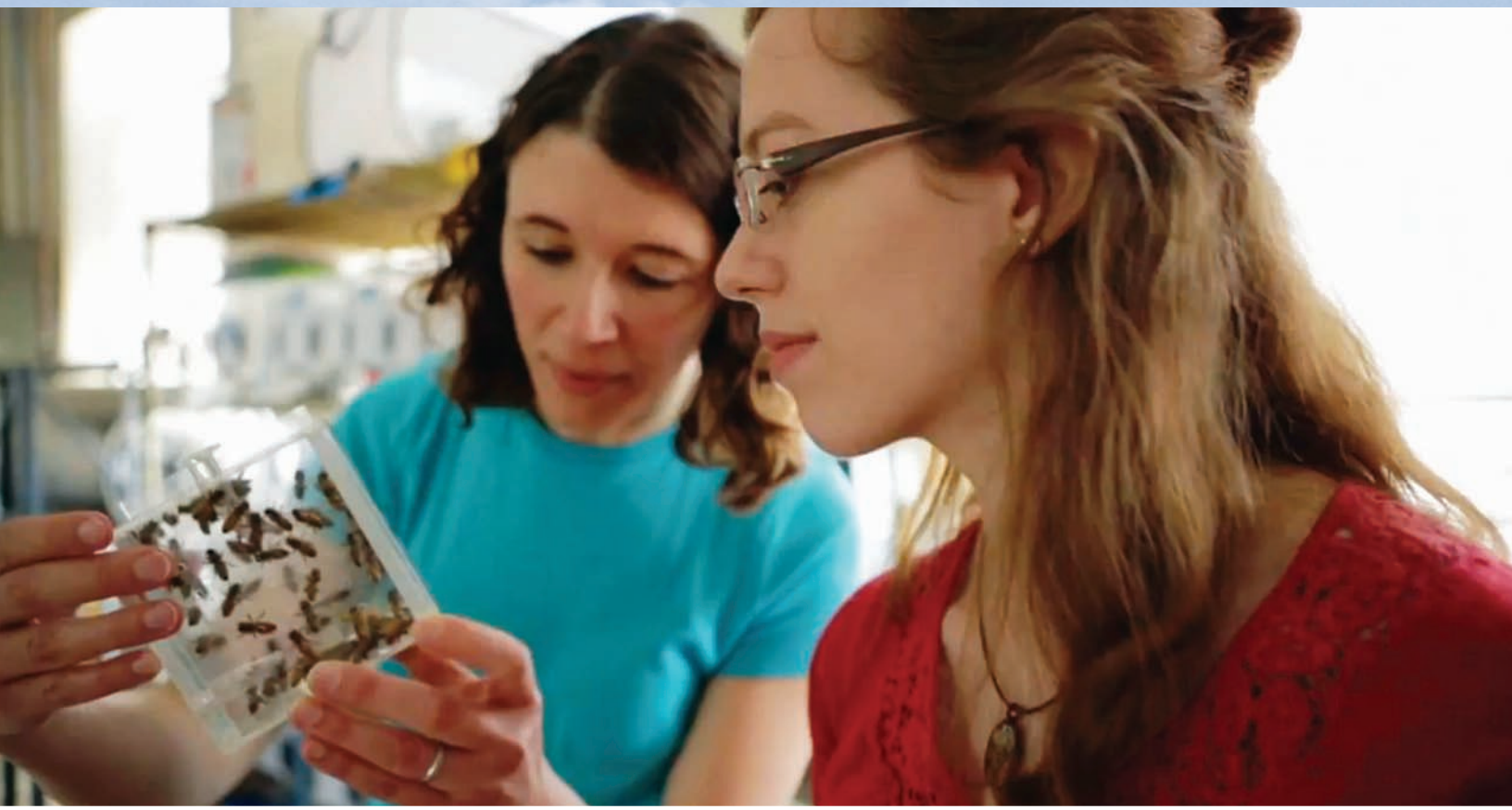
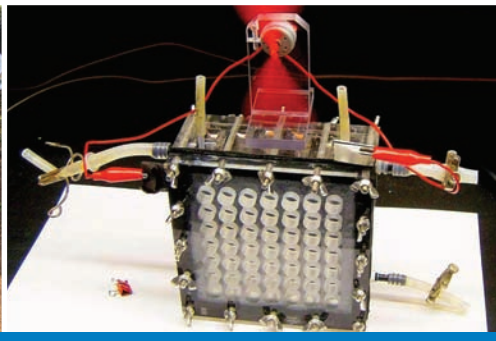
SUSTAINABILITY AT PENN STATE





Sustainability Planning Guidebook for Teams

PENNSTATE

1855

Draft version 2014

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Erik Foley • Sustainability Institute, Penn State University • sustainability.psu.edu • 2014

Cover images: *top, bottom middle, bottom right:* Penn State; *bottom left:* Christie Clancy

Letter from the Director, Sustainability Institute

It is my pleasure to welcome you to the Sustainability Institute's *Sustainability Guidebook for Teams*. Our intent is that this guidebook, and related Sustainability Institute (SI) services, helps every Penn State unit finds its unique, strategic contribution to our collective vision of a community dedicated to a sustainable future. We cannot continue to shape our world in the same manner as we have in the past; the mathematics of current resource use and availability point to a future that is simply out of step with our hopes. We must implement change in our practices based on knowledge and sound decision-making, and teach the next generation how to do so, as well. We are incredibly fortunate to have so many of the necessary ingredients for this transformation within the hearts and minds of our faculty, students, staff, administrators, alumni, communities, and partners. Because it calls upon all of our capacities as educators and citizens, each of us has an important role to play, and all of us are needed.

Sustainability is often likened to democracy, in that it is not a problem to be solved, but a challenge that requires constant innovation, commitment, vigilance, and learning. Thus, it is not another thing to do, or another box to be checked. It asks us to discern our contribution to this challenge of our time, delivered in the context of our passion and purposes. When sustainability is understood and "owned" at the unit level, and when it is strongly linked to the unit's mission and unique expertise, innovation takes place.

The Sustainability Institute was created to lead and support the university as it continues its transformation into a place in which our contributions to the challenge of sustainability are obvious and many. We believe our greatest contribution is through our students, and thus envision a future when every Penn State student achieves an understanding of sustainability and the motivation to apply this understanding in their personal, professional and civic lives. Let us make haste to this moment.

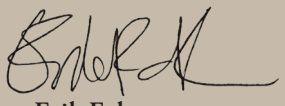
– **Denice Heller Wardrop**, *Director, Sustainability Institute*

Letter from the Director of Sustainability Planning

I want to thank everyone who was involved as a reviewer and contributor. The guidebook is the result of many months of effort with input from faculty scholars in planning and strategy, university staff working in the trenches of sustainability, and SI staff exploring the literature on sustainability planning. There have been over twenty versions of the guidebook, hundreds of hours of writing, editing and constructive feedback sessions. And we know we are not done yet. This is just the first draft, the first vehicle off the line. It has not been road tested. We need your help now to test these ideas, tools and frameworks and make them even better.

We strongly believe that with this guidebook, there will be a significant contribution to sustainability in higher education and beyond. Early indication from external partners is that integrating sustainability at the unit level is a new area and we are creating a roadmap they are very interested in learning from. First order of business though is to run the experiment, assess the effectiveness of the guidebook, and then consider how to share it widely.

I encourage you and your team to jump in, use the six step process, and creatively engage with each stage of the journey toward your unique contribution to sustainability.



– **Erik Foley**,
Director of Sustainability Planning

Overview of the Guidebook

Why a sustainability planning guidebook?

