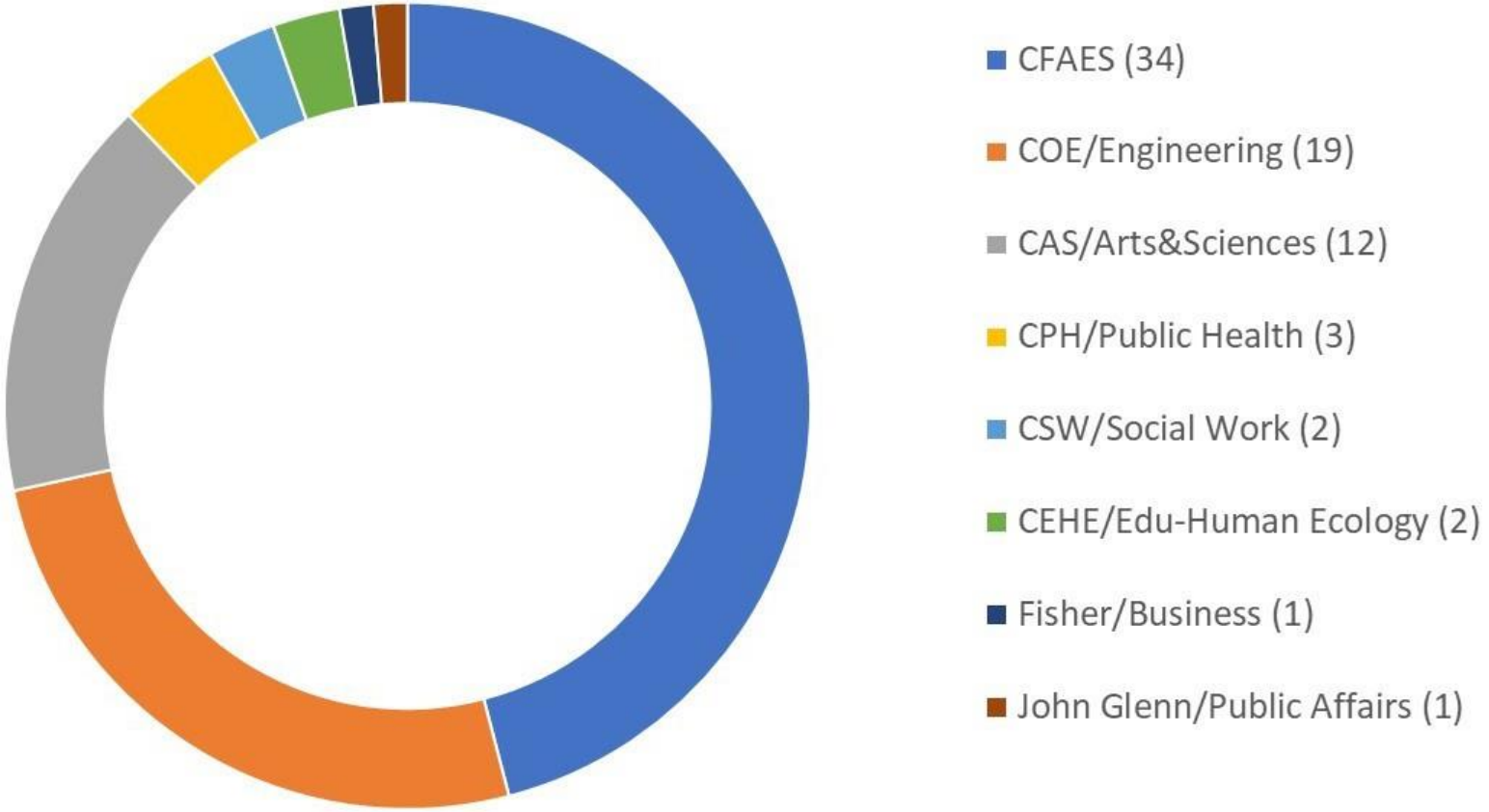
at The Ohio State University

Greg Hitzhusen

Student Education and Learning Committee (SELC)

Summer 2018

Sustainability **Programs** by College (total = 74)



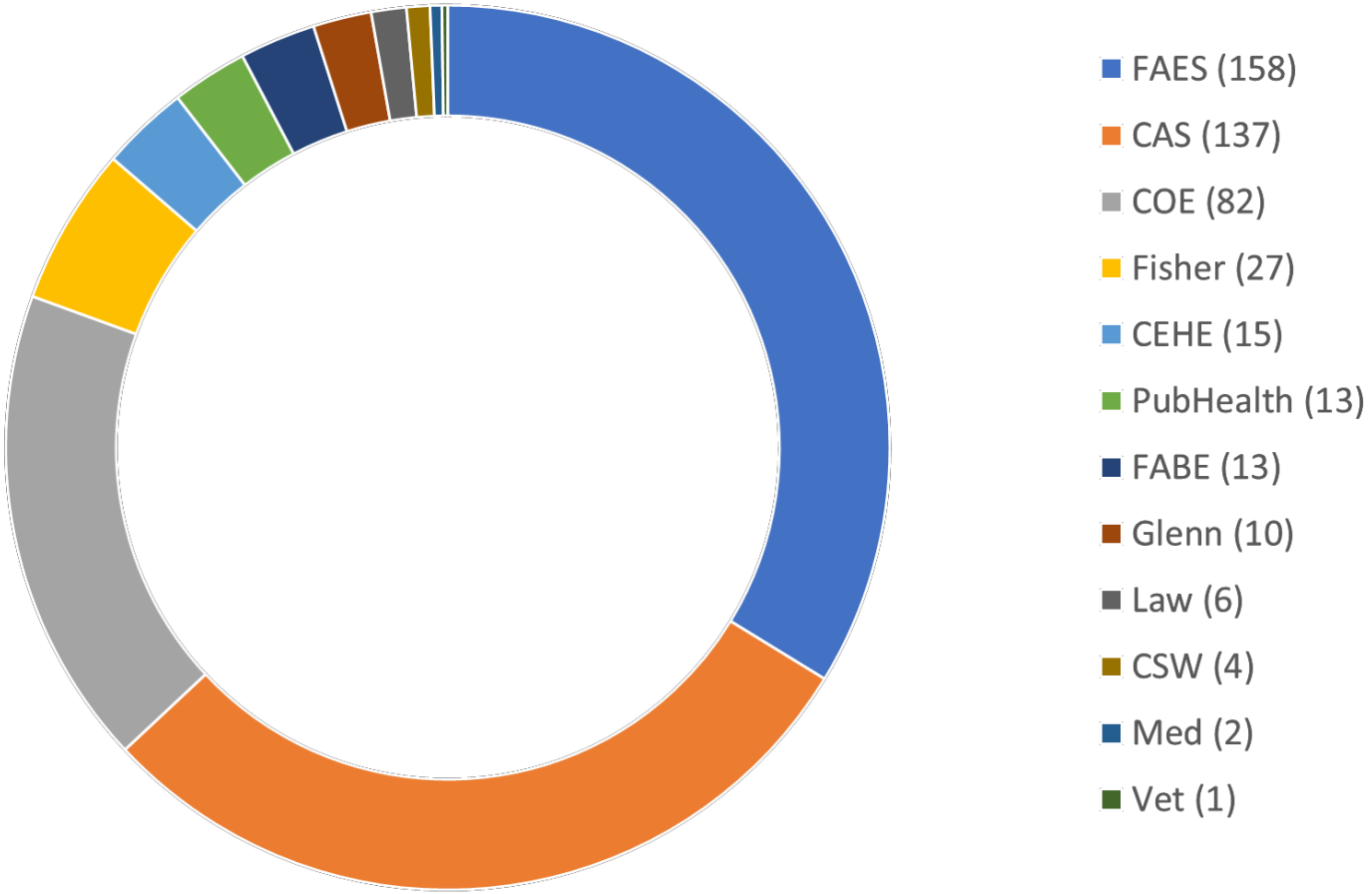
These 74 programs were identified in the document “Sustainable Learning Outcomes Inventory—Curriculum Committee Review” that served as the basis for the programs submitted to AASHE STARS in 2016. Programs were identified by a keyword search in program Expected Learning Outcomes (ELOs) and include any program with ELOs related to 2 of the 3 main areas of sustainability (environmental, economic, social).

Final list of 60 sustainability programs

(Of the 74 identified, these 60 programs were submitted to the 2016 AASHE STARS Reporting Program)

Aeronautical and Astronautical Engineering
Agricultural Systems Management
Agricultural, Environmental & Developmental Economics-MS
Agricultural, Environmental & Developmental Economics-PH
Animal Sciences-BS
Animal Sciences-BS in Nutrition
Architecture-MS
Biology-BA
Biomedical Engineering
Business Operational Excellence-MBOE
Chemical Engineering
City and Regional Planning
City and Regional Planning-MS
Civil Engineering
Computer Science and Engineering
ECE-Computer Engineering
ECE-Electrical Engineering
Educational Policy and Leadership-ED
Engineering Physics
Entomology-MS
Environment, Economy, Development and Sustainability-BS
Environmental Engineering
Environmental Policy and Decision Making-BS
Environmental Science-BS
Environmental Science-MS
Environmental Science-PH
Evolution and Ecology-BS
Evolution, Ecology, and Organismal Biology-MS
Evolution, Ecology, and Organismal Biology-PhD
FABE-MS
FABE-PH
Food, Agricultural and Biological Engineering-BS
Forestry, Fisheries and Wildlife-BS
Hospitality Management
Industrial and Systems Engineering
Industrial Design-BSD
Interior Design-BSD
Landscape Architecture-MS
Materials Science and Engineering
Meat Science-BS
Mechanical Engineering-BS
Natural Resource Management-BS
Plant Health Management-BS
Plant Health Management-PLHLTHM
Plant Pathology-BS
Plant Pathology-MS
Plant Pathology-PH
Public Affairs-BA
Public Health-BS
Public Health-MPH
Public Health-MS
Rural Sociology-MS
Social Work-BSW
Social Work-MSW
Sustainable Plant Systems-BS
Visual Communication Design-BSD
Zoology-BA
Zoology-BS
Entomology-BS
Biology-BS

Sustainability **Courses** by College (total = 458)

