

Appalachian Sustainable Finance Hub Co-Lab

September 26, 2024

Exploring the unique role that higher education institutions play in regional development and sustainability initiatives.



Lara Fowler,
Chief Sustainability Officer,
Penn State University



Aurora Sharrard,
Assistant Vice Chancellor for Sustainability,
University of Pittsburgh



Erienne Olesh,
Executive Director for Innovation and
Commercialization,
West Virginia University



Brandi Robinson,
Assoc. Teaching Professor for Energy and
Sustainability Policy,
Penn State University

» **45 Attendees**

» **4 Speakers**

» **3 Breakout Room Discussions**



» Session Highlights:

Sustainable Finance Hub's Role: Lara Fowler highlighted the importance of the Sustainable Finance Hub in facilitating an equitable and effective energy transition across the region, underscoring its potential to unite diverse stakeholders in sustainability efforts.

Multifaceted University Roles: She detailed the comprehensive roles universities play in sustainability, including education, research, operations, and community partnerships, with a focus on integrating sustainability into various aspects of university life.

Focus on Energy Justice: Fowler raised critical concerns about energy justice, discussing the impacts on vulnerable populations during energy crises and emphasizing the need for proactive measures to ensure equitable access to energy.

Penn State's Sustainability Initiatives: She provided insights into Penn State's ambitious sustainability goals, such as achieving a 100% decarbonized campus by 2035 and the strategies in place to reduce greenhouse gas emissions by 50% from 2005 levels.

Enhancing Community Engagement: Fowler discussed Penn State's active involvement in community-based sustainability projects, like the Local Climate Action Program and the Sustainable Communities Collaborative, which link student learning with real-world environmental challenges faced by local governments.

Local Climate Action Plan at Penn State

Brandi Robinson,
Assoc. Teaching Professor for Energy &
Sustainability Policy,
Penn State University



» Session Highlights:

Origins and Evolution: Brandy Robinson introduces the LCAP program, initially developed by Pennsylvania's Department of Environmental Protection to help local governments manage climate planning, which has now transitioned to a sustained effort at Penn State, focusing on coupling academic resources with community needs.

Curriculum and Community Impact: The session details how Penn State has integrated the science of climate change and policy implications into its curriculum, ensuring students not only learn about but actively participate in local government climate initiatives through practical, hands-on projects.

Partnerships and Tools: Penn State maintains crucial partnerships with organizations like ICLEI and the Department of Environmental Protection, leveraging tools like ICLEI's Clear Path software for greenhouse gas emissions management, which enhances the program's effectiveness and resource accessibility for communities.

Adaptive Learning and Support: The program's flexible structure allows it to address the specific needs of different communities, whether updating comprehensive plans, drafting climate action plans, or adopting renewable energy ordinances, thus acting as a tailored support system for local governments.

Student and Community Benefits: The initiative not only enriches student education by providing real-world applications, but also significantly aids community partners by enhancing their capacity to undertake and prioritize essential climate-related actions.

» Session Highlights:



Comprehensive Greenhouse Gas Management: Aurora Sharrard outlined the University of Pittsburgh's commitment to carbon neutrality by 2037, with interim goals such as a 50% reduction in greenhouse gas emissions by 2030 based on 2008 levels, utilizing extensive greenhouse gas inventorying across scope 1, 2, and 3 emissions.

Climate Action Planning: Pitt published its Climate Action Plan in 2022, setting forth strategies not only for reducing emissions but also for enhancing academic missions, promoting equitable actions, and ensuring economic resilience.

Building and Infrastructure Efforts: Highlighting efforts in both new and existing buildings, the university is advancing energy and water efficiency through LEED certification, partnership with Pittsburgh 2030 District, and significant investments in retrofitting and optimizing building performance.

Renewable Energy Initiatives and Partnerships: Sharrard emphasized the university's aggressive approach towards renewable energy, including procuring 50% of its electricity from renewable sources by 2030 and investing in diverse projects like solar arrays and hydroelectric power.

Investment and Funding Strategies: The session also delved into how Pitt finances its sustainability initiatives, highlighting the creation of a specific capital fund—the Pitt Climate Action Plan capital line—which supports projects with clear carbon benefit metrics, demonstrating a commitment to financially sustainable environmental stewardship.



» Session Highlights:

Regional Strategy for Energy Transition: Erienne Olesh discussed West Virginia University's commitment to leading energy transition efforts in the Central Appalachian region, emphasizing the need to prepare and maintain the region's pivotal role in the energy sector through innovative projects.