The Sustainability Institute (SI) created the guidebook and associated web-based resources to help units:

- *Focus on the right things* – Identify what is appropriate for your particular unit and leverage what you are already doing.
- *Save time* – Sustainability planning is a new idea and the six-step process and associated tools make it straightforward.
- *Learn from others* – SI conducted three pilots and the results are shared in pilot summaries (see the appendices) and in examples throughout the guidebook.

> ***"Sustainability is the simultaneous pursuit of human health and happiness, environmental quality, and economic well-being for current and future generations."***
>
> – Penn State Definition of Sustainability

What will the guidebook help my unit do?

With an engaged, dedicated team using it together, the guidebook leads to actionable sustainability strategies that advance a unit's priorities and Penn State's educational and research mission.

Strategic sustainability enhances a unit's ability to:

- Attract, engage and educate students
- Attract and retain the top faculty, staff, and administrators
- Advance research innovations and access to new funding sources
- Create new program innovations and enter new markets
- Reduce operating costs and risks

A unit also discovers its unique contribution to Penn State's commitment to create a prosperous, healthy future shared by all people that safeguards our natural environment—a sustainable future.

These outcomes become possible through the effective integration of sustainability into your planning process. We define "effective" as fulfilling six criteria:

- **Mission** – Leverages and enhances unit mission and expertise
- **Leadership** – Secures senior leadership support
- **Resources** – Receives sufficient resources (e.g. people, time, technology, funding)
- **Integrated** – Integrated into organizational processes
- **Specific** – Outlines specific, actionable steps with clear roles and accountability
- **Measurable** – Achieves measurable sustainability outcomes

Who is this guidebook for?

The guidebook is primarily for planning teams at Penn State campuses, locations, colleges, and support units. However, it could be useful for anyone wanting to find their unique contribution to the university's sustainability strategy.

A word about language. We tried to find a tone that would appeal to most audiences. Penn State is a large, complex organization, and it is a challenge to write for such a diverse audience of faculty, staff, and administrators. The intent was to strike a balance and present information in a concrete and usable form in a tone that is approachable.

How should this guidebook be used?

1. Assemble your team (tips for doing this effectively are on page 6).
2. Review the Quickview of the Six Steps on page 4.
3. Review the information and tools on our strategic planning website (*sustainability.psu.edu*).

What is sustainability strategy?

Bryson (1995) defines strategic planning as "... a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it."[1] Sustainability is a way of thinking that concurrently considers the social, environmental, and economic dimensions of our decisions. Strategic sustainability, therefore, is a carefully considered plan combining short- and long-term strategies, tied to a unit's mission and goals, which advance the university's sustainability vision and mission.

[1]Bryson, John M. (1995). Strategic Planning for Public and Nonprofit Organizations – A Guide to Strengthening and Sustaining Organizational Achievement (Revised Edition). San Francisco, CA: Jossey-Bass.

Tips for the Facilitator

Each of the six steps features suggestions for the facilitator of your sustainability planning process.

These tips will be in a colored box, like this one, at the beginning of each step.

Consider how you can involve students every step of the way. This could be a rich learning experience for them in the development of your plan and in its evaluation.

This view of *strategic* sustainability is different from the one held by most people. Sustainability often creates immediate vivid mental images of recycling bins, climate change, hybrid vehicles, green roofs, and solar panels. Their immediate reaction may be to focus on these things whether they are really strategic or not. In reality, sustainability is a new perspective that can be a source of substantial strategic value. **The key to harnessing the power of sustainability strategy is to find the overlap with a unit's mission, expertise, and assets.**

Strategic sustainability is a carefully considered plan combining short- and long-term strategies, tied to a unit's mission and goals, which advance the university's sustainability vision and mission.

Where should we send ideas and feedback? And what if our planning team would like assistance working through some of the processes in the guidebook?

We envision many more editions of this guidebook, and we need your help to make them even better. Your feedback is encouraged and can be sent to *erik@psu.edu*.

To speak with someone on our Strategic Planning Team, please email team leader Erik Foley at *erik@psu.edu* or call (814) 865-2291.

The Smeal College of Business Story

The opportunity to test the Penn State Sustainability Strategic Plan gave Smeal the opportunity it needed to take its sustainability work to the next level. Former Dean James Thomas appointed two co-chairs for the sustainability planning effort, Dr. Gerald Susman, Emeritus Klein professor of management, and Dr. Terry Harrison, professor of supply chain and information systems and the Earl P. Strong Executive Education Professor in Business. They assembled a task force with broad representation and began regular meetings to examine current activity and set a vision for the future.

They pulled together input and drafted the Smeal Sustainability Plan that touches every aspect of the college, and includes 20 goals to be implemented over three years. The plan was completed and submitted to Dean Charles Whiteman in November 2012. He approved the plan in mid-December and authorized funds for its implementation. The excerpt below lays out the plan's compelling vision:

> *Our vision is that Smeal will be a top-ten business school in the area of sustainability through our teaching, research, and outreach. Through our teaching, we will enhance the understanding of sustainable business practices and produce knowledgeable graduates prepared to apply these practices in the marketplace. Through our research efforts, we will create knowledge relative to sustainable business practices and their impact on businesses and on society. Through our outreach, we will work with industry and government to collaboratively provide thought leadership in understanding and implementing sustainable business practices, and demonstrate within Smeal how these business practices can enable organizational success.*[2]

Smeal student Dan Trushkov is proud of Smeal's efforts. "Sustainability is now a big part of every major, and I am honored to be part of this movement."

Among many lessons, they learned the following:

- Appointing a faculty or staff champion in sustainability was necessary to overcome obstacles and leverage existing support and initiatives. Make sure they are good communicators and well-respected leaders.
- Senior leadership support and dedicated resources were fundamental to success.
- Viewing sustainability as a transformational concept led to bold innovations rather than small, piecemeal initiatives.
- An external advisory board can lead to many innovations and is a good way to align with the work of external partners.
- Using the Penn State Sustainability Strategic Plan (SSP) helps build towards a common vision.

For more information: *www.smeal.psu.edu/sustainability-council*

[2]Smeal Sustainability Strategic Plan, available on Smeal College of Business website, accessed October 14, 2013 *www.smeal.psu.edu/sustainability-council*

Quickview of the Sustainability Planning Process

1
Understand Sustainability
Ensure your planning team develops a common understanding of sustainability, and what it means for higher education and Penn State.

Tool: Sustainability Strategic Plan and Video

2
Assess Current State
Assess how your unit, department on campus is already engaging with sustainability.

Tool: Opportunity Finder & Sustainability Maturity Model

3
Identify Priorities
Determine what you do that relates to sustainability and pinpoint priority areas to focus on by looking outside and inside your unit.

Tool: Sustainability SWOT, Convergence Model

4
Create a Vision of Sustainability
This is where you answer the question: "What kind of impact can your unit or department ultimately make?"

Tool: Strategic Linking Diagram

5
Set Goals and Develop Metrics
Create goals for reaching your vision, prioritize them, and establish how progress will be assessed.

Tool: Decision Matrix & Metrics Worksheet

6
Develop an Implementation Plan
Develop a plan for how you will work toward your goals. Who will do what by when?

Tool: Implementation Template & Support System Checklist

Quickview Worksheet

You can use this worksheet as you go through the guidebook. ***As you complete each of the six steps starting on page 9, fill in the corresponding section below.*** At the end, you will have all of your key lessons and outputs on one page. This page also shows you and your planning team what you will get out of working through various parts of this guidebook.

1

Initial thoughts on how sustainability connects to our unit's mission and expertise:

_____

_____

2

We think that our unit is at this level on the Maturity Model: _____

From the Opportunity Finder, our first thoughts on:

Strengths to Leverage:

_____

_____

Areas for Improvement:

_____

_____

3

Our unique contribution to sustainability is: _____

_____

_____

4

Our vision of sustainability for our unit: _____

_____

_____

5

Of all our potential sustainability goals, the most important are: _____

_____

_____

6

The most important support system for what we want to accomplish is: _____

_____

_____

Our implementation plan will be completed by: _____ / _____

Person's Name Date

Tips on Forming Your Sustainability Planning Team[3]

Incorporating sustainability into your unit strategic plan represents a new challenge. Be sure to assemble the right people and use the lessons from past experiences.