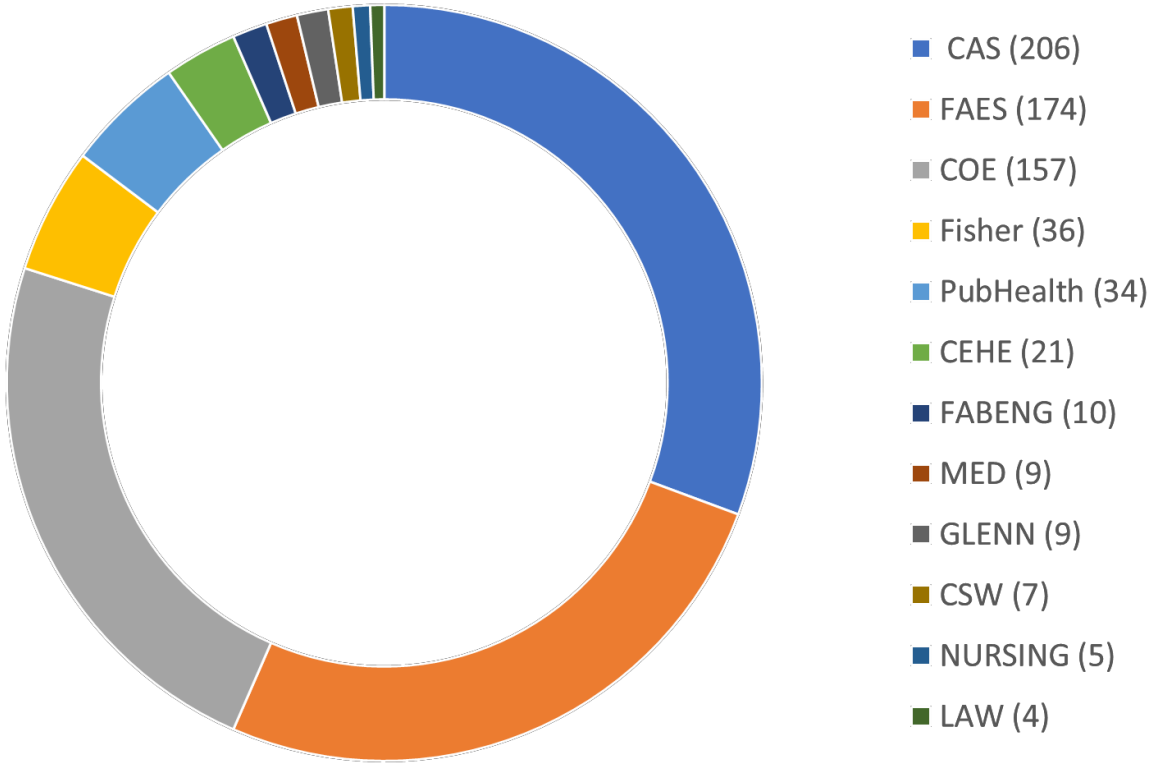


There are several existing tallies of OSU sustainability courses. To submit sustainability course data to AASHE STARS in 2016, an initial sustainability keyword search in OSU course titles and descriptions yielded over 5,000 courses. AASHE STARS criteria for “sustainability courses” (as opposed to ”courses that include sustainability”, which are referred to as “sustainability-related” courses in the next figure) were applied to come up with a shorter list of 458 qualifying courses. A sustainability course needed to have a primary focus on major sustainability themes.

Departments that teach sustainability courses

By Dept:
ENR: 66
GEOG: 25
CRPLAN: 24
HCS: 23
EARTHSC: 21
POLITSC: 19
AEDECON: 18
SOCIOL: 16
FABENG: 14
ENVENG: 14
LARCH: 14
ARCH: 12
INTSTDS: 12
BUSMHR: 10
PUBAFRS: 10
PUBHEHS: 8
ECON: 8
EEOB: 8
RNEWNRG: 8
RURLSOC: 8
BUSADM: 7
ENTMLGY: 7
BUSML:6
CRPSOIL: 6
EDUTL: 6
HORTTEC: 6
LAW:6
MECHENG: 6
ECE: 5
ISE:5
ASYSMT: 4
ANIMSCI: 4
CIVILEN: 4
COMPSTD: 4
ENGTECH:4
FDSCTE: 4
SOCWORK: 4
ANTHROP: 3
BUSMGT: 3
PLNTPTH: 3
BSGP: 2
COMM: 2
DESIGN: 2
ENGR: 2
HISTORY: 2
HUMNNTR: 2
MBA: 2
PSYCH: 2
PUBHEPI: 2
PHYSICS: 2
STAT: 2
ATMOSSC: 1
BIOMSCI: 1
CBE: 1
CONSYSM: 1
CSHSPMG: 1
EDUCST: 1
ENGLISH: 1
ESEADM: 1
ESEPHL: 1
ESETEC: 1
ESHESA: 1
ESSPSY: 1
ESWDE: 1
FCSED: 1
ANMLTEC: 1
MICROBIO: 1
PHILOS: 1
PUBHHBP: 1
PUBHLTH: 1
RELSTDS: 1
SPANISH: 1
AEROENG: 1
VETPREV: 1
WGSST: 1

Sustainability-Related **Courses** by College (total = 672)



To submit sustainability course data to AASHE STARS in 2016, an initial sustainability keyword search in OSU course titles and descriptions yielded over 5,000 courses. AASHE STARS criteria for “sustainability courses” and ”courses that include sustainability” (which are referred to as “*sustainability-related*” courses in this slide) were applied to come up with a shorter list of 672 qualifying sustainability-related courses. A sustainability course needed to have a primary focus on major sustainability themes. A “course including sustainability” needed to include significant attention to sustainability (such as a week-long unit focused on sustainability) in a course that was focused on a broader subject.

Departments that teach sustainability-related courses

By Dept:
CRPLAN: 55
ENR: 44
EEOB: 30
AEDECON: 27
CIVILEN: 21
HISTORY: 21
EARTHSC: 19
GEOG: 18
INTSTDS: 18
ECON: 17
ISE: 16
SOCIOL: 16
ANTHROP:15
LARCH: 15
MECHENG: 15
ANIMSCI: 12
ENTMLGY: 12
BUSML: 11
AGSYSMT: 10
FABENG: 10
ARCH:9
BUSMHR: 9
HCS: 9
PUBAFRS:9
PUBHEHS: 9
BUSMGT: 8
DESIGN: 8
POLITSC: 8
PUBHLTH: 8
SOCWORK: 8
BIOLOGY: 7
ENGTECH: 6
CHEM: 5
BUSADM: 6
CONSYSM: 6
COMM: 7
PUBHHMP: 7
ECE: 5
ENGR: 5
ENVENG: 5
HTHRHSC: 5
NUCLREN: 5
AGRCOMM: 4
CRPSOIL: 4
EDUTL: 4
FDSCTE: 4
LAW: 4
MEDDIET: 4
RURLSOC: 4
AEROENG: 3
AFAMAST: 3
BIOMEDE: 3
BSGP: 3
BUSFIN: 3
CBE: 3
COMLDR: 3
ESCFE: 3
HUMNNTR: 3
NURSING: 3
PHYSICS: 3
PLNTPTH: 3
WGSST: 3
ANMLTEC: 2
ASE: 2
AVIATN: 2
BIOTECH: 2
BMI: 2
ESEPHL: 2
ESETEC: 2
ENVSCT: 2
ESEADM: 2
CSE: 2
EHE: 2
ESWDE: 2
HDFS: 2
HORTEC: 2
MICRBIO: 2
MOLGEN: 2
PORTGSE:2
PSYCH: 2
SPANISH: 2
AEE: 1
AIRSCI: 1
BIOCHEM: 1
CLAS: 1
COMPSTD: 1
CONSCI: 1
CSFRST: 1
EDUCST: 1
ENGLISH: 1
ESHESA: 1
ESSPED: 1
ESSPSY:1
NRSADVN: 1
NRSPRCT: 1
PHILOS: 1
PHR: 1
RELSTDS: 1
TECHPHYS: 1
VETPREV:1

Appendix H

Ohio State Sustainability Ecosystem

OHIO STATE SUSTAINABILITY ECOSYSTEM

UNIVERSITY COLLABORATIVE INITIATIVES

Energy and Environment Discovery Themes

- 1. Sustainable and Resilient Economy (SRE)
- 2. Materials and Manufacturing for Sustainability (MMS)
- 3. Initiative for Food and Agricultural Transformation (InFACT)
- 4. Translational Data Analytics Institute
- 5. Humanities and the Arts

6. President and Provost's Council on Sustainability

7. Environmental Science Graduate Program

8. Office of Energy and Environment

9. Energy Services & Sustainability Office

10. Global Water Institute

Research and Innovation

CAA Approved Centers:

29. Byrd Polar and Climate Research Center
30. Center for Automotive Research
31. Center for Urban and Regional Analysis
32. Institute for Materials Research
33. Ohio Manufacturing Institute
34. Ohio Sea Grant College Program
35. Ohio Supercomputer Center
36. Propulsion and Power Center
37. Transportation Research Center

College/Department-Based Centers:

38. Academic Center for Excellence in Instrumentation Control and Safety
39. Aerospace Research Center
40. Bioproducts and Bioenergy Research Laboratory
41. Carbon Management and Sequestration Center
42. Center for Applied Plant Sciences
43. Center for Design and Manufacturing Excellence
44. Center for Electron Microscopy and Analysis
45. Center for Emergent Materials
46. Center for High Performance Power Electronics
47. Clean Energy Research Laboratory
48. Coal Combustion Products Program
49. ElectroScience Laboratory
50. Gas Turbine Laboratory
51. High Energy Density Physics Laboratory
52. Human Dimensions of Environment
53. NanoSystems Laboratory
54. Nanotech West Lab
55. Nuclear Reactor Laboratory
56. Ohio Bioproducts Innovation Center
57. Ohio Water Resources Center
58. Olentangy River Wetland Research Park
59. Simulation Innovation and Modeling Center
60. Smart Vehicle Concept Center
61. Subsurface Energy Materials Characterization and Analysis Laboratory
62. CERTAIN (formerly SERC, Subsurface Energy Resource Center)
63. Thermal Materials Laboratory

Teaching and Learning

Curricular (Interdisciplinary):

11. Engineering Physics major
12. Environment, Economics, Development & Sustainability (EEDS) major
13. Environmental Humanities program
14. Fisher College of Business Enterprise Sustainability Certificate
15. Food, Agricultural and Biological Engineering
16. Sustainable Agriculture (Associate Degree)
17. Sustainable Plant Systems major
18. Bioenergy and Biological Waste Management (Associate Degree)

Co-Curricular and Extra-Curricular:

19. Coca-Cola Sustainability Student Project Grant Program
20. Denman Research Forum
21. First-Year Experience
22. Green Engineering Scholars
23. Kellogg-Moser Food Security and Sustainability Learning Community
24. OSU Motorsports Teams: EcoCAR, Buckeye Current, Supermileage Vehicle
25. OSU Recyclemania
26. Second-Year Transformational Experience Program
27. Sustainability Scholarship and Research Grant Program
28. SUSTAINS Learning Community

Outreach and Engagement

University Initiatives:

64. Advancement
65. BioHio Research Park
66. Campus seminars, workshops and conferences
67. Center for Ethics and Human Values
68. Environmental Professionals Network
69. Fisher College Center for Operational Excellence
70. Government Affairs
71. Industry Liaison Office
72. K-12 Outreach
73. Outreach and Engagement
74. Ohio Environmental Leaders Institute
75. Ohio State Extension
76. STEAM Factory

Community Partners:

77. Columbus Metropolitan Club
78. Mid-Ohio Regional Planning Commission
79. Ohio By-Product Synergy Network
80. Ohio Energy Project
81. Smart Columbus

Resource Stewardship

82. Athletics
83. Campus Partners
84. Comprehensive Energy Management/ Ohio State Energy Partners
85. Facilities Operations & Development
86. Planning and Real Estate
87. Student Life
88. Transportation & Traffic Management
89. University Purchasing

Academic Units and Programs

Entities in red are those whose activities fit entirely into the sustainability ecosystem