ACT Now Coalition Initiative: Olesh highlighted the ACT Now Build Back Better Regional Challenge, where WVU, along with other partners, focused on transforming former mine lands into economic assets using advanced mapping tools and technological innovations to identify and develop these sites.

ESG Score Business Case Development: WVU is exploring the significance and application of ESG (Environmental, Social, Governance) scores in both industry and community settings. They aim to educate on how these scores can be effectively utilized by communities to foster better corporate-community partnerships for sustainable development.

NSF Regional Innovation Engine (READY): This project aims to foster place-based economic development through innovation, with a focus on industrial decarbonization. WVU, in collaboration with Pitt and CMU, is working on developing new technologies and creating a robust ecosystem to support this initiative.

Comprehensive Support for Startups and Technology: Through various programs, WVU is emphasizing the creation of economic opportunities from environmental challenges by assisting startups and technology ventures with funding, mentorship, and resources.

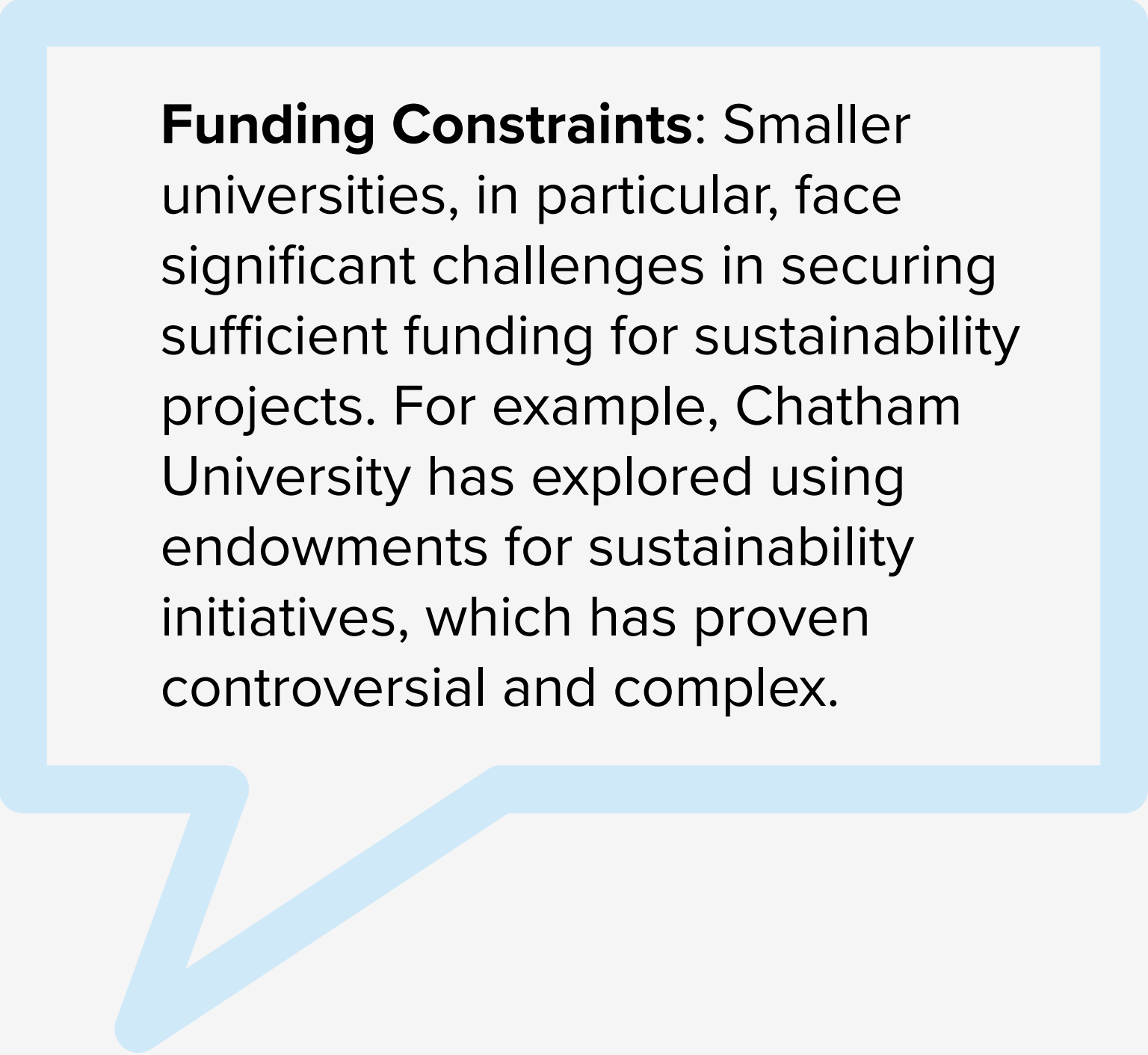
Group Discussion on Sustainability Operations

Competing Priorities: Participants discussed how sustainability initiatives often compete with other urgent university needs like maintenance, safety improvements, and faculty compensation. ie: Penn State's significant backlog in deferred maintenance has prioritized straightforward projects like solar and EV installations due to clearer funding paths.