Pick the Right People

Choosing who in your unit or department works on sustainability integration could be one of the most important decisions.

The most effective units involve a small, diverse team in which each member has the following qualities:

- Good listener and communicator
- Well respected within the unit or department
- Positional authority
- Commitment to sustainability as a strategic opportunity for the unit

Does the team have a clear charge from the unit leader?

Build on the Past

Discuss similar initiatives from the past to identify what worked and what didn't: use what works to integrate sustainability effectively.

On a whiteboard or sheet of paper, create two columns and fill them in.

What worked well... *What we would do differently...*

Be sure to talk to people in the unit with first-hand experience with past initiatives.

Assess Readiness

Discuss your answers to the following questions:

How much change is happening right now in your unit?

How aware and supportive of sustainability is your unit or department?

How aware and supportive of sustainability is your leadership?

Higher levels of readiness mean your team can go for bolder goals and higher risk strategies. Lower levels suggest a focus on goals that are lower risk and help build buy-in and support.

Rate yourself from 1 (low readiness) to 5 (high readiness).

[3]Hitchcock, Darcy E., and Marsha L. Willard. The Step-by-step Guide to Sustainability Planning: How to Create and Implement Sustainability Plans in Any Business or Organization. London: Earthscan, 2008

Worksheet

Assembling Your Team and Preparing for Strategic Sustainability

Pick the Right People: Write names below:

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Build on the Past: What we learned from past initiatives:

_____

_____

_____

_____

_____

Assess Readiness: We rate our readiness as: _____ (1 low – 5 high).
What could be done to increase readiness?

_____

_____

_____

_____

_____

Six Steps to Sustainability Planning

Image: Momix

Image: Penn State

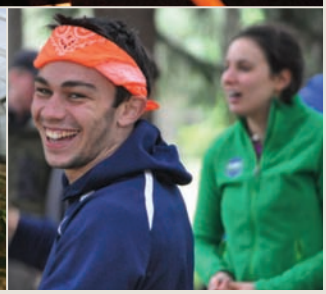


Image: Will Batchelor

1

2

3

4

5

6

STEP 1 Understand Sustainability

Sustainability planning begins with ensuring that everyone on the planning team has a shared understanding of sustainability, what it means to Penn State, and what it could mean for your unit. When you have completed this step, you will have:

- An understanding of sustainability as a defining issue for higher education
- Penn State's definition of sustainability
- High-level ideas for potential strategies

Understanding sustainability and Penn State's approach will save time and effort. This understanding will spur thinking, begin to provide a decision-making framework, and ensure your plan is aligned with the university's sustainability vision and mission.

The Challenge

Today, we face the global challenge of sustainability, and Penn State is answering the call as its faculty, staff, students, and communities race to solve some of the toughest problems in history, from feeding a growing population to protecting a threatened environment to ensuring energy security.[4] Higher education, as a major educational force and significant business enterprise, plays a unique and vital role in creating a sustainable society where the economic, cultural, and health needs of the world's people are met while the vitality of living systems is maintained or enhanced.

Is sustainability the same as "going green"?

No, but they are related. "Going green" is a popularized way of referring to actions that reduce impact on the environment. Sustainability includes the consideration of environmental impacts, but also includes the social and economic dimensions of our decisions.

[4]Penn State Sustainability Strategic Plan available at *sustainability.psu.edu*

Tip for the Facilitator

Show the Penn State Sustainability video at a staff or faculty meeting. Utilize the Discussion Guide available on the website. Be sure to write down the key ideas people mention. Similarly, ask that everyone read over the Sustainability Strategic Plan and come to a meeting ready to discuss how your unit can contribute.

Above and beyond: look up the sustainability definition, principles or frameworks used by your peers at other institutions or by your national association, industry or trade group. This could be something students help to accomplish.

Access the video at *sustainability.psu.edu*

The challenges we face are substantial:

- Over 60% of ecosystems are in decline (Millennium Ecosystem Assessment).
- The U.S. has approximately 5% of the world's population and consumes 25% of the world's resources (World Watch Institute).
- Economic, health, and technology disparity persists despite the rising standard of living for some in the developed and developing world (World Economic Forum Global Risk 2013 report).

In sum, the science suggests we are overwhelming and depleting the living systems we need to survive, and increasingly the poorest and most underserved populations bear the largest burden. It is notable that the challenges we face are in large part unintended consequences. Many issues of our own making have arisen from human innovations and aspirations for a better life for ourselves and our children. No one intended to put 60% of our ecosystems at risk while quickly consuming so much of the world's resources.

Sustainability is this shift in understanding to seeing the connections that make up our lives. Indeed, it is about the connections among all life on earth. As the Penn State Sustainability Strategic Plan (SSP) explains, we now know about the interconnections between human prosperity and ecological health. This represents a critical shift in understanding.

A way to visualize this shift in understanding is in our systems of production and consumption. The old way of thinking has been referred to by Willard (2012) as "take-make-waste."[5]
This line of thinking, still prominent in some sectors, is that we can take whatever is needed from the environment and society, make a low cost product, and dispose of the waste. All the emissions, loss of habitat, and health and safety concerns are seen as a cost to be avoided and are not considered in the process.

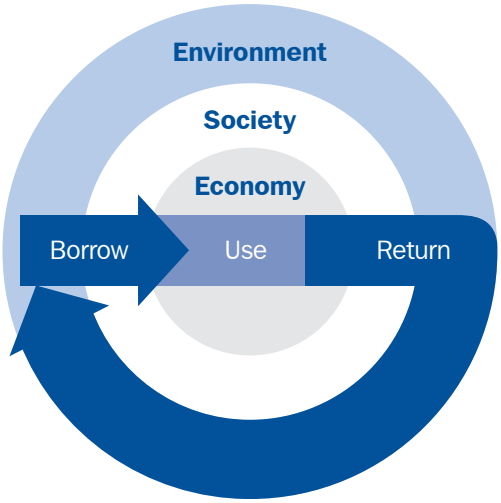
We now recognize our connection and complete dependence on ecological health and therefore the need for a new model. The new way of thinking is the "*borrow-use-return*" model. This model suggests we borrow natural and human resources, use them efficiently and respectfully, and then return value to society and to the environment. In this model, we aim to not pass our costs of doing business to society, future generations, or the environment.

An example of this key concept from our pilots: The Office of Physical Plant set a goal of office composting in buildings across University Park. Instead of a "*take-make-waste*" approach of people taking food, consuming most, and wasting the rest, they have shifted to a "*borrow-use-return*" approach. Now, with the Mobius program, people can return the food scraps to a value-adding process via a compost program, or donate food to a local food bank. Some examples can be much more complex, such as Procurement Services' new carpet purchasing standard, which actually recycles old carpet by sending it back to the manufacturer.

The key message is that sustainability represents a shift from seeing ourselves—and our organizations, economy, households, etc.—as separate from the environment to seeing ourselves as connected.

Old Way of Thinking

New Way of Thinking



[5]Willard, Bob. The New Sustainability Advantage: Seven Business Case Benefits of a Triple Bottom Line. Gabriola Island, B.C.: New Society, 2012.

Higher Education's Role

In 2012, over 66% of graduating high school students in the U.S.—2.5 million young people—entered college. With the majority of young people attending post-secondary institutions, higher education has grown to have significant influence on the skills, knowledge, and values in the U.S. and around the world. How can we ensure that our young people achieve the needed change in mind-set/skill-set to meet the sustainability challenge?