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Appendix I

List of Informed Faculty

First Name	Last Name	Department/Unit	College
Igor	Adamovich	Mechanical and Aerospace Engineering	Engineering
Oloruntemi	Adetona	Environmental Health Sciences	Public Health
Anant	Agarwal	Electrical & Computer Engineering	Engineering
Gunjan	Agarwal	Biomedical Engineering	Engineering
Ola	Ahlqvist	Geography	Arts and Sciences
Gulsah	Akar	City and Regional Planning, Knowlton School of Architecture	Engineering
Sheikh	Akbar	Materials Science & Engineering	Engineering
Birgit	Alber	Microbiology	Arts and Sciences
Tunc	Aldemir	Mechanical and Aerospace Engineering	Engineering
Heather C.	Allen	Chemistry & Biochemistry	Arts and Sciences
Ted	Allen	Integrated Systems Engineering	Engineering
Doug	Alsdorf	Earth Sciences	Arts and Sciences
Jay	Anand	Management & Human Resources	Business
Betty Lise	Anderson	Electrical & Computer Engineering	Engineering
Peter	Anderson	Materials Science & Engineering	Engineering
Tom	Archer	Extension	Food, Agricultural & Environmental Sciences
Aaron	Arehart	Electrical & Computer Engineering	Engineering
John	Arnold	Agricultural Technical Institute (ATI)	Food, Agricultural & Environmental Sciences
Anish	Arora	Computer Science & Engineering	Engineering
Aravind	Asthagiri	Chemical and Biomolecular Engineering	Engineering
Loren	Babcock	Earth Sciences	Arts and Sciences
Jovica	Badjic	Chemistry & Biochemistry	Arts and Sciences
Abraham	Badu-Tawiah	Chemistry & Biochemistry	Arts and Sciences
Bhavik	Bakshi	Chemical and Biomolecular Engineering	Engineering
David	Barker	Horticulture and Crop Sciences	Food, Agricultural & Environmental Sciences
Michael	Barton	Earth Sciences	Arts and Sciences
Nick	Basta	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Guzin	Bayraksan	Integrated Systems Engineering	Engineering
Clarissa	Belloni	Mechanical and Aerospace Engineering	Engineering
Elliott	Bendoly	Management Sciences	Business
David	Benfield	OARDC, Ag Admin	Food, Agricultural & Environmental Sciences
Mike	Benzakein	Mechanical and Aerospace Engineering	Engineering
Alfredo	Berardo	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Paul	Berger	Electrical & Computer Engineering	Engineering
Leah	Bevis	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Michael	Bevis	Earth Sciences	Arts and Sciences
Bharat	Bhushan	Mechanical and Aerospace Engineering	Engineering
Jeff	Bielicki	Civil, Environmental and Geodetic Engineering	Engineering
Michael	Bisesi	Environmental Health Sciences	Public Health
Tom	Blaine	Extension	Food, Agricultural & Environmental Sciences
Christin	Blanco	Management Sciences	Business
Marc	Bockrath	Physics	Arts and Sciences
Gil	Bohrer	Civil, Environmental and Geodetic Engineering	Engineering
Pierluigi	Bonello	Plant Pathology	Food, Agricultural & Environmental Sciences
Jeffrey	Bons	Mechanical and Aerospace Engineering	Engineering
Jacob	Boswell	Landscape Architecture, Knowlton School of Architecture	Engineering
Nancy	Bowen-Ellzey	Extension	Food, Agricultural & Environmental Sciences
Janet	Box-Steffensmeier	Dean	Arts and Sciences
Ken	Boyer	Management Sciences	Business
Bear	Braumoeller	Political Science	Arts and Sciences
Nick	Breyfogle	History	Arts and Sciences
Leonard	Brillson	Electrical & Computer Engineering	Engineering
Angela	Brintlinger	Slavic & East European Language & Cultures	Arts and Sciences
David	Bromwich	Geography	Arts and Sciences
John	Brooke	History	Arts and Sciences
Jeremy	Brooks	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Angela	Brown	Optometry	Optometry
Trevor	Brown	Dean	Public Affairs
Larry	Brown	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Nicholas	Brunelli	Chemical and Biomolecular Engineering	Engineering
Kimberly	Burton	City and Regional Planning, Knowlton School of Architecture	Engineering
Brad	Bushman	Communications	Arts and Sciences
Tarunjit	Butalia	Civil, Environmental and Geodetic Engineering	Engineering
Mike	Cadwell	Architecture, Knowlton School of Architecture	Engineering
Yongyang	Cai	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Catherine	Calder	Statistics	Arts and Sciences
Luis	Canas	Entomology	Food, Agricultural & Environmental Sciences
Marcello	Canova	Mechanical and Aerospace Engineering	Engineering
Lei	Cao	Mechanical and Aerospace Engineering	Engineering
John	Cardina	Horticulture and Crop Sciences	Food, Agricultural & Environmental Sciences

First Name	Last Name	Department/Unit	College
Anne	Carey	Earth Sciences	Arts and Sciences
Cinnamon	Carlarne	Law	Law
Andre	Carrel	Civil, Environmental and Geodetic Engineering	Engineering
Bryan	Carstens	Evolution, Ecology, and Organismal Biology	Arts and Sciences
John	Casterline	Sociology	Arts and Sciences
Vince	Castillo	Marketing and Logistics	Business
Jose	Castro	Integrated Systems Engineering	Engineering
Chen	Chen	Integrated Systems Engineering	Engineering
Jen-Ping	Chen	Mechanical and Aerospace Engineering	Engineering
Joyce	Chen	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Qian	Chen	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Zhenhua	Chen	City and Regional Planning, Knowlton School of Architecture	Engineering
Ann	Christy	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
David	Civittolo	Extension	Food, Agricultural & Environmental Sciences
Jill	Clark	Public Affairs	Public Affairs
Jordan	Clark	Civil, Environmental and Geodetic Engineering	Engineering
Anne	Co	Chemistry & Biochemistry	Arts and Sciences
James Vernon	Coe	Chemistry & Biochemistry	Arts and Sciences
Jeffrey	Cohen	Anthropology	Arts and Sciences
Benjamin	Coifman	Civil, Environmental and Geodetic Engineering	Engineering
David	Cole	Earth Sciences	Arts and Sciences
Antonio	Conejo	Integrated Systems Engineering	Engineering
Maria	Conroy	City and Regional Planning, Knowlton School of Architecture	Engineering
Santina	Contreras	City and Regional Planning, Knowlton School of Architecture	Engineering
Ann	Cook	Earth Sciences	Arts and Sciences
Katrina	Cornish	Horticulture and Crop Sciences	Food, Agricultural & Environmental Sciences
Ozeas	Costa	Earth Sciences	Arts and Sciences
James	Cowan	Chemistry & Biochemistry	Arts and Sciences
Peter	Craigmile	Statistics	Arts and Sciences
Keely	Croxton	Marketing and Logistics	Business
Andrew	Cruse	Architecture, Knowlton School of Architecture	Engineering
Kip	Curtis	History	Arts and Sciences
Peter	Curtis	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Glenn	Daehn	Materials Science & Engineering	Engineering
Ran	Dai	Mechanical and Aerospace Engineering	Engineering
Karl	Danneberger	Horticulture and Crop Sciences	Food, Agricultural & Environmental Sciences
Karen	Dannemiller	Civil, Environmental and Geodetic Engineering	Engineering
Marcelo	Dapino	Mechanical and Aerospace Engineering	Engineering
Justin	D'Arms	Philosophy	Arts and Sciences
Thomas	Darrah	Earth Sciences	Arts and Sciences
Sam	Davanloo-Tajbakhsh	Integrated Systems Engineering	Engineering
Matt	Davies	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Greg	Davis	Extension	Food, Agricultural & Environmental Sciences
Thomas	Davis	English	Arts and Sciences
Michael	Dekay	Psychology	Arts and Sciences
Scott	Demyan	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Xiaoyan	Deng	Marketing and Logistics	Business
Anand	Desai	Public Affairs	Public Affairs
Richard	Dick	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Warren	Dick	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Alia	Dietsch	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Justin	Diles	Architecture, Knowlton School of Architecture	Engineering
Vicky	Doan-Nguyen	Mechanical and Aerospace Engineering	Engineering
Anna	Dobritsa	Molecular Genetics	Arts and Sciences
Grant	Donnelly	Marketing and Logistics	Business
Noah	Dormady	Public Affairs	Public Affairs
Sean	Downey	Anthropology	Arts and Sciences
Lisa	Downing	Philosophy	Arts and Sciences
Michael	Durand	Earth Sciences	Arts and Sciences
Prabir Kumar	Dutta	Chemistry & Biochemistry	Arts and Sciences
Jennifer	Eaglin	History	Arts and Sciences
Eylem	Ekici	Electrical & Computer Engineering	Engineering
Hesham	El-Gamal	Electrical & Computer Engineering	Engineering
Ilham	El-Monier	Chemical and Biomolecular Engineering	Engineering
Bart	Elmore	History	Arts and Sciences
Mark	Erbaugh	International Programs in Agriculture	Food, Agricultural & Environmental Sciences
Atilla	Eryilmaz	Electrical & Computer Engineering	Engineering
Teddy	Ezeji	Animal Sciences	Food, Agricultural & Environmental Sciences
LS	Fan	Chemical and Biomolecular Engineering	Engineering
Ayman	Fayed	Electrical & Computer Engineering	Engineering

First Name	Last Name	Department/Unit	College
Julie	Field	Anthropology	Arts and Sciences
Stacey	Fineran	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Carolin	Fink	Materials Science & Engineering	Engineering
Lisa	Fiorentini	Electrical & Computer Engineering	Engineering
Jeffrey	Firkins	Animal Sciences	Food, Agricultural & Environmental Sciences
Craig	Forsyth	Chemistry & Biochemistry	Arts and Sciences
Gerald	Frankel	Materials Science & Engineering	Engineering
Jonathan	Fresnedo Ramirez	Horticulture and Crop Sciences	Food, Agricultural & Environmental Sciences
Avner	Friedman	Mathematics	Arts and Sciences
Datta	Gaitonde	Mechanical and Aerospace Engineering	Engineering
Mary	Gardiner	Entomology	Food, Agricultural & Environmental Sciences
Wondwossen	Gebreyes	Veterinary Preventive Medicine	Veterinary Medicine
Stanley	Gehrt	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Joshua	Goldberger	Chemistry & Biochemistry	Arts and Sciences
Tom	Goldsby	Marketing and Logistics	Business
Sathya	Gopalakrishnan	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Venkat	Gopalan	Chemistry & Biochemistry	Arts and Sciences
Diane	Gorgas	Emergency Medicine	Medicine
Perena	Gouma	Materials Science & Engineering	Engineering
Philip	Grandinetti	Chemistry & Biochemistry	Arts and Sciences
Tyler	Grassman	Materials Science & Engineering	Engineering
John	Gray	Management Sciences	Business
Suzanne	Gray	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Rob	Greenbaum	Public Affairs	Public Affairs
David	Greenberger	Management & Human Resources	Business
James	Gregory	Mechanical and Aerospace Engineering	Engineering
Dorota	Grejmer-Bzrezinska	Civil, Environmental and Geodetic Engineering	Engineering
Kristen	Gremillion	Anthropology	Arts and Sciences
Andrea	Grottoli	Earth Sciences	Arts and Sciences
Abhishek	Gupta	Electrical & Computer Engineering	Engineering
Terry Lee	Gustafson	Chemistry & Biochemistry	Arts and Sciences
Levent	Guvenc	Mechanical and Aerospace Engineering	Engineering
Tim	Haab	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Christopher	Hadad	Chemistry & Biochemistry	Arts and Sciences
Van Ryan	Haden	Agricultural Technical Institute (ATI)	Food, Agricultural & Environmental Sciences
Michael	Hagenberger	Civil, Environmental and Geodetic Engineering	Engineering
Dennis	Hall	Extension	Food, Agricultural & Environmental Sciences
Lisa	Hall	Chemical and Biomolecular Engineering	Engineering
Peggy	Hall	Extension	Food, Agricultural & Environmental Sciences
Patrice	Hamel	Molecular Genetics	Arts and Sciences
Matthew	Hamilton	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Chris	Hammel	Physics	Arts and Sciences
Sherman	Hanna	Human Sciences	Education and Human Ecology
Derek	Hansford	Biomedical Engineering	Engineering
Ryan	Harne	Mechanical and Aerospace Engineering	Engineering
Curt	Haugtvedt	Marketing and Logistics	Business
Nick	Hawa	Anthropology	Arts and Sciences
Andrew	Heckler	Physics	Arts and Sciences
Ulrich	Heinz	Physics	Arts and Sciences
Denny	Heldman	Food Science & Technology	Food, Agricultural & Environmental Sciences
Joseph	Heremans	Mechanical and Aerospace Engineering	Engineering
Wendy R.	Hesford	English	Arts and Sciences
Ned	Hill	Public Affairs	Public Affairs
Dennis	Hirsch	Law	Law
Greg	Hitzhusen	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
W.S. Winston	Ho	Chemical and Biomolecular Engineering	Engineering
Jay	Hobgood	Geography	Arts and Sciences
Mike	Hogan	Extension	Food, Agricultural & Environmental Sciences
Jay	Hollick	Molecular Genetics	Arts and Sciences
Darryl	Hood	Environmental Health Sciences	Public Health
James	Hood	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Neal	Hooker	Public Affairs	Public Affairs
John	Horack	Mechanical and Aerospace Engineering	Engineering
Steve	Hovick	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Ian	Howat	Earth Sciences	Arts and Sciences
Casey	Hoy	Entomology	Food, Agricultural & Environmental Sciences
Natalie	Hull	Civil, Environmental and Geodetic Engineering	Engineering
Karen	Hutzel	Art	Arts and Sciences
Motomu	Ibaraki	Earth Sciences	Arts and Sciences
Michael	Ibba	Microbiology	Arts and Sciences