Capacity and Continuity Challenges: Universities struggle with the internal capacity to manage complex sustainability projects. Continuity of staff and retaining expertise in-house rather than relying on external consultants was emphasized as crucial for the success of such projects.

Need for Standardized Frameworks: There is a critical need for standardized tools and frameworks to assess the lifecycle value of sustainability assets and prioritize projects effectively across the board, which would aid in making informed investment decisions.

Supportive Actions by the Appalachian Sustainable Finance Hub: Suggestions were made for the Finance Hub to develop standardized assessment templates, facilitate knowledge sharing between finance and sustainability experts, promote public-private partnerships, assist in capital stacking and financing, and advocate for supportive policy changes to foster sustainability investments in higher education.



Funding Constraints: Smaller universities, in particular, face significant challenges in securing sufficient funding for sustainability projects. For example, Chatham University has explored using endowments for sustainability initiatives, which has proven controversial and complex.

Group Discussion on Education & Research

Innovative Course Design: Successful sustainability education programs highlighted include open elective courses that integrate business and engineering disciplines, featuring numerous guest speakers to provide diverse perspectives and real-world insights.

Community-Based Initiatives: Training programs like tree tender courses that involve students actively in community networks have gained positive traction, particularly in Pittsburgh. These programs educate and actively engage students in sustainability practices within the community.

Multi-Level Sustainability Education: A layered approach to sustainability education is deemed effective, ranging from low-engagement events and workshops to more intensive academic pathways including certificates, and eventually, undergraduate and graduate degrees in sustainability-related fields.

Research Integration and Community Involvement: Research in sustainability should not operate in isolation but integrate with classroom learning and involve community partners directly. This approach ensures that research addresses real community needs and involves stakeholders as co-designers, enhancing the relevance and application of research findings.

Integration of Sustainability in University Programs: There's a call for larger university programs, especially those with significant resource usage like laboratories, to adopt more sustainable practices. The expansion of initiatives like the Green Labs program is recommended to enhance sustainability across all operational facets of higher education

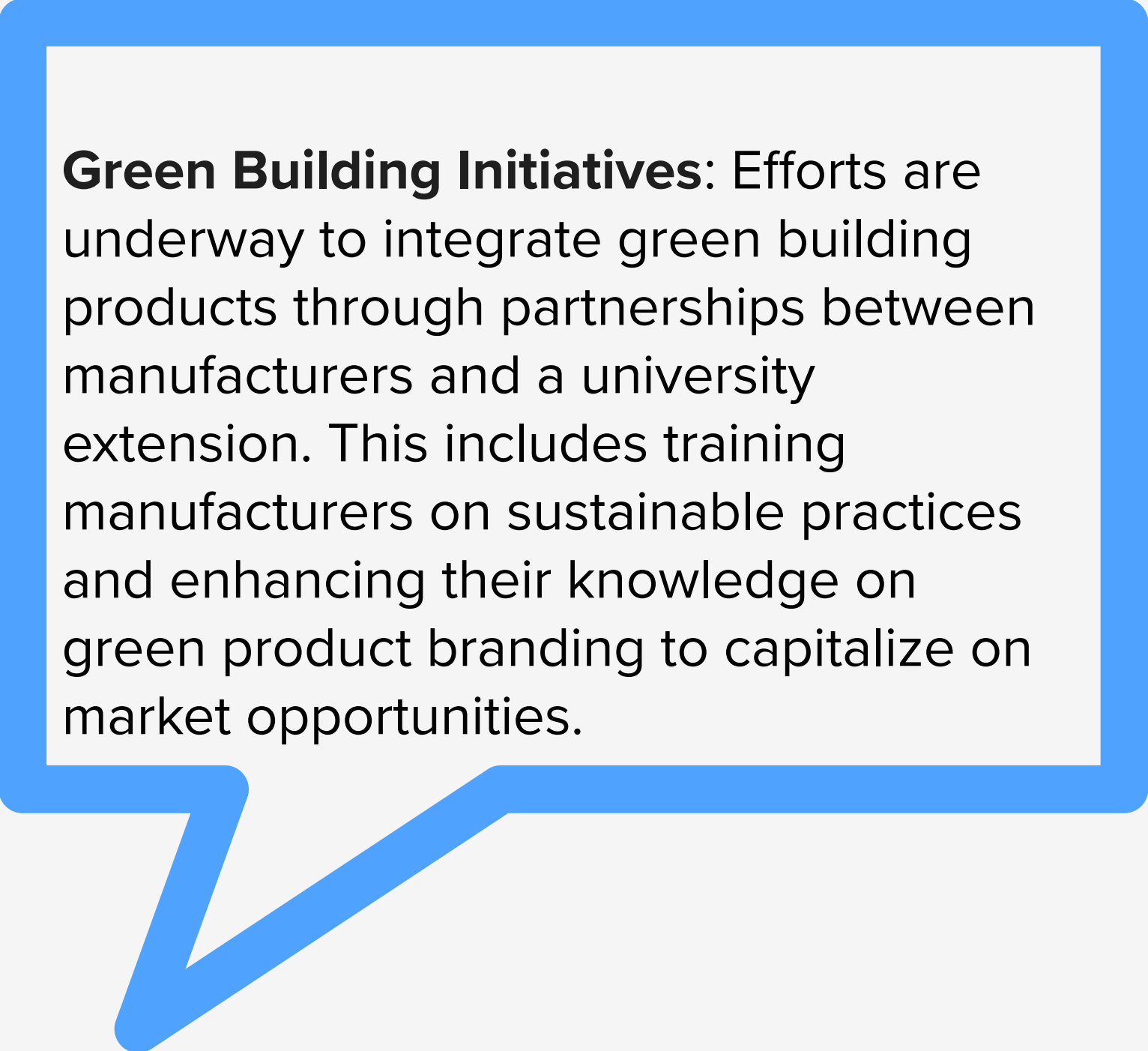
Group Discussion on Workforce and Community