Image: Jon Pelky

In 1990, in one of the earliest attempts to articulate the role of colleges and universities in facing the challenges of sustainability, a group of faculty and administrators wrote:

> *"Sustainability" implies that the critical activities of a higher education institution are ecologically sound, socially just, and economically viable, and that they will continue to be so for future generations. A truly sustainable college or university would emphasize these concepts in its curriculum and research, preparing students to contribute as working citizens to an environmentally healthy and equitable society. The institution would function as a sustainable community, embodying responsible consumption of energy, water, and food, and supporting sustainable development in its local community and region*[6].

According the College Student Educators International (ACPA), higher education plays a very unique role in creating a sustainable society because of the impact, both educationally and financially, of the sector:

- 4,400 colleges and universities
- 20 million students
- $300 billion annual expenditures; 2.8% of the U.S. GDP
- U.S. higher education expenditures are greater than the GDP of all but 25 countries in the world.

ACPA goes on to say, "Higher education can change operational, curricular, and policy norms so all students can learn and practice how to be environmentally responsible, socially responsible, economically responsible, and active citizens in a global economy. The goal is to engage students as effective change agents in our sustainability challenges. Students need to know that their daily decisions affect the quality of life of people around the globe."

[6]University Leaders for a Sustainable Future (ULSF) was founded in 1992 and was the first organization in the United States focused on sustainability in higher education. ULSF also serves as the secretariat for signatories of the Talloires Declaration, a statement of 10 principles for higher education. This statement is from its website *www.ulsf.org*

The Living Laboratory

The Sustainability Strategic Plan outlines a core concept: the living laboratory for sustainability. During the work of the committee and the listening done with various faculty, staff, students, and external partners, it became clear that Penn State had a unique opportunity to create a "living lab." This became a cornerstone concept in the plan and is central to understanding Penn State's overall approach to sustainability.

The plan states:

Penn State is committed to the creation of a learning environment that dissolves the boundaries of classrooms and campuses and creates immersive sustainability experiences. Of paramount importance for ensuring the success of the Sustainability Strategic Plan will be to involve all campuses, research centers, and 30 million square feet of Penn State facilities in developing a living laboratory to pioneer sustainability education, implement sustainable practices, and lead the innovation of technologies and practices.

Further, this Penn State education will transcend the boundaries of traditional learning by connecting our students, faculty, and staff to broader communities and landscapes at every scale as a resource for learning. Our entrepreneurial partnerships with business, agricultural, educational, government, and community partners will underscore the University's commitment to creating a learning environment that extends far beyond the borders of our campuses to fulfill our land-grant mission in the context of 21st century challenges.

Sample Living Lab Type Initiatives From Our Pilots

Living Laboratory Approach to Sustainability	Traditional Approach to Sustainability
Academic Unit Smeal College of Business is using its own building as a teaching tool as it goes for LEED-EB Certification[7]	**Academic Unit** Sustainability content is added to an existing course.
Support Unit The Office of Physical Plant holds a workshop about integrated design with high performance building experts from the Energy HUB Project at the Navy Yard in Philadelphia.	**Support Unit** Facilities employees do a relamping project in a building to increase energy efficiency.

Image: Penn State

[7]LEED stands for "Leadership in Energy and Environmental Design." The EB stands for "existing buildings." The LEED Program was created by the U.S. Green Building Council to ensure there are clear standards for sustainable design and operation of buildings. Learn more at *www.usgbc.org*. Penn State has a policy to build to LEED standards in all new construction and major renovation.

Before You Go On!

Go back to page 5 and write your conclusions in *Step 1*.

STEP 2 Assess Current State

Sustainability planning is supported with a sound understanding of the current state of the organization in relation to sustainability. What is already happening that you can leverage? Where are the missed opportunities? When you have completed this step, you will have:

- An understanding of your unit's strengths and areas for improvement in sustainability
- A baseline of activity you can leverage

Sustainability Maturity Model

The Sustainability Maturity Model allows a unit to understand its stage of engagement with sustainability. The model also points to appropriate steps that can be taken to capture existing opportunities and ascend to the next stage. As you will see, the model presents four stages:

- Stage 1: Starting
- Stage 2: Implementing
- Stage 3: Integrating
- Stage 4: Transforming

We have found the model to be a quick and effective way to spur productive discussion.

Opportunity Finder

The Opportunity Finder is an online data collection tool that helps units develop a baseline of their current sustainability efforts and identify potential new opportunities. The Opportunity Finder takes a holistic picture of the activities of your unit that will be very helpful in your planning. One individual will not know all the answers. Plus, units that gather the information as a team and share it with a larger group for discussion get the most benefit from the Opportunity Finder.

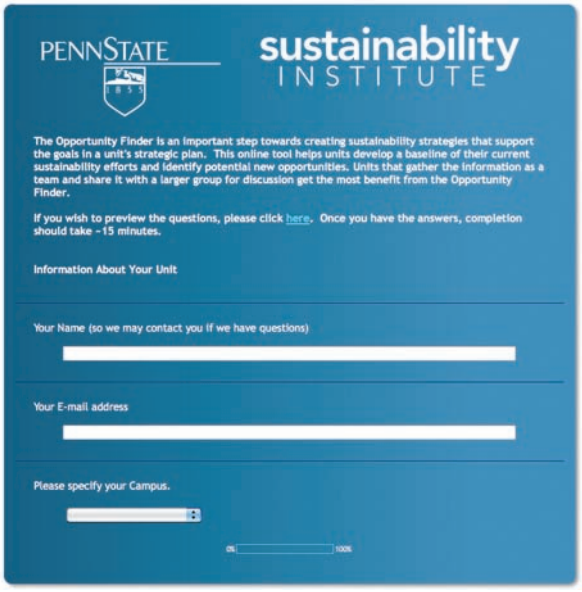
It is strongly recommended that you first download and view the questions, gather the information, and then complete the Opportunity Finder to get your report.

Tip for the Facilitator

The Opportunity Finder will provide important details and further resources for this discussion.

Project the Sustainability Maturity Model on a screen or hand out hard copies. Ask people where they would plot their unit on the model. You can then do a round robin to let each person talk in turn.

Above and beyond: Benchmark with departments and units at peer institutions and/or research sustainability activities in your particular industry or discipline.



Access the Opportunity Finder here:
sustainability.psu.edu/strategic-planning

Maturity Model

The Sustainability Maturity Model (on page 16) was created by the Sustainability Institute to help the university and units within it to understand the various types and levels of engagement with sustainability. Units are at many different stages in their engagement with this new topic, and each unit relates to it differently, depending on the unit's unique mission.

The goal here is not to go deep into an analysis of your unit but just to spur some discussion about where you are and where you might want to go.