First Name	Last Name	Department/Unit	College
Mahesh	Illindala	Electrical & Computer Engineering	Engineering
Shoshanah	Inwood	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Elena	Irwin	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Douglas	Jackson-Smith	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Jeffrey	Jacquet	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Christopher	Jaroniec	Chemistry & Biochemistry	Arts and Sciences
Ciriyam	Jayaprakash	Physics	Arts and Sciences
Dee	Jepsen	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Sabine	Jeschonnek	Physics	Arts and Sciences
Joerg	Jinschek	Materials Science & Engineering	Engineering
Joel	Johnson	Electrical & Computer Engineering	Engineering
Norm	Johnson	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Ezekiel	Johnston-Halperin	Physics	Arts and Sciences
Kay Bea	Jones	Architecture, Knowlton School of Architecture	Engineering
Norman	Jones	Dean	Mansfield Campus
Brian	Joseph	Linguistics	Arts and Sciences
John	Kagel	Economics	Arts and Sciences
Ahmet	Kahraman	Mechanical and Aerospace Engineering	Engineering
Michelle	Kaiser	Social Work	Social Work
Margaret	Kalcic	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Gail	Kaye	Health Behavior & Health Promotion	Public Health
Harold Marion	Keener	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Jason	Kentner	Landscape Architecture, Knowlton School of Architecture	Engineering
Marat	Khafizov	Mechanical and Aerospace Engineering	Engineering
Jung Hyun	Kim	Mechanical and Aerospace Engineering	Engineering
Allen	Klaiber	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Matthew	Kleinhenz	Horticulture and Crop Sciences	Food, Agricultural & Environmental Sciences
Rachel	Kleit	City and Regional Planning, Knowlton School of Architecture	Engineering
A. Michael	Knemeyer	Marketing and Logistics	Business
Kurt	Koelling	Chemical and Biomolecular Engineering	Engineering
Vladimir	Kogan	Political Science	Arts and Sciences
Bern	Kohler	Chemistry & Biochemistry	Arts and Sciences
Nicole	Kraft	Communications	Arts and Sciences
Cathann	Kress	Dean	Food, Agricultural & Environmental Sciences
Sanjay	Krishna	Electrical & Computer Engineering	Engineering
Joseph Adrian	Krzycki	Microbiology	Arts and Sciences
Ethan	Kubatko	Civil, Environmental and Geodetic Engineering	Engineering
Mrinal	Kumar	Mechanical and Aerospace Engineering	Engineering
Greg	LaBarge	Extension	Food, Agricultural & Environmental Sciences
Rattan	Lal	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
David	Landsbergen	Public Affairs	Public Affairs
Roman	Lanno	Evolution, Ecology, and Organismal Biology	Arts and Sciences
John	Lannutti	Materials Science & Engineering	Engineering
Jesus	Lara	City and Regional Planning, Knowlton School of Architecture	Engineering
Clark	Larsen	Anthropology	Arts and Sciences
Chun Ning (Jeanie)	Lau	Physics	Arts and Sciences
Steve	Lavender	Integrated Systems Engineering	Engineering
Jim	Lee	Chemical and Biomolecular Engineering	Engineering
Jiyoung	Lee	Environmental Health Sciences	Public Health
John	Lenhart	Civil, Environmental and Geodetic Engineering	Engineering
Blaine	Lilly	Mechanical and Aerospace Engineering	Engineering
Eden	Lin	Philosophy	Arts and Sciences
Erin	Lin	Political Science	Arts and Sciences
Jialin	Lin	Geography	Arts and Sciences
Peter P.	Ling	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Forbes	Lipschitz	Landscape Architecture, Knowlton School of Architecture	Engineering
Desheng	Liu	Geography	Arts and Sciences
Linda	Lobao	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Yuan	Lou	Mathematics	Arts and Sciences
Brian	Lower	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Wu	Lu	Electrical & Computer Engineering	Engineering
Joe	Lucente	Extension	Food, Agricultural & Environmental Sciences
Stuart	Ludsin	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Alan	Luo	Materials Science & Engineering	Engineering
Berry	Lyons	Earth Sciences	Arts and Sciences
Steven	MacEachern	Statistics	Arts and Sciences
Allison	MacKay	Civil, Environmental and Geodetic Engineering	Engineering
Anil	Makhija	Dean	Business
Selin	Malkoc	Marketing and Logistics	Business
Karen	Mancl	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences

First Name	Last Name	Department/Unit	College
Becky	Mansfield	Geography	Arts and Sciences
Bryan	Mark	Geography	Arts and Sciences
Elizabeth	Marschall	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Jay	Martin	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Ken	Martin	Extension	Food, Agricultural & Environmental Sciences
William	Martin	Dean	Public Health
Stephen	Matthews	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Andrew	May	Civil, Environmental and Geodetic Engineering	Engineering
Sandip	Mazumder	Mechanical and Aerospace Engineering	Engineering
David	McComb	Materials Science & Engineering	Engineering
Mark	McCord	Civil, Environmental and Geodetic Engineering	Engineering
Joy	McCorriston	Anthropology	Arts and Sciences
Erin	McKie	Management Sciences	Business
Jack Joseph	McNamara	Mechanical and Aerospace Engineering	Engineering
Tristram	McPherson	Philosophy	Arts and Sciences
Kendra	McSweeney	Geography	Arts and Sciences
Kristin	Mercer	Horticulture and Crop Sciences	Food, Agricultural & Environmental Sciences
Michael	Mercil	Art	Arts and Sciences
James	Metzger	Horticulture and Crop Sciences	Food, Agricultural & Environmental Sciences
Andrew	Michel	Entomology	Food, Agricultural & Environmental Sciences
Fred	Michel	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Shawn W.	Midlam-Mohler	Mechanical and Aerospace Engineering	Engineering
Harvey	Miller	Geography	Arts and Sciences
Sally	Miller	Plant Pathology	Food, Agricultural & Environmental Sciences
Mario	Miranda	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Maria	Miriti	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Rabi	Mishalani	Civil, Environmental and Geodetic Engineering	Engineering
Daniella	Miteva	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Alvaro	Montenegro	Geography	Arts and Sciences
Aimee	Moore	Architecture, Knowlton School of Architecture	Engineering
Joachim	Moortgat	Earth Sciences	Arts and Sciences
Mark	Moritz	Anthropology	Arts and Sciences
Patricia	Morris	Materials Science & Engineering	Engineering
Randy	Moses	Office of Research	Office of Research
Ellen	Mosley-Thompson	Geography	Arts and Sciences
Myra	Moss	Extension	Food, Agricultural & Environmental Sciences
Agustin	Munoz Garcia	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Darla	Munroe	Geography	Arts and Sciences
Jane	Murphy	Architecture, Knowlton School of Architecture	Engineering
Roberto	Myers	Materials Science & Engineering	Engineering
David	Nagib	Chemistry & Biochemistry	Arts and Sciences
Arnab	Nandi	Computer Science & Engineering	Engineering
Erik	Nisbet	Communications	Arts and Sciences
Dorothy	Noyes	English	Arts and Sciences
Morton	O'Kelly	Geography	Arts and Sciences
Susan	Olesik	Chemistry & Biochemistry	Arts and Sciences
Chris	Otter	History	Arts and Sciences
Erdal	Ozkan	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Umit S.	Ozkan	Chemical and Biomolecular Engineering	Engineering
Andre	Palmer	Chemical and Biomolecular Engineering	Engineering
Wendy R.	Panero	Earth Sciences	Arts and Sciences
Geoffrey	Parker	History	Arts and Sciences
Tony	Parker	Animal Sciences	Food, Agricultural & Environmental Sciences
Jon	Parquette	Chemistry & Biochemistry	Arts and Sciences
Srinivasan	Parthasarathy	Computer Science & Engineering	Engineering
Mark	Partridge	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Kevin	Passino	Electrical & Computer Engineering	Engineering
Pierce	Paul	Plant Pathology	Food, Agricultural & Environmental Sciences
Joel	Paulson	Chemical and Biomolecular Engineering	Engineering
Christopher	Penrose	Extension	Food, Agricultural & Environmental Sciences
Bill	Peterman	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Ellen	Peters	Psychology	Arts and Sciences
Lauren	Pintor	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Marc	Posner	Integrated Systems Engineering	Engineering
Lee Carson	Potter	Electrical & Computer Engineering	Engineering
Farhang	Pourboghrat	Integrated Systems Engineering	Engineering
Daniel	Pradel	Civil, Environmental and Geodetic Engineering	Engineering
Shaurya	Prakash	Mechanical and Aerospace Engineering	Engineering
Steve	Prochaska	Extension	Food, Agricultural & Environmental Sciences
Judit	Puskas	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences

First Name	Last Name	Department/Unit	College
Feng	Qin	Computer Science & Engineering	Engineering
Rongjun	Qin	Civil, Environmental and Geodetic Engineering	Engineering
Steven	Quiring	Geography	Arts and Sciences
Siddharth	Rajan	Electrical & Computer Engineering	Engineering
T.V. (Babu)	RajanBabu	Chemistry & Biochemistry	Arts and Sciences
Antonio	Ramirez	Materials Science & Engineering	Engineering
Rajiv	Ramnath	Computer Science & Engineering	Engineering
Jim	Rathman	Chemical and Biomolecular Engineering	Engineering
Chris	Rea	Public Affairs	Public Affairs
Keith	Redmill	Electrical & Computer Engineering	Engineering
Steven	Ringel	Electrical & Computer Engineering	Engineering
Steven	Rissing	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Giorgio	Rizzoni	Mechanical and Aerospace Engineering	Engineering
Mary	Rodriguez	Agricultural Communication, Education and Leadership	Food, Agricultural & Environmental Sciences
Brian	Roe	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Adrian	Rogers	Teaching and Learning	Education and Human Ecology
Eric	Romich	Extension	Food, Agricultural & Environmental Sciences
Greg	Rose	Dean	Marion Campus
Natividad	Ruiz	Microbiology	Arts and Sciences
Manus (Johnny)	Rungtusanatham	Management Sciences	Business
Pamela	Salsberry	Health Behavior and Health Promotion	Public Health
Matthew	Saltzman	Earth Sciences	Arts and Sciences
Abdoul	Sam	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Mo	Samimy	Mechanical and Aerospace Engineering	Engineering
Audrey	Sawyer	Earth Sciences	Arts and Sciences
Derek	Sawyer	Earth Sciences	Arts and Sciences
Jay	Sayre	Office of Research	Office of Research
Ashley	Schafer	Architecture, Knowlton School of Architecture	Engineering
Burkhard	Schaffrin	Earth Sciences	Arts and Sciences
Franklin	Schwartz	Earth Sciences	Arts and Sciences
Ahmet	Selamet	Mechanical and Aerospace Engineering	Engineering
Andrea	Serrani	Electrical & Computer Engineering	Engineering
Christo	Sevov	Chemistry & Biochemistry	Arts and Sciences
Halil	Sezen	Civil, Environmental and Geodetic Engineering	Engineering
Hannah	Shafaat	Chemistry & Biochemistry	Arts and Sciences
Abdollah	Shafieezadeh	Civil, Environmental and Geodetic Engineering	Engineering
Ajay	Shah	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Jeff	Sharp	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Scott	Shearer	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Ian	Sheldon	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Mo-How (Herman)	Shen	Mechanical and Aerospace Engineering	Engineering
Oded	Shenkar	Management & Human Resources	Business
Dianne	Shoemaker	Extension	Food, Agricultural & Environmental Sciences
Ness	Shroff	Computer Science & Engineering	Engineering
CK	Shum	Earth Sciences	Arts and Sciences
Prasun	Sinha	Computer Science & Engineering	Engineering
Vaibhav	Sinha	Mechanical and Aerospace Engineering	Engineering
Nicole	Sintov	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Ramteen	Sioshansi	Integrated Systems Engineering	Engineering
David	Sivakoff	Statistics	Arts and Sciences
Brian	Slater	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Carol	Smidts	Mechanical and Aerospace Engineering	Engineering
Randy	Smith	Office of Academic Affairs	Office of Academic Affairs
Allison	Snow	Evolution, Ecology, and Organismal Biology	Arts and Sciences
Anastasia	Snyder	Human Sciences	Education and Human Ecology
Alfred B O	Soboyejo	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Brent	Sohngen	Agricultural, Environmental, and Developmental Economics	Food, Agricultural & Environmental Sciences
Colleen	Spees	Health and Rehabilitation Services	Medicine
Christine	Sprunger	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Narasi	Sridhar	Materials Science & Engineering	Engineering
David	Staley	History	Arts and Sciences
Christopher	Stewart	Computer Science & Engineering	Engineering
Vish	Subramaniam	Mechanical and Aerospace Engineering	Engineering
Dan	Sui	Geography	Arts and Sciences
R. Mark	Sulc	Horticulture and Crop Sciences	Food, Agricultural & Environmental Sciences
Matthew	Sullivan	Microbiology	Arts and Sciences
Mazeika	Sullivan	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Michael	Sumption	Materials Science & Engineering	Engineering
Vishnu	Sundaresan	Mechanical and Aerospace Engineering	Engineering
Jeffrey	Sutton	Mechanical and Aerospace Engineering	Engineering

First Name	Last Name	Department/Unit	College
Robert	Tabita	Microbiology	Arts and Sciences
David	Talbot	Mechanical and Aerospace Engineering	Engineering
Christine	Thomas	Chemistry & Biochemistry	Arts and Sciences
Alexander	Thompson	Political Science	Arts and Sciences
Lonnie	Thompson	Earth Sciences	Arts and Sciences
Elizabeth	Toman	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Eric	Toman	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
David	Tomasko	Chemical and Biomolecular Engineering	Engineering
Andrew	Tong	Chemical and Biomolecular Engineering	Engineering
Christopher	Tonra	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Piers	Turner	Philosophy	Arts and Sciences
Claudia	Turro	Chemistry & Biochemistry	Arts and Sciences
Victor	Ujor	Agricultural Technical Institute (ATI)	Food, Agricultural & Environmental Sciences
Kareem	Usher	City and Regional Planning, Knowlton School of Architecture	Engineering
Tijs	Van Maasakkers	City and Regional Planning, Knowlton School of Architecture	Engineering
Richard	Vasques	Mechanical and Aerospace Engineering	Engineering
Hendrik	Verweij	Materials Science & Engineering	Engineering
Caroline	Wagner	Public Affairs	Public Affairs
Joel	Wainwright	Geography	Arts and Sciences
Jiankang	Wang	Electrical & Computer Engineering	Engineering
Jin	Wang	Electrical & Computer Engineering	Engineering
Xaoguang (William)	Wang	Chemical and Biomolecular Engineering	Engineering
Xiaoxuie	Wang	Chemical and Biomolecular Engineering	Engineering
Peter	Ward	Management Sciences	Business
Keith	Warren	Social Work	Social Work
Linda	Weavers	Civil, Environmental and Geodetic Engineering	Engineering
Duane	Wegener	Psychology	Arts and Sciences
Mark	Weir	Environmental Health Sciences	Public Health
Jan	Weisenberger	Office of Research	Office of Research
Sam	White	History	Arts and Sciences
David	Williams	Dean	Engineering
Roger	Williams	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Susan	Williams	English	Arts and Sciences
Anna	Willow	Anthropology	Arts and Sciences
Robyn	Wilson	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Wolfgang E.	Windl	Materials Science & Engineering	Engineering
Ryan	Winston	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Jessica	Winter	Chemical and Biomolecular Engineering	Engineering
John	Witter	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Andrea	Wolfe	Evolution, Ecology, and Organismal Biology	Arts and Sciences
David	Woods	Integrated Systems Engineering	Engineering
Patrick	Woodward	Chemistry & Biochemistry	Arts and Sciences
Karen	Wruck	Finance	Business
Jian-Qiu	Wu	Molecular Genetics	Arts and Sciences
Yiying	Wu	Chemistry & Biochemistry	Arts and Sciences
Barbara	Wyslouzil	Chemical and Biomolecular Engineering	Engineering
Ye	Xia	Plant Pathology	Food, Agricultural & Environmental Sciences
Cathy	Xia	Integrated Systems Engineering	Engineering
Ningchuan	Xiao	Geography	Arts and Sciences
Dongbin	Xiu	Mathematics	Arts and Sciences
Longya	Xu	Electrical & Computer Engineering	Engineering
Xinyi	Xu	Statistics	Arts and Sciences
Shang-Tian	Yang	Chemical and Biomolecular Engineering	Engineering
Rama	Yedavalli	Mechanical and Aerospace Engineering	Engineering
Hongtao	Yi	Public Affairs	Public Affairs
Alper	Yilmaz	Civil, Environmental and Geodetic Engineering	Engineering
Seth	Young	Civil, Environmental and Geodetic Engineering	Engineering
Amy	Youngs	Art	Arts and Sciences
Zhongtang	Yu	Animal Sciences	Food, Agricultural & Environmental Sciences
Shiyu	Zhang	Chemistry & Biochemistry	Arts and Sciences
Wei	Zhang	Electrical & Computer Engineering	Engineering
Julia	Zhang	Electrical & Computer Engineering	Engineering
Hongping	Zhao	Electrical & Computer Engineering	Engineering
Ji-Cheng	Zhao	Materials Science & Engineering	Engineering
Kaiguang	Zhao	Environment and Natural Resources	Food, Agricultural & Environmental Sciences
Lingying	Zhao	Food, Agricultural & Biological Engineering	Food, Agricultural & Environmental Sciences
Mei	Zhuang	Mechanical and Aerospace Engineering	Engineering
Chris	Zoller	Extension	Food, Agricultural & Environmental Sciences

Appendix J

Letters of Support for Faculty Involvement from Department Chairs

Letters of Support for Faculty Involvement from Department Chairs

Department/Unit	Chair
Agricultural, Environmental, and Developmental Economics	Tim Haab
Anthropology	Kristen Gremillion
Chemical and Biomolecular Engineering	Andre Palmer
Chemistry and Biochemistry	Susan Olesik
City and Regional Planning, Knowlton School of Architecture	Maria Conroy
Civil, Environmental and Geodetic Engineering	Allison MacKay
Evolution, Ecology, and Organismal Biology	John Freudenstein
Ohio State University Extension	Ken Martin
Food, Agricultural & Biological Engineering	Scott Shearer
Geography	Darla Munroe
History	Scott Levi
Horticulture and Crop Science	Jim Metzger
Integrated Systems Engineering	Farhang Pourboghrat
Management Sciences	James Hill
Marketing and Logistics	Tom Goldsby
Philosophy	Lisa Downing

From: Haab, Timothy
Sent: Tuesday, September 25, 2018 9:35 AM
To: Irwin, Elena <irwin.78@osu.edu>; Bartter, Kate <arnold.680@osu.edu>
Subject: Letter of Support for Sustainability Institute

Dear Elena and Kate,

I am writing to express my support for the proposal to establish the Sustainability Institute at Ohio State and my willingness to encourage and support the involvement of faculty from the Department of Agricultural, Environmental, and Development Economics in the Institute should they choose to participate.

AEDE has a strong relationship with SRE and OEE and we look forward to building on that foundation moving forward as the Institute takes shape.

I believe that the Sustainability Institute can benefit faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to amplify the work that faculty in AEDE are doing related to sustainability teaching, research and engagement.

I support the involvement of AEDE faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions for sustainable future.

Sincerely,

Tim Haab
Professor and Chair
Department of Agricultural, Environmental, and Developmental Economics

THE OHIO STATE UNIVERSITY

Department of Anthropology
College of Arts and Sciences

4034 Smith Lab
174 West 18th Ave.
Columbus, OH 43210-1106

614-292-4149 Phone
614-292-4155 Fax

osu.edu

24 September 2018

Elena Irwin
Professor, Department of Agricultural, Environmental, and Developmental Economics
Faculty Director, Sustainable and Resilient Economy
316 Ag Admin Building
2120 Fyffe Road
Columbus, OH 43210

Dear Elena and Kate,

On behalf of the Department of Anthropology, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of nine faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to:

- *amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability*
- *improve the coordination and communication of sustainability-related academic programs and expand the educational opportunities for students seeking sustainability-related careers*
- *increase our engagement with community partners to pursue applied research that can generate practical solutions*
- *augment the ways in which we engage with communities to provide research-based expertise and guidance related to the sustainability challenges that they are facing*

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Kristen Gremillion
Professor and Chair
Department of Anthropology

THE OHIO STATE UNIVERSITY

Anthropology faculty involved in SRE or OEE (SRE DT faculty in bold)

Sean	**Downey**
Kristen	Gremillion
Nick	Hawa
Clark	Larsen
Mark	Moritz
Anna	Willow
Jeffrey	Cohen
Julie	Field
Joy	McCorriston

THE OHIO STATE UNIVERSITY

William G. Lowrie Department of Chemical and Biomolecular Engineering

314 Koffolt Laboratories, CBEC
151 West Woodruff Avenue
Columbus, OH 43210-1350

614-292-4000 Phone
614-292-3769 Fax

September 18, 2018

RE: Letter of Support for Sustainability Institute

Dear Elena and Kate,

On behalf of the Department of Chemical and Biomolecular Engineering, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of 20 faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement and campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability.

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Andre Palmer, Ph.D.
Professor and Chair
William G. Lowrie Department of Chemical and Biomolecular Engineering

THE OHIO STATE UNIVERSITY

Department of Chemistry and Biochemistry

1118 Newman and Wolfrom Laboratory
100 West 18th Ave.
Columbus, OH 43210-1106

614-292-2251 Phone
614-292-1685 Fax

olesik.1@osu.edu

http://chemistry.osu.edu

September 25, 2018

SRE and OEE

Ohio State University

CAMPUS

Dear Elena and Kate,

On behalf of the Department of Chemistry and Biochemistry, I am writing to express my enthusiastic support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of 26 faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability. My department is also working hard to connect research efforts with companies that have interests in sustainable chemistry or biochemistry. We are enthusiastic about having the opportunity to collaborate with the Sustainability Institute on this effort as well.