Augmented Reality Training: Utilization of Augmented Virtual Reality (ARV) in workforce training is advancing in the manufacturing sector. This approach, particularly effective for non-degree jobs, focuses on smaller manufacturers to tailor training that meets their specific needs.

Sustainability Champions: A program focuses on upskilling manufacturing personnel to become sustainability champions. This includes practical training and placing graduate assistants to assist manufacturers with sustainability projects, including economic analyses for decarbonization

Implementation Barriers: Key barriers include insufficient capacity for ongoing technical support, lack of continuous funding for embedding sustainability experts in organizations, and the need for dedicated staff to manage substantial grant applications.

Professional Development: There is a need to expand professional networks and introduce credentials that support sustainability education, which would help systematize and elevate the impact of workforce development in sustainability.



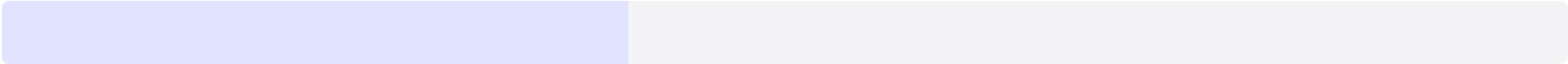
Green Building Initiatives: Efforts are underway to integrate green building products through partnerships between manufacturers and a university extension. This includes training manufacturers on sustainable practices and enhancing their knowledge on green product branding to capitalize on market opportunities.

Event Takeaways

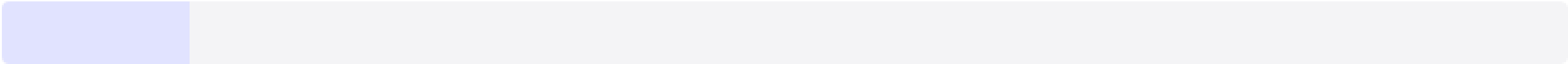
Data and discussions from this event will help to inform the structure of the Appalachian Sustainable Finance Hub, which is in its planning grant period. Here are some preliminary take-aways:

Having heard the case studies and discussions, what topics are the most relevant to your institution’s involvement in sustainability projects?

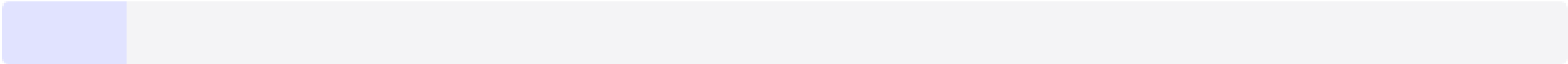
Project Development (financing, institutional buy-in, multi-organizational partnerships, etc.) 10 responses 40%



Building sustainability into college/university operations and campus life 3 responses 12%



Leveraging research initiatives to advance sustainable infrastructure 2 responses 8%



Strengthening community partnerships to support local sustainability initiatives 10 responses 40%