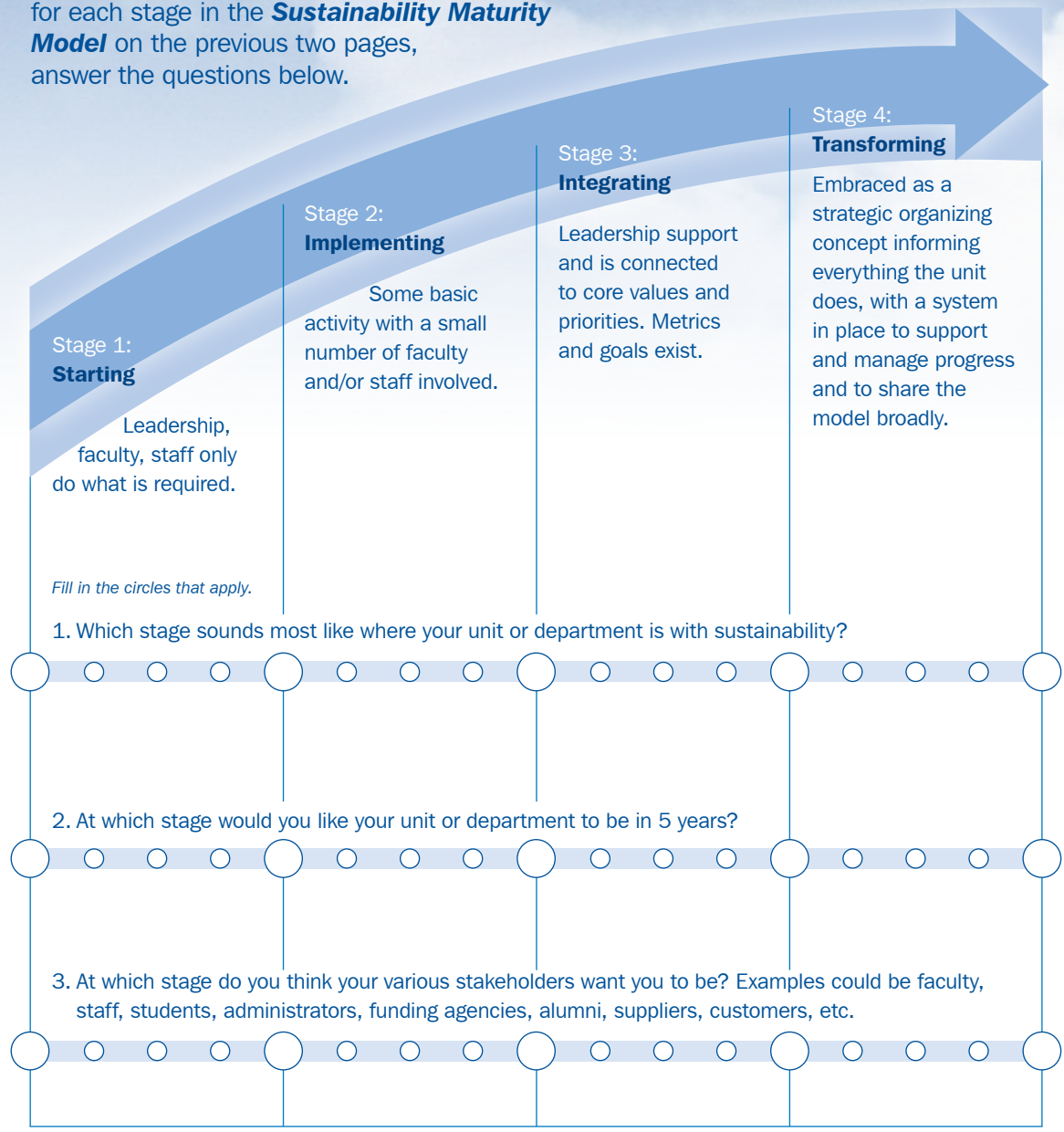
Review the common characteristics for each stage. Where would you place your unit? Put a check mark in the boxes which best describe your current state.

	Stage 1: **Starting**	Stage 2: **Implementing**	Stage 3: **Integrating**	Stage 4: **Transforming**
Teaching & Co-Curricular	☐ • Disciplinary focus in curricular "silos"; little to no interdisciplinary work • Very limited and isolated sustainability content appears in a few courses • Co-curricular engagement is limited to environmental and/or social justice focused clubs	☐ • Initiative is taken by a small handful of "early adopter" faculty • Sustainability learning outcomes are not yet measured • A small percentage of interested students are engaged • Co-curricular programs such as lectures and internships begin to feature sustainability	☐ • There are many initiatives in many departments • Interdisciplinary approaches are common • Specific learning outcomes are established and measured • Robust faculty and staff development and training is in place • Widespread adoption of the "living lab" concept of using the campus and community for learning	☐ • Sustainability is strategically integrated into all teaching and co-curricular programs • A robust system is in place to measure learning outcomes • Sustainability awards and recognition programs exist for students, staff, faculty, and alumni • The unit's story and model of sustainability excellence is shared beyond the department/unit with others within and beyond the university
Research	☐ • Research consists of environmental portfolio only • Research agendas don't take advantage of collaborations with other disciplines • Little to no mention of sustainability research in unit publications • Little or no discussion of discipline-specific contribution to sustainability	☐ • Centers begin with discipline-specific sustainability focus • Engagement begins with other disciplinary areas • Survey of emerging sustainability research topics, including global and local • Research partnerships exist to address campus and community challenges	☐ • Research agenda considers emerging sustainability research needs • Research partially directed to challenges on-campus, in the community • Formal processes for documenting and rewarding sustainability research • Common theme in communications and publications • Development of impact criteria	☐ • Directing inquiry to sustainability challenges • Rewards/recognition exist for sustainability-based research • External partners recognize expertise • Consistent theme in communications and publications • Research agendas are reviewed institution-wide for synergies across disciplines and colleges • Convene meetings and collaborations with other institutions
Service & Community Engagement	☐ • Undefined rhetorical reference to "service" • Random or limited community involvement • No mention of service and community engagement in unit publications • Little or no relationship between unit and community sustainability challenges	☐ • Community service seen as "what we do as citizens" • Community representation on unit advisory boards • Community-based sustainability research and teaching valued by some faculty • Community members can easily access unit resources	☐ • Community service seen as core to the academic agenda • Stories of community/unit sustainability partnerships common in unit publications • Mechanisms exist to support community-based research, teaching, and service • The unit plays a visible role in facilitating dialogue around public issues	☐ • Service is a central to the mission • Community knowledge is seen as essential to the education of students • Community-based sustainability experiences are embedded across the curriculum • Partnership work is intended to transform both the community and the university

	Stage 1: **Starting**	Stage 2: **Implementing**	Stage 3: **Integrating**	Stage 4: **Transforming**
Operations	☐ • Sustainability is only about compliance and cost avoidance • Adherence to building codes and basic efficiency measures • Regarded as the work of only certain people such as energy engineers • Decision-making focus is on reducing upfront cost, not life cycle cost	☐ • Sustainability is about short term cost and risk reduction • Commitment to national and international voluntary standards such as LEED, EnergyStar, ISO 14001 • Short term, measurable goals are established for resource and environmental conservation and restoration • Start to look beyond institution to supply chain impacts and opportunities	☐ • Sustainability is a source of innovation and long term value creation • Life cycle costing is a requirement of all major decision-making • Strategic collaborations initiated with on/off campus partners • Establishment of sustainable procurement policy • Long term measurable goals and metrics are established, made public	☐ • Sustainability is a strategic, integrating priority for the entire unit • System in place to recognize and reward innovations • Unit is regarded as a national and international leader in sustainable operations • Mechanisms are in place for regularly sharing the model with other institutions
Planning & Administration	☐ • Leadership is either unaware or suspicious of sustainability • Environmental issues are seen as a cost and the work of facilities staff • The culture is oriented toward doing only what is required by university policy, state or federal law, codes, accreditation requirements, etc.	☐ • Leadership is tolerant of sustainability as a potentially important new area of focus • Not integrated into the core priorities of the unit • Initiatives exist but are not connected to any goals or overarching strategy	☐ • Leadership regards sustainability as an important area of focus • A sustainability task force or committee exists • There are goals and metrics for sustainability • Sustainability is beginning to be a part of discussions of core values and strategy for meeting the unit's top priorities	☐ • Leadership embraces sustainability strategy as a key aspect of the unit's vision, mission, and long-term strategy • Everyone has a basic understanding of sustainability and how it relates to her/his discipline and work • Sustainability is integrated into the unit's strategic plan with specific metrics tied to core priorities • Support systems are in place at the policy and administrative level • Measurable, high level goals
Action Steps	• Survey those already interested and working in the area of sustainability at work and at home. • Begin some pilot projects. • Begin a process for learning about sustainability and its connection to your particular unit.	• Review existing and past initiatives to evaluate what worked and what did not. • Form a task force or committee to look at sustainability more strategically. • Establish a preliminary vision and rationale for pursuing sustainability. • Set goals and preliminary metrics.	• Gather input from internal and external stakeholders on the unit's sustainability strategy. • Embed sustainability into the unit's planning and review processes. • Ensure all members achieve an understanding of sustainability and the skills, knowledge and tools they need to apply it to their work.	• Continue to build internal understanding and competencies, reward structures, and more aspirational goals. • Seek opportunities to share your accomplishments beyond the university. • Extend external partnerships in industry, local government, etc. through higher levels of engagement and collaboration. • Work with sector and national/international groups to change high level policy or standards that inhibit sustainability innovation.