THE OHIO STATE UNIVERSITY

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Susan V. Olesik

Professor and Chair

Department of Chemistry & Biochemistry

THE OHIO STATE UNIVERSITY

Austin E. Knowlton School of Architecture
Architecture
Landscape Architecture
City and Regional Planning

September 25, 2018

Dear Elena and Kate,

On behalf of the City and Regional Planning Section of the Knowlton School of Architecture, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and for the involvement of faculty from my section in the Institute. Our section already has a strong relationship with SRE and OEE. Nine of our fourteen faculty are involved with SRE or OEE as they work to advance sustainability research, teaching, engagement and/or campus stewardship (see table, next page).

I believe that the Sustainability Institute can benefit our and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. Specifically, I see such an Institute increasing the connections and visibility associated with the teaching, research and engagement the faculty do related to sustainability. This enhances our ability to educate not only the OSU community, but also the public more broadly about the contributions we are making to sustainability. The Institute would also be valuable for improving the coordination and communication of sustainability-related academic programs as well as expanding the educational opportunities for students seeking sustainability-related careers. Finally, I envision the Institute identify new hands-on opportunities for sustainability education, including project-based learning that use campus as a living lab and real-world projects with organizations or communities. This effort stems from the report recommendations of the Ecosystem Services Panel on which I served as chair. Such an enterprise would augment the ways in which we engage with communities to provide research-based expertise and guidance related to the sustainability challenges that we all are facing.

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely

Maria Manta Conroy, Ph.D.
Assoc. Professor and Interim Section Head
City & Regional Planning
Conroy.36@osu.edu
614-292-8044

CRP faculty involved in SRE or OEE
(SRE DT faculty in bold)

Zhenhua	**Chen**
Santina	**Contreras**
Gulsah	Akar
Kimberly	Burton
Maria	Conroy
Rachel	Kleit
Kareem	Usher
Tijs	Van Maasakkers
Jesus	Lara

THE OHIO STATE UNIVERSITY

College of Engineering

Department of Civil, Environmental and Geodetic Engineering

Allison MacKay
470 Hitchcock Hall
2070 Neil Avenue
Columbus, OH 43210-1275

Phone: (614) 247-7652
Fax: (614) 292-3780

mackay.49@osu.edu
ceg.osu.edu

9/21/2018

Dear Elena and Kate,

On behalf of the Department of Civil, Environmental and Geodetic Engineering, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of 24 faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to

- amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability
- identify new hands-on opportunities for sustainability education, including project-based learning that use campus as a living lab and real-world projects with organizations or communities
- increase our engagement with industry and community partners to pursue applied research that can generate practical solutions

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Allison MacKay
Professor and Chair, Department of Civil, Environmental and Geodetic Engineering

CEGE faculty involved in SRE or OEE
(SRE DT faculty in bold)

Jordan	**Clark**
Karen	**Dannemiller**
Natalie	**Hull**
Ryan	**Winston**
Jeff	Bielicki
Gil	Bohrer
Tarunjit	Butalia
Andre	Carrel
Benjamin	Coifman
Dorota	Grejner-Bzrezinska
Michael	Hagenberger
Allison	MacKay
Andrew	May
Mark	McCord
Rabi	Mishalani
Rongjun	Qin
Abdollah	Shafieezadeh
Linda	Weavers
Ethan	Kubatko
John	Lenhart
Daniel	Pradel
Halil	Sezen
Alper	Yilmaz
Seth	Young

THE OHIO STATE UNIVERSITY

Department of Evolution, Ecology and Organismal Biology

318 W. 12th Ave.
Columbus, OH 43210

614-292-8088 Phone
614-292-2030 Fax
eeob.osu.edu

25 September 2018

Elena Irwin
Kate Bartter
Sustainable and Resilient Discovery Theme Program
and Office of Energy and Environment

Dear Elena and Kate,

On behalf of the Department of Evolution, Ecology, and Organismal Biology, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of 13 faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to (1) amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability, and (2) improve the coordination and communication of sustainability-related academic programs and expand the educational opportunities for students seeking sustainability-related careers.

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

John V. Freudenstein, PhD
Professor & Chair

THE OHIO STATE UNIVERSITY

College of Food, Agricultural, and Environmental Sciences
Ohio State University Extension

Office of the Director
Kenneth E. Martin, Department Chair
3 Agricultural Administration Building
2120 Fyffe Road
Columbus, Ohio 43210-1084
614-292-8793 Phone
614-688-3807 Fax
http://extension.osu.edu

September 20, 2018

Dear Elena and Kate,

On behalf of the OSU Extension, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

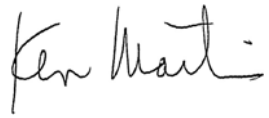
Our department already has a strong relationship with SRE and OEE. We have a total of 17 faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to:

- amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability
- improve the coordination and communication of sustainability-related academic programs and expand the educational opportunities for students seeking sustainability-related careers
- identify new hands-on opportunities for sustainability education, including project-based learning that use campus as a living lab and real-world projects with organizations or communities
- increase our engagement with industry and community partners to pursue applied research that can generate practical solutions
- augment the ways in which we engage with communities to provide research-based expertise and guidance related to the sustainability challenges that they are facing

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,



Kenneth E. Martin, Ph.D.
Chair and Associate Director, Programs

From: Shearer, Scott A.
Sent: Thursday, September 27, 2018 9:27 AM
To: Irwin, Elena <irwin.78@osu.edu>; Bartter, Kate <arnold.680@osu.edu>
Subject: Support for the OSU Sustainability Institute

Dear Elena and Kate,

On behalf of FABE, I am writing to express my strong support for the proposal to establish the Sustainability Institute at OSU and the involvement of faculty from FABE in the Institute. FABE enjoys a strong relationship with SRE and OEE. We have a total of 21 faculty who are involved in programming that align with SRE or OEE, and are working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to amplify the work that FABE faculty are doing related to sustainability teaching, research and engagement, so that we can better educate the entire OSU community and the public about the contributions we are making to sustainability.

I support the involvement of FABE faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Regards,
Scott

THE OHIO STATE UNIVERSITY

Scott A. Shearer, PhD, PE | Professor and Chair
Food, Agricultural and Biological Engineering | 200A Agricultural Engineering Building
590 Woody Hayes Drive | Columbus, OH 43210-1057
Office: 614.292.7284 | Mobile: 859.509.5026 | FAX: 614.292.9448
www.fabe.osu.edu | twitter.com/ScottShearer95

THE OHIO STATE UNIVERSITY

Department of Geography
College of Arts and Sciences

1036 Derby Hall
154 North Oval Mall
Columbus, Ohio 43210

614-292-2514 Phone
614-292-6213 Fax
www.geography.osu.edu

September 18, 2018

Dear Elena and Kate,

On behalf of the Department of Geography, I am writing to express my strong support for the proposal to establish the **Sustainability Institute at Ohio State** and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of 16 faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to increase the visibility of the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to social and environmental justice.

In addition, we welcome the opportunity to increase our engagement with industry and community partners to pursue applied research that can generate practical solutions, and to augment the ways in which we engage with communities to provide research-based expertise and guidance related to the sustainability challenges that they are facing.

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and just society.

Sincerely,

Darla Munroe
Professor and Interim Chair
Department of Geography

Geography faculty involved in SRE or OEE

Ola	Ahlqvist
Desheng	Liu
Becky	Mansfield
Bryan	Mark
Harvey	Miller
Ellen	Mosley-Thompson
Darla	Munroe
Steven	Quiring
Ningchuan	Xiao
David	Bromwich
Jay	Hobgood
Jialin	Lin
Kendra	McSweeney
Alvaro	Montenegro
Joel	Wainwright
Max	Woodworth

From:	Levi, Scott
To:	Irwin, Elena; Bartter, Kate
Subject:	letter of support for proposed sustainability institute
Date:	Monday, September 17, 2018 6:01:35 PM
Attachments:	5234703D-D495-4EEC-B4D0-84F53FEE94C4[1].png

Dear Elena and Kate,

On behalf of the Department of History, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of nine faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to:

- amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability
- improve the coordination and communication of sustainability-related academic programs and expand the educational opportunities for students seeking sustainability-related careers
- identify new hands-on opportunities for sustainability education, including project-based learning that use campus as a living lab and real-world projects with organizations or communities
- increase our engagement with industry and community partners to pursue applied research that can generate practical solutions
- augment the ways in which we engage with communities to provide research-based expertise and guidance related to the sustainability challenges that they are facing

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Scott

Scott Levi
Professor and Chair

Department of History
106 Dulles Hall
230 Annie and John Glenn Avenue
Columbus, OH 43210-1367
614-292-3001 Office / 614-292-7645 Office / 614-292-2282 Fax

levi.18@osu.edu history.osu.edu

THE OHIO STATE UNIVERSITY

Department of Horticulture and Crop Science

202 Kottman Hall
2021 Coffey Road
Columbus, OH 43210-1086

Phone (614) 292--3854
Fax (614) 292-7162

metzger.72@osu.edu

September 18, 2018

TO: Dr. Elena Irwin
Kate Bartter

Re: HCS support for the Sustainability Institute at Ohio State

Dear Elena and Kate,

On behalf of the Department of Horticulture and Crop Science, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of nine faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to:

- amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability
- improve the coordination and communication of sustainability-related academic programs and expand the educational opportunities for students seeking sustainability-related careers
- identify new hands-on opportunities for sustainability education, including project-based learning that use campus as a living lab and real-world projects with organizations or communities
- increase our engagement with industry and community partners to pursue applied research that can generate practical solutions
- augment the ways in which we engage with communities to provide research-based expertise and guidance related to the sustainability challenges that they are facing

THE OHIO STATE UNIVERSITY

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

James D. Metzger
Professor and Chair
Department of Horticulture and Crop Science

From: "Pourboghrat, Farhang" <pourboghrat.2@osu.edu>
Date: September 19, 2018 at 2:34:08 PM EDT
To: "Irwin, Elena" <irwin.78@osu.edu>, "Bartter, Kate" <arnold.680@osu.edu>
Subject: Letter of support for proposed sustainability institute

Dear Elena and Kate,

On behalf of the Department of Integrated Systems Engineering, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of 12 faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to:

- amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability
- improve the coordination and communication of sustainability-related academic programs and expand the educational opportunities for students seeking sustainability-related careers
- identify new hands-on opportunities for sustainability education, including project-based learning that use campus as a living lab and real-world projects with organizations or communities
- increase our engagement with industry and community partners to pursue applied research that can generate practical solutions
- augment the ways in which we engage with communities to provide research-based expertise and guidance related to the sustainability challenges that they are facing

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Farhang

Farhang Pourboghrat, Professor and Chair, Department of Integrated Systems Engineering
Professor, Department of Mechanical and Aerospace Engineering
The Ohio State University
210 Baker Systems, 1971 Neil Avenue
Columbus, OH 43210
Tel:(614) 292-3124
E-mail: pourboghrat.2@osu.edu

From: "Hill, James" <hill.249@osu.edu>
Date: September 19, 2018 at 1:32:27 PM EDT
To: "Bartter, Kate" <arnold.680@osu.edu>
Subject: letter of support for proposed sustainability institute

Dear Elena and Kate,
On behalf of the Department of Management Sciences, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of seven faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to

- amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability
- improve the coordination and communication of sustainability-related academic programs and expand the educational opportunities for students seeking sustainability-related careers
- identify new hands-on opportunities for sustainability education, including project-based learning that use campus as a living lab and real-world projects with organizations or communities
- increase our engagement with industry and community partners to pursue applied research that can generate practical solutions
- augment the ways in which we engage with communities to provide research-based expertise and guidance related to the sustainability challenges that they are facing

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

James Hill
Chair, Department of Management Sciences
Associate Professor of Operations Management
Associate Director Center for Operational Excellence

THE OHIO STATE UNIVERSITY
FISHER COLLEGE OF BUSINESS

Department of Marketing & Logistics
500 Fisher Hall
2100 Neil Avenue
Columbus, OH 43210
614-292-8808 Phone
614-688-0879 Fax
fisher.osu edu

September 19, 2018

Dr. Elena Irwin
Professor, AEDE Department
Faculty Director, Sustainable and Resilient Economy
316 Ag Admin Building
2120 Fyffe Road
Columbus OH 43210

Dear Elena and Kate,

On behalf of the Department of Marketing and Logistics, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute. Our department already has a strong relationship with SRE and OEE. We have a total of eight faculty (listed below) who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement, and campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and growing the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability. Also, I expect the institute to foster engagement with industry and community partners to pursue applied research that can generate practical solutions

In summary, I enthusiastically support the formation of the Sustainability Institute and the involvement of my faculty. We look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincere Ix,

Thomas Goldsby
Professor and Chair
Department of Marketing and Logistics

M&L faculty involved in SRE or OEE: Grant Donnelly (SRE faculty member), Keely Croxton, Curt Haugtvedt, Vince Castillo, Xiaoyan Deng, Mike Knemeyer, Selin Malkoc, and me (Tom Goldsby)

From: "Downing, Lisa" <downing.110@osu.edu>
Date: September 18, 2018 at 10:24:16 PM EDT
To: "Irwin, Elena" <irwin.78@osu.edu>, "Bartter, Kate" <arnold.680@osu.edu>
Subject: Sustainability Institute

Dear Elena and Kate,

On behalf of the Department of Philosophy, I am writing to express my strong support for the proposal to establish the Sustainability Institute at Ohio State and the involvement of faculty from my department in the Institute.

Our department already has a strong relationship with SRE and OEE. We have a total of five faculty who are involved with SRE or OEE and working to advance sustainability research, teaching, engagement or campus stewardship.

I believe that the Sustainability Institute can benefit these and other faculty by continuing to build a more coordinated approach to interdisciplinary collaboration and expanding the resources to support sustainability research and applications. In addition, I look forward to working with the Institute to amplify the work that faculty in my department are doing related to sustainability teaching, research and engagement, so that we can better educate the entire Ohio State community and the public about the contributions we are making to sustainability.

I support the involvement of my faculty in the Sustainability Institute and look forward to working together to further our work toward developing innovative solutions that achieve a more sustainable, resilient and inclusive society.

Sincerely,

Lisa Downing
Professor and Chair
Department of Philosophy

Appendix K

EACC charge

Charge to Establish a University-Wide Energy Academic Collaboration Council

October 2017

BACKGROUND

On July 6, 2017, the university officially launched Ohio State's Comprehensive Energy Management Project. Our new partnership with Ohio State Energy Partners – OSEP, which is the joint venture between ENGIE North America and Axium Infrastructure – represents the largest single investment in Ohio State's academic mission and will help us reach our long-term sustainability goals for energy. In addition, we have a unique opportunity to create a substantial academic collaboration with OSEP that will provide additional benefits to our faculty, staff and students.

To maximize the leverage and integration of the $150 million academic collaboration component of our partnership with OSEP, we are creating an Energy Academic Collaboration Council (EACC) to guide our efforts and meaningful campus engagement in this process. Members will serve two-year, renewable terms.

Four members of the EACC will also serve as Ohio State's initial members of the Visionary Project Advisory Committee (VPAC), a requirement of Ohio State's contract with OSEP. The VPAC will focus on developing the **Energy Advancement and Innovation Center** component of our academic collaboration.

THE CHARGE

The EACC will serve as our university Board of Advisors to attain a strong foundation for an integrated 50- year partnership with OSEP that advances the sustainability academic mission of Ohio State. The EACC will ensure that we maximize and enhance the value of this unique relationship with broad, university-wide interaction and that we continually bring new ideas and elements into the partnership as our respective institutions evolve.

The EACC will invite additional Ohio State faculty, students and staff, as needed, to focus on specific aspects of our academic collaboration. In addition, the EACC is charged with ensuring meaningful community engagement in this partnership. Further, the EACC will coordinate with the **President and Provost's Council on Sustainability**, which will serve as the advisory body for the $15 million endowment to enhance our sustainability efforts outside of the scope of the contract with OSEP.

TIMING

Kate Bartter, Director of the Office of Energy and Environment, and Randy Moses, Senior Associate Vice President for Research, will co-facilitate the EACC. The EACC will work closely with the leaders of OSEP to deliver its first list of recommendations to the Executive Vice President and Provost by December 1, 2017. The Council will provide quarterly progress reports to the provost thereafter.

The VPAC will operate in accordance with the contract between Ohio State and OSEP.

ENERGY ACADEMIC COLLABORATION COUNCIL

- **Sara Adelman**, President, Interprofessional Council
- **Kate Bartter**, Director, Office of Energy and Environment, OAA
- **Jeff Bielicki**, Assistant Professor, COE and JGCPA
- **Kate Calder**, Faculty Council and Professor, Statistics, ASC
- **Molly Calhoun**, Associate Vice President, Student Life
- **Kip Curtis**, Assistant Professor, Environmental History, Regional Campus, ASC
- **Prabir Dutta**, Distinguished University Professor, Chemistry & Biochemistry, ASC
- **Elena Irwin**, Faculty Director, SRE; Professor, CFAES; VPAC designee
- **Cathann Kress**, VP of Agricultural Administration, Dean of CFAES
- **Randy Moses**, Senior AVP, Research Administration; VPAC Chair designee
- **Keith Myers**, Senior AVP of Physical Planning, A&P, VPAC designee
- **Mike Papadakis**, Deputy CFO, Treasurer, VP Financial Services & Innovation, B&F
- **Rilee Peebles**, Undergraduate Student Government Sustainability Committee
- **Giorgio Rizzoni**, Director, CAR; Professor, Mechanical & Aerospace Engineering, COE
- **Sara Rubin**, Vice President for Principal Gifts, Advancement
- **Jay Sayre,** Director of Innovation, Institute for Materials Research, VPAC designee
- **David Staley**, Associate Professor, History, ASC
- **Peter Ward,** Senior Associate Dean, FCOB
- **Alex Wesaw**, President, Council of Graduate Students
- **David Williams**, Executive Dean of the Professional Colleges; Dean of the College of Engineering

Appendix L

Sustainable Columbus Observatory

Sustainable Columbus Observatory

Measuring the progress of Columbus toward being a smart and sustainable city

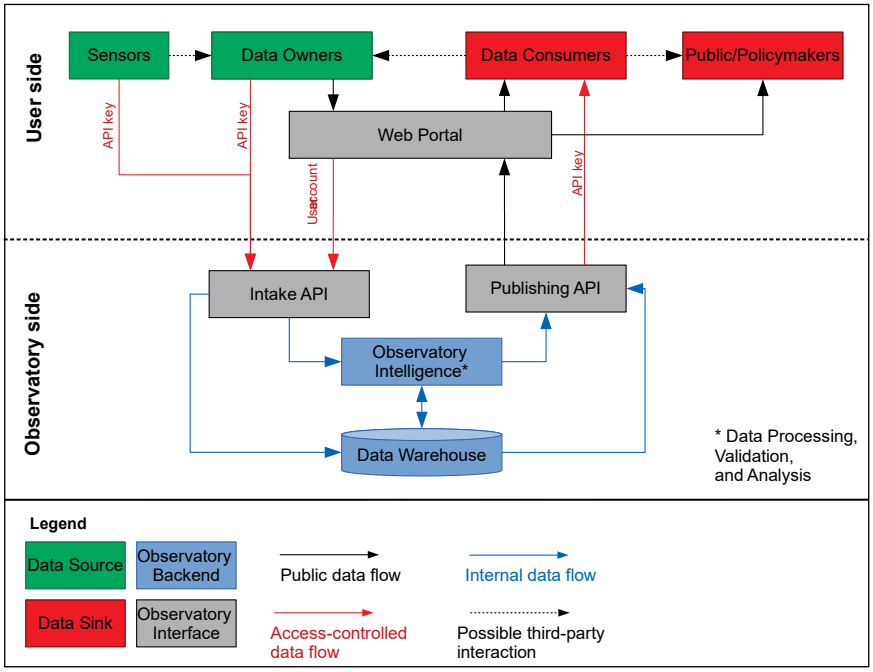
The Sustainable Columbus Observatory is both an instrument and a community of researchers. Its job is to benchmark social, environmental, and economic factors related to sustainability in Central Ohio, to support evidence-based policy, and to facilitate new forms of convergent sustainability science with benefits for Ohio and beyond.

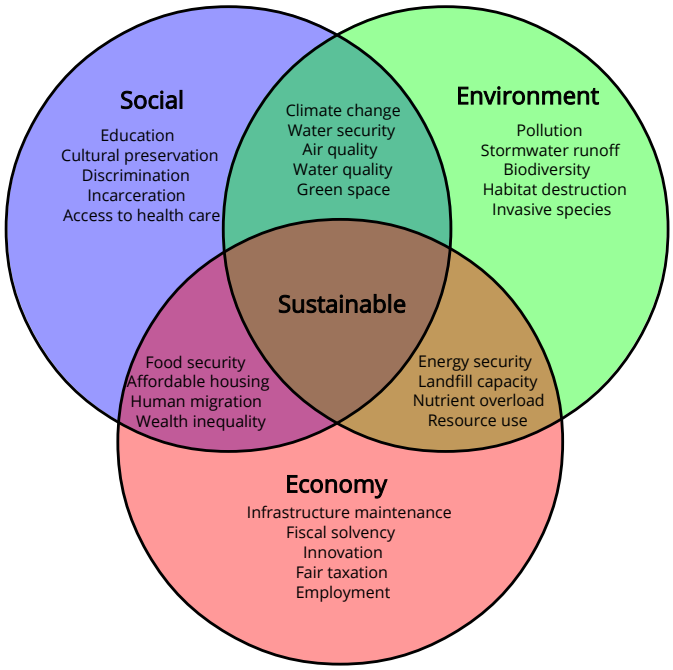
Instrument

- Informational **website**
- Massive **longitudinal data warehouse**
- **Data portal** with advanced user interface
- Built-in **data processing**
- Access and manipulate data using **Javascript, Python, and R**
- Monitor **sustainability indicators**, computed automatically from data
- **Interactive dashboard** showing sustainability patterns in time and space
- **Open source** architecture
- **Deployment tools** for easy replication in other cities

Community

- Strategic **research plan**
- Community of **affiliated researchers**
- Model **data-science curriculum**
- Model **sustainability curriculum**
- Curated collection of **example applications**
- In-person and self-paced **training opportunities**
- Community **knowledge base**
- **User support** services
- **Application support** services
- System **replication support** services





THE OHIO STATE UNIVERSITY

Center for Urban and Regional Analysis
Sustainable and Resilient Economy Discovery Theme
Translational Data Analytics Institute

Appendix M

Biographical Sketches

Kate Bartter

Director, Office of Energy and Environment

Kate Bartter serves as the director of the Office of Energy and Environment at Ohio State. Kate provides the leadership to implement the OEE mission of integrating sustainability across the enterprise of Ohio State, including academics, students, research, campus operations and outreach, and she manages the day-to-day operation of OEE. She also is chair of the President and Provost's Council on Sustainability. In addition, she serves on Ohio State's Government Affairs extended team.

Prior to joining Ohio State in March 2007, Kate served as the Chief Policy Advisor and Director of Cabinet Affairs for Ohio Gov. Bob Taft. In that capacity, she managed the governor's policy staff, directed cabinet relations, coordinated inter-agency issues including strategic planning, and oversaw the operation of Gov. Taft's Washington, D.C. office.

Kate also served as the Governor's Executive Assistant for Environment and Natural Resources throughout the Taft administration.

She holds a bachelor of science in journalism from Ohio University.

Elena Irwin

Faculty Director, Sustainable and Resilient Economy
Professor, Department of Agricultural, Environmental and Development Economics

Elena Irwin is a professor of environmental economics in the Department of Agricultural, Environmental, and Development Economics and faculty director of the Sustainable and Resilient Economy (SRE) program at The Ohio State University. Her research has been published in high-impact disciplinary and interdisciplinary journals including the *Proceedings of the National Academy of Sciences*, *Nature Sustainability*, *Annual Review of Resource Economics*, *Journal of Environmental Economics and Management*, and *Journal of Economic Geography*. She has over 6,700 Google citations of her research and been PI or CoPI on multiple large interdisciplinary research projects totaling over $17 million in funding, including funding from the National Science Foundation, NOAA, and the US Department of Agriculture, as well as private foundations. Her current research projects include development of a dynamic model of food, energy, water systems for the Great Lakes regional economy, integrated model of agricultural land use and management and ecosystem services under a changing climate, causes of urbanization, and impacts of land use change on water quality and ecosystem services. She is also a member of the US EPA Board of Scientific Councilors Subcommittee for Sustainable and Healthy Communities; past elected board member of the Association of Environmental and Resource Economists and the North American Regional Science Council; and past member of the National Research Council committee on land change modeling and NSF

Advisory Committee for Environmental Research and Education subcommittee on Sustainable Urban Systems.

In her capacity as SRE faculty director, she provides leadership to this comprehensive interdisciplinary program aimed at catalyzing research, teaching and engagement in sustainability research at Ohio State across natural, physical and social sciences, engineering, public health, planning and policy, and the humanities. She leads the overall strategic direction, including cultivating campus-wide collaborative research and curriculum development efforts, partnering with academic units to recruit and mentor new SRE faculty, and working with faculty and staff to develop partnerships with stakeholders and extramural funding opportunities. Dr. Irwin earned an undergraduate degree in German and History from Washington University in St. Louis and her Ph.D. in agricultural and resource economics from the University of Maryland.

For more information see Dr. Irwin's Short Curriculum Vitae.

Appendix N

Draft Charter for the Sustainability Institute Faculty Advisory Board

SUSTAINABILITY INSTITUTE
FACULTY ADVISORY BOARD

Introduction

This document presents the *charter* for the Faculty Advisory Board (FAB) for the Sustainability Institute (SI) at Ohio State University. It describes the role, responsibilities, accountability, and authority of the FAB and specifies its composition and operation. SI will build on the successes of the Discovery Themes (DT) investment in the Sustainable and Resilient Economy program, as well as the university's investment in the energy, environment and sustainability area through the Office of Energy and Environment. SI will establish Ohio State as a leading public institution of sustainability scholarship, innovation and applied solutions by elevating and integrating systems-based approaches to sustainability and resilience across the university enterprise. SI will enable a more purposeful, effective and coordinated approach to sustainability-related interdisciplinary research, teaching campus stewardship and community engagement aimed at advancing innovative solutions to improve the well-being of our campus, state, regional, national and global communities. This mission aligns with the strategic plan's vision of Ohio State as a model 21st-century public, land grant, research, urban, community –engaged institution.

1) ROLES

The role of the Faculty Advisory Board (FAB) is to provide insight, advice, and guidance to assist SI in realizing its vision, mission, and goals.

Specifically, the FAB provides advice and guidance regarding

- Overall strategic direction of SI
- SI DT faculty mentoring and evaluation
- Faculty engagement
- Interdisciplinary research areas and capacity building
- Curriculum coordination and development
- Integrated research, teaching and outreach/engagement activities
- Integration of faculty expertise, research, and teaching activities with campus operations

2) RESPONSIBILITIES

- Guide the direction of SI by advising SI leadership on overall development and implementation of the SI Strategic Plan.
- Advise SI leadership on DT/SI faculty issues, including:
    - New faculty hiring planning and recruitment, including developing and reviewing hiring plans, drafting or reviewing position descriptions, serving on search committees where appropriate, and interviewing candidates during on-campus visits, representing SI
    - DT/SI faculty development and mentoring, including serving on the mentoring committee for a DT/SI faculty member, providing input for annual reviews to the Faculty Director, providing overall guidance regarding evaluation, promotion and retention of DT/SI faculty

- Provide strategic advice and leadership regarding research goals, strategies and activities that SI should pursue, particularly relating to:
    - Research program areas, capacity building, internal partnerships
    - Faculty engagement, networking, interdisciplinary team development
    - Integration of faculty expertise and research into strategic plans and projects underway to reach Ohio State's sustainability goals, including our operational goals
    - External partnerships, business development and funding strategies
- Advise in the overall development, delivery and communication of sustainability academic programming at the undergraduate and graduate levels, including:
    - Provide guidance and feedback to the Sustainability Education and Learning Committee (SELC)
    - Assist with coordination and communication of existing and new programs among academic units
    - Help to identify opportunities for improved coordination and communication of existing curricular and co-curricular programs and development of new programs, including degree enhancement, project-based and service learning programs
- Help to create opportunities for and support engagement of faculty colleagues in SI programs and activities, including by being an advocate and active participant in these as much as possible.
- Help to build internal partnerships with university Centers, Programs, and Institutes to advance sustainability research, teaching and outreach.
- Help to build external partnerships within the public and private sectors in the Columbus region, state of Ohio, nationally, and internationally to advance the SI mission and goals.
- Contribute to the evaluation of performance of SI, including participation in programmatic improvements and updates to the Strategic Plan.
- Provide guidance regarding meaningful expenditures of program funds, including support for internal capacity building and team development activities, seed grants, and other strategic investments
- Provide updates at FAB meetings regarding individual College/Center internal and external engagement within the scope of SI.
- Attend and actively participate in FAB monthly meetings.

3) ACCOUNTABILITIES

- The Faculty Advisory Board is an advising entity and has no formal university organizational accountability. The Faculty Director and Executive Director are accountable to the Office of Academic Affairs (OAA) for the success of the SI program.

4) AUTHORITIES

- The Faculty Director and the Executive Director have decision-making authority for the SI program with oversight from OAA.
- The Faculty Advisory Board provides input to the Faculty Director and Executive Director to guide decision-making. However, individual board members who also serve administrative leadership positions in their tenure initiating units (TIUs) may have decision-making authorities regarding new faculty hiring budgets and other faculty hiring-related issues for their TIUs.

5) COMPOSITION

- The FAB is composed of
  - SI Faculty Director (chair)
  - Approximately 12 faculty members activity engaged in sustainability and resilience research, teaching, and outreach aligned with the SI vision, mission, and programs
    - Faculty members include at least one representative from the faculty leadership of SELC and from each of the SI research program areas
  - SI Executive Director
- The SI Faculty Director working in consultation with the current FAB invites faculty to join the FAB
- Members of FAB are expected to come from all faculty ranks and to represent a diversity of disciplines, academic units, programs and perspectives
- FAB members will serve renewable two year terms, concurrent with the university's academic calendar with staggered renewal dates to maintain continuity of function

6) OPERATIONS

- The Faculty Advisory Board (FAB) meets generally every other month. The SI Faculty Director prepares agendas for meetings, working in coordination with the SI Executive Director and program team.
- Agendas will include both information and discussion/recommendation items
- Electronic communication and updates will be used in lieu of in-person meetings for additional engagement as needed
- Faculty representing the leadership of SI research and teaching programs will be given specific agenda time each meeting, as needed.
- Meeting minutes and action items are recorded by a designated member of the SI program team.
- Limited term working groups may be chartered by the FAB chair, in consultation with board members, to complete specific deliverables or task needed to advance SI or to expand faculty participation.

Appendix O

Sustainability Endowments at Academic Institutions

APPENDIX O

Sustainability Endowments at Academic Institutions

U. of Dayton (Ohio)	$12,500,000	U. of Dayton (Ohio) has received $12.5-million from the George and Amanda Hanley Foundation to create the Hanley Sustainability Institute, which will study the issue across multiple disciplines. Mr. Hanley is a co-founder and principal of Level 5 Trading, in Chicago. He earned a bachelor's degree in business from the university in 1977 and is a member of its Board of Trustees.
Bowdoin College (Brunswick, Me.)	$10,000,000	Bowdoin College (Brunswick, Me.) has received $10 million from David and Barbara Roux for a center dedicated to the study of the environment. Mr. Roux is a member of the college's Board of Trustees. He is a co-founder and senior director at Silver Lake Group, a firm that invests in technology businesses. Ms. Roux owns and operates St. Bride's Farm in Upperville, Va.
Arizona State U. (Tempe)	$50,000,000	Arizona State U. (Tempe) has received $25-million from Julie Ann Wrigley for its Global Institute of Sustainability, to study the effects of human activity on the Earth's ability to sustain all species. Ms. Wrigley is president of Wrigley Investments, in Sun Valley, Idaho. Her late husband, William, was president of the Wm. Wrigley Jr. Company, the chewing-gum manufacturer in Chicago. To date, she has donated $50-million to the institute.
California Institute of Technology, Resnick Sustainability Institute (Pasadena)	$15,000,000	California Institute of Technology, Resnick Sustainability Institute (Pasadena) has received $15-million from Stewart A. and Lynda R. Resnick. Most of the gift, $12-million, will match donations to create new endowed funds. The remainder will establish an innovation fund that will support new projects in clean-energy and sustainability science. The Resnicks own Roll International Corporation, a Los Angeles holding company that includes Paramount Farming Companies, Pom Wonderful, FIJI Water, and Teleflora. In 2009, they donated $21-million to establish the institute.

U. of Pennsylvania (Philadelphia)	$10,000,000	U. of Pennsylvania (Philadelphia) has received $10-million from Scott and Wendy Kleinman to establish the Kleinman Center for Energy Policy. Mr. Kleinman is lead partner of private equity at Apollo Global Management, an investment firm in New York. He earned bachelor's degrees in Russian studies and finance from the university in 1994.
Case Western Reserve U. (Cleveland)	$6,000,000	$6-million from Charles D. and Charlotte Fowler for a fellowship program that will provide financial support to students in the master's program studying sustainability. Mr. Fowler is the former chief executive officer of Fairmount Minerals, a Chardon, Ohio, company that produces industrial sand. He serves as chair of the university's Board of Trustees.
Cornell U., David R. Atkinson Center for a Sustainable Future (Ithaca, N.Y.)	$12,000,000	Cornell U., David R. Atkinson Center for a Sustainable Future (Ithaca, N.Y.) has received $12-million from Patricia D. and David R. Atkinson to endow its directorship and partially endow three faculty director positions in energy, environment, and economic development. Mr. Atkinson is the founder of his own investment management company in Princeton, N.J. He graduated from Cornell in 1960.
New York U.	$40,000,000	New York U. has received $40-million from Donald B. Marron to establish the Marron Institute on Cities and the Urban Environment. The institute will help cities around the world become more livable, sustainable, and equitable. Mr. Marron is former chairman of the Paine Webber Group, the securities firm that merged with UBS in 2000, and is now chairman of Lightyear Capital, a private-equity firm in New York.