Worksheet

Instructions: After reading over the characteristics for each stage in the ***Sustainability Maturity Model*** on the previous two pages, answer the questions below.



Fill in the circles that apply.

1. Which stage sounds most like where your unit or department is with sustainability?

2. At which stage would you like your unit or department to be in 5 years?

3. At which stage do you think your various stakeholders want you to be? Examples could be faculty, staff, students, administrators, funding agencies, alumni, suppliers, customers, etc.

Discuss your answers as a team.

Before You Go On!

Go back to page 5 and write your conclusions in *Step 2*.

STEP 3 Identify Priorities

Units that successfully integrate sustainability into their strategic plan are able to find the "sweet spot" where internal abilities meet external opportunities. This convergence of internal and external realities is where a unit will discover its unique contribution to Penn State's sustainability vision. When you have completed this step, you will have:

- An understanding of how sustainability challenges impact your unit
- A list of potential strategic priorities in sustainability

Strategy Starts With Looking Outside

Strategic sustainability starts with a look at the sustainability challenges that have the greatest impact on an organization—and that are most impacted ***by*** that organization. For example, if you are a unit that generates a lot of waste, you may want to focus on waste minimization strategies. Likewise, if you are at a campus in or near an urban area and in a unit that works directly with students, you may want to create learning opportunities for students to engage with urban sustainability challenges, such as food insecurity or affordable housing.

A unit can analyze how these challenges translate into risks and opportunities. Then the question becomes, "What will our strategic response be?" Understanding sustainability challenges is key to the processes in this section. The table below is meant to provide further illustration of what is meant by "sustainability challenges" and how they matter to various organizations.

Tip for the Facilitator

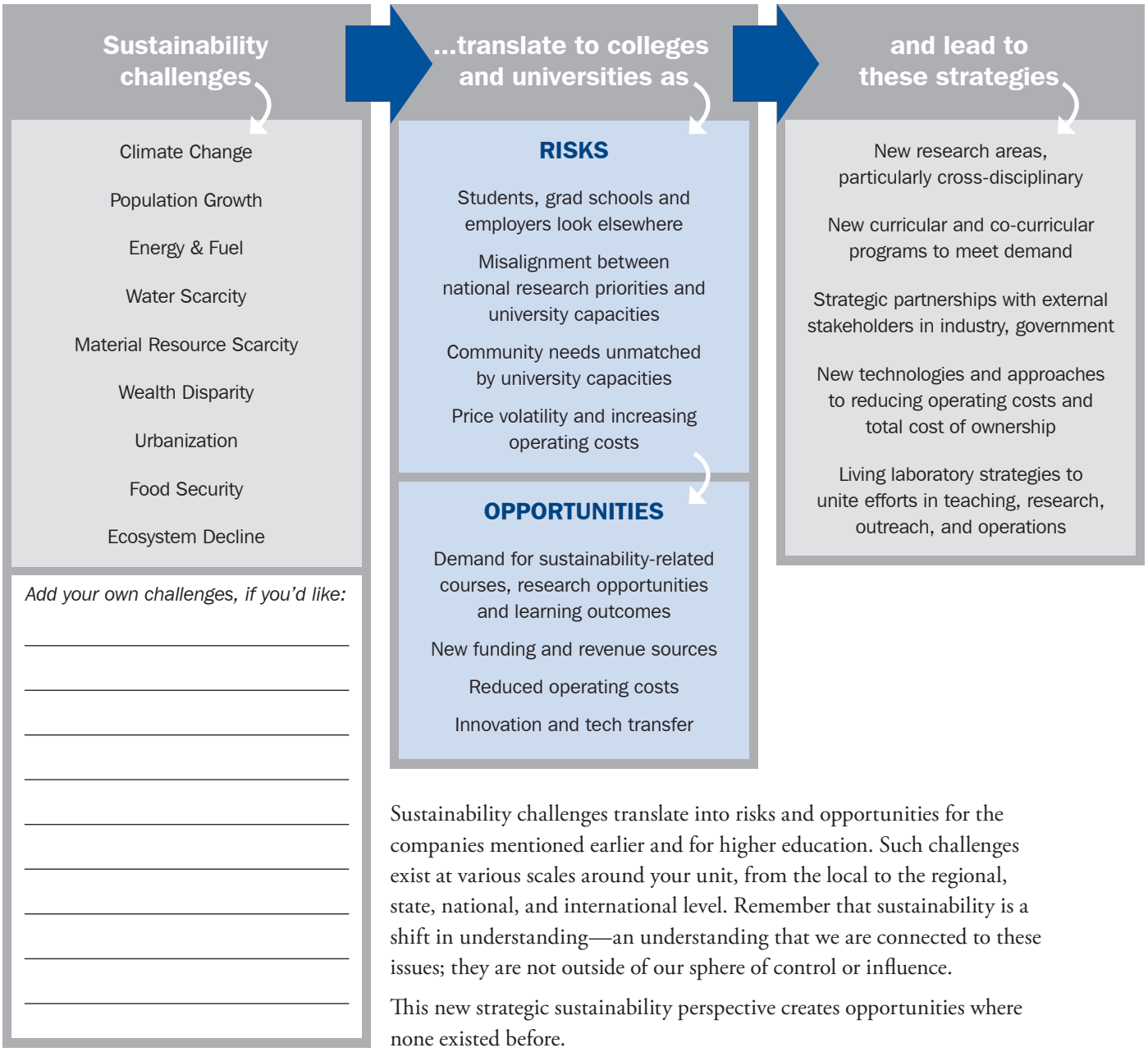
This step may be the most challenging—and most important. Take some time to look over the graphic "Global Challenges" on the next page as it communicates a key message about how sustainability challenges present strategic opportunities. Be sure the team understands this concept before moving on. The sustainability *Strengths, Weaknesses, Opportunities, and Threats* (SWOT) could either be done individually and then the group would come back together to share ideas, OR you could go through it as a whole group. Either way, eventually you will want to list the sustainability challenges, opportunities, threats, strengths, weaknesses, etc. on a whiteboard or sheets of paper. Again, make sure you have someone who can write down all the comments.

Above and beyond: Just doing this step is going above and beyond.

Company/Organization	Relevant Sustainability Challenges
Google	Energy use/renewable energy; digital divide
Nike	Material scarcity, waste management, and supply chain issues, including environmental and labor relations
Dow Chemical	Waste management in chemical manufacturing; toxicity of synthetic chemicals; renewable sources of chemicals
City of Philadelphia	Affordable housing, energy and emissions, food security, poverty

The graphic below presents a list of "sustainability challenges" that the consultant KPMG has put together. The list is not exhaustive, and your team is encouraged to add to it. It is a generic example of how sustainability challenges translate into risks and opportunities for higher education. Also revealed are the potential strategies that could be employed to capture the opportunities and avoid the risks.

Global Challenges Lead to Strategic Opportunities for Higher Education[8]



Sustainability challenges translate into risks and opportunities for the companies mentioned earlier and for higher education. Such challenges exist at various scales around your unit, from the local to the regional, state, national, and international level. Remember that sustainability is a shift in understanding—an understanding that we are connected to these issues; they are not outside of our sphere of control or influence.

This new strategic sustainability perspective creates opportunities where none existed before.

[8]The global sustainability challenges listed were taken from KPMG's report Expect the Unexpected (2012) KPMG International

Worksheet

Sustainability SWOT (sSWOT)[9]

The Sustainability SWOT developed by the World Resources Institute (WRI) is a way of identifying how an organization can recognize the opportunities embedded in sustainability challenges. The sSWOT begins with sustainability challenges and explores how their impacts flow through an organization, creating new value-adding ways to apply unique strengths to accelerate solutions to environmental and social issues. Use the Opportunity Finder report to help inform the discussion.

Go through the questions as a team, or individually first, then discuss as a team. Write your answers below.

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

5. _____

_____

6. _____

_____

7. _____

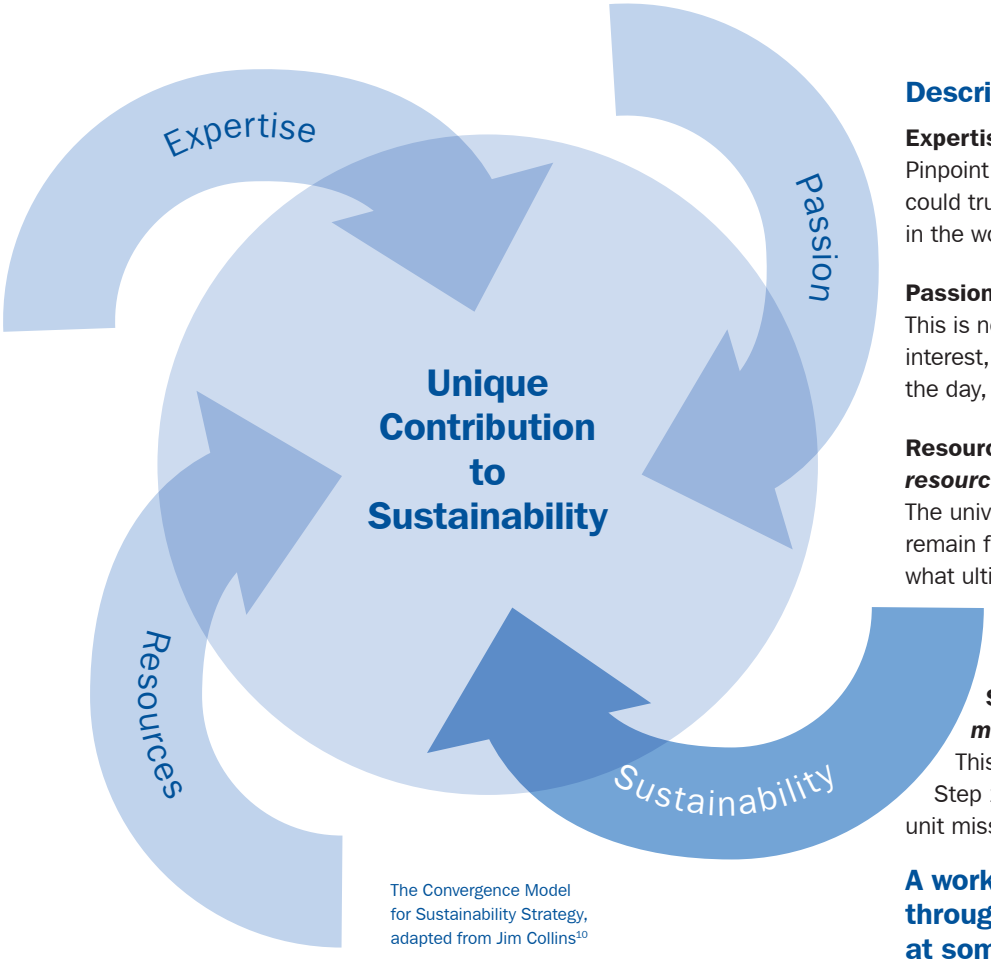
_____

[9]Metzger, Eliot; Putt Del Pino, Samantha; Prowitt, Sally; Goodward, Jenna; Perera, Alexander "sSWOT: A Sustainability SWOT" World Resources Institute (2012) *www.wri.org/publication/sswot*

Strategy Leverages What You Have on the Inside

Now that you understand the impact of these pressing global sustainability challenges, we will look more deeply at what unique expertise you have to help solve them—while driving more resources to your unit. We have developed a way for units to think about new sustainability opportunities in light of their unique internal expertise, passion, and resource requirements. We call it the *Convergence Model*.

The purpose is to find a sustainability strategy that builds on your abilities, aligns with your passion, increases resources, and works to resolve societal challenges.



The Convergence Model for Sustainability Strategy, adapted from Jim Collins[10]

Description of the Convergence Model

Expertise: ***What is your unit really good at?***
Pinpoint the unique expertise or ability where you could truly be the best at Penn State, in the country, in the world.

Passion: ***What does your unit really care about?***
This is not a brainstorm of individual areas of interest, but an identification of what, at the end of the day, your unit really cares about collectively.

Resources: ***Where do your financial and other resources come from?***
The university, and therefore each unit, must remain financially viable. For an academic unit, what ultimately determines your financial viability? For a cost recovery unit, what is your core business model?

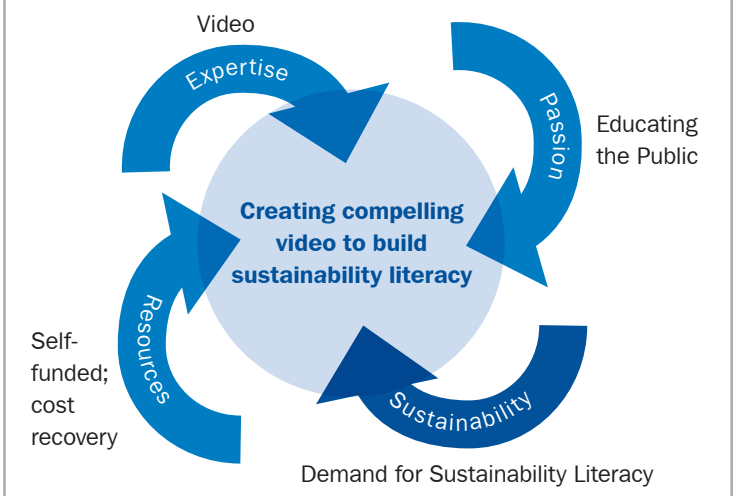
Sustainability: ***What does sustainability mean to your unit?***
This is where you plug in the result from Step 1: how sustainability connects with your unit mission and expertise.

A worksheet on page 22 will help you go through the model. First, let's take a look at some examples on the facing page...

[10]Collins, J. C. (2001). Good to Great: Why some companies make the leap – and others don't. New York, NY: HarperBusiness.

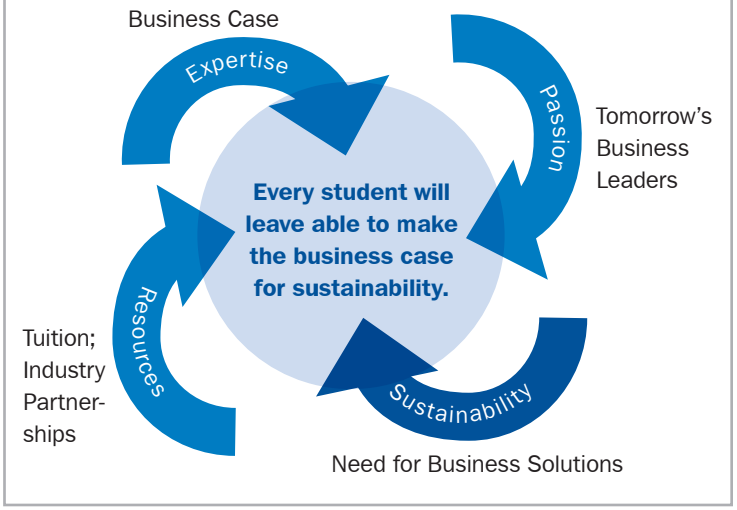
Some Examples of Convergence From our Pilots

Penn State Public Media



Office of Physical Plant (Finance & Business)

Smeal College of Business



After looking outside at sustainability challenges, a look inside starts to suggest where a unit could make a significant contribution with benefits for society that also help to meet the unit's financial requirements. When both are satisfied, the result is a sustainable path forward.

Worksheet

Develop a Convergence Model: Write your conclusion for each factor in the corresponding boxes and see where the convergence happens for your unit. Refer back to the description of the four factors and the examples provided on previous pages.

What is your unit really good at?

What does your unit really care about?

Where do your financial and other resources come from?

What does sustainability mean to your unit?

Write a statement that summarizes what you learned:

Before You Go On!

Go back to page 5 and write your conclusions in *Step 3*.

STEP 4 Create a Vision for Sustainability

Strategic planning is done in order to identify where a unit wants to go, how it will get there, and what measures will indicate when it has arrived. Whereas previous steps have oriented your team to the task at hand, this step now invites you to step back and figure out where you want to go. At the end of this section, you will have:

- A vision for sustainability for your unit
- Connections between your vision for sustainability and existing initiatives

Your vision will evolve over time as you experiment with various approaches and learn what works. But specifying a vision early in the process can save a lot of time down the road.

Your unit or department probably already has a vision and mission statement. In this section you're going to look at your mission and vision, what you've done so far in the guidebook, and create a sustainability vision for your unit or department. This is where you can be unconstrained, creative, and aspirational.

Why do we need a vision for sustainability for our unit or department?

Creating a clear and inspirational vision of sustainability for your unit can be one of the most powerful steps you take. This is because a vision tells us where we want to go. A good vision keeps people focused and leads to efficiency and high levels of collaboration because everyone knows the destination.

The characteristics of an effective vision are that it is a:

…vivid description…

…of a future state that your unit has helped create…

…that inspires and guides decision-making.

Tip for the Facilitator

Creating a vision should be energizing and engaging. Make sure it is aligned with your unit's core mission. Ask people to brainstorm a vision statement and write without judgment on their own for 10 minutes. Or brainstorm as a group. Make sure everyone has the chance to participate. Focus on big, aspirational visions that you aren't even sure you can achieve. Someone will need to collate the responses and draft two - four vision statements for the group to react to.

Above and beyond: Come up with an engaging method for involving your whole unit and external partners in the crafting of your unit's vision for sustainability. Review the visions of sustainability developed by others. Search "sustainability vision" online and see what you find. This will spur ideas and creative thinking.

The key is to focus on your unit's unique capabilities. When someone in your unit reads the vision for sustainability, they should feel strongly that it is something that they are uniquely a part of.

As the saying goes, "for a ship without a destination, any harbor will do." A vision sets everyone's eyes on the right destination.

Smeal developed a vision that ***every student will graduate knowing how to make the business case for sustainability.*** This vision is vivid, inspirational, and specific enough to guide decision-making.

Connecting your vision to other strategic initiatives

The vision will be bolstered through strong connections with other major strategic initiatives. In many cases, it can make sense to tie sustainability to an existing effort that already has momentum, focus, resources, and staffing.

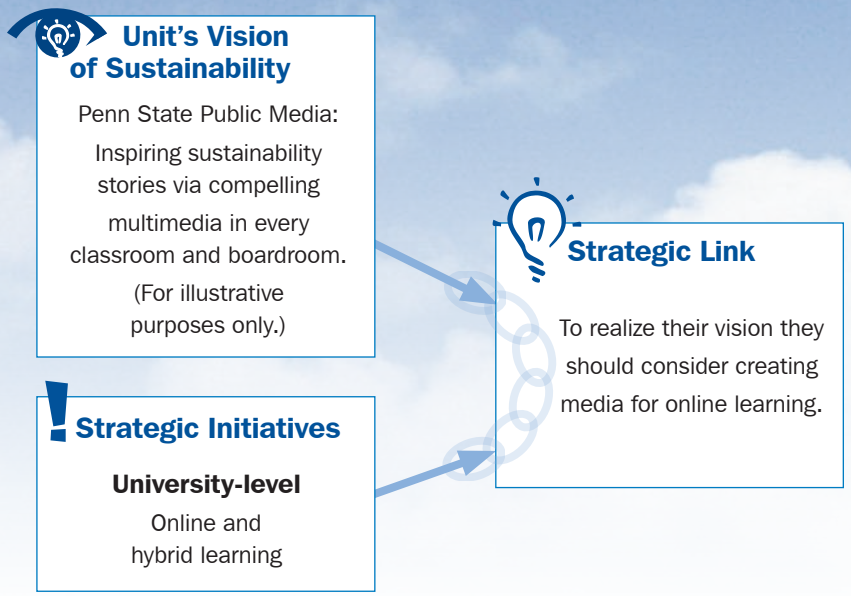
To find these points of strategic overlap, we recommend creating what we call a *Strategic Linking Diagram*. In the Linking Diagram (next page), list other substantive strategic initiatives already taking place and look for ways to integrate your unit's vision of sustainability.

Worksheet

Strategic Linking Diagram

Connecting your unit's vision for sustainability to existing strategic initiatives at the university and/or unit levels creates efficiencies and multiplies its impact.

Example:



Try your own:

Your Unit's Vision of Sustainability

Strategic Initiatives

Strategic Link

Before You Go On!

Before you proceed, go back to page 5 and write your answer in *Step 4*.

STEP 5 Set Goals and Develop Metrics

You have your vision of where you want to go and you have identified the internal capacities you can leverage to get you there. It's time to set some goals and metrics that will get you moving.

Tools you will learn to use in this section:

- Strategy framework for sustainability
- Real brainstorming
- Decision Matrix
- SMART Sustainability Goal Builder

Strategy Combines Big Wins and Quick Wins

As a unit finds the overlap between sustainability and its mission, we find that ideas of all sizes emerge. Strategic sustainability prioritizes and organizes such ideas in order to get the right combination of short-, mid-, and long-term goals. We call these "big wins" and "quick wins."

Big Wins: Larger, longer term initiatives linked strongly to a unit's unique mission and expertise. A well-selected, ambitious initiative can galvanize a group and deliver real results. These require more investment of resources and can even involve a change in structure or business model.

One of our pilot units, Penn State Public Media, set a "big win" goal of bolstering an existing, very ambitious project called Water Blues, Green Solutions, a public service media project on green infrastructure/value of ecosystem services.

Resources for Quick Wins

The guidebook is focused on identifying larger, strategic opportunities and planning around those. But many resources exist for "quick wins."

The Green Paws Office Certification Program, for example, has checklists of many "quick win" actions.

Visit *sustainability.psu.edu*

Quick Wins: Short-term, tactical steps that build momentum, confidence, and enthusiasm around the larger initiatives. Many of these small actions taken over time lead to big results.

Penn State Public Media set a "quick win" goal to add sustainability criteria—such as local sourcing, reduced packaging, and minority- and women-owned businesses—to their purchasing practices.

Tip for the Facilitator

Good goals leverage strengths, go after opportunities, and make a real impact. When you have brainstormed a list of six to 10+ potential strategies, see if there is overlap and combine them where possible. Plot them on the decision matrix (which you recreate on a whiteboard or sheet of paper). Discuss and try to end with three to six goals. Create subteams to work on each goal using the *SMART Strategy Builder* and *Metrics Worksheet*.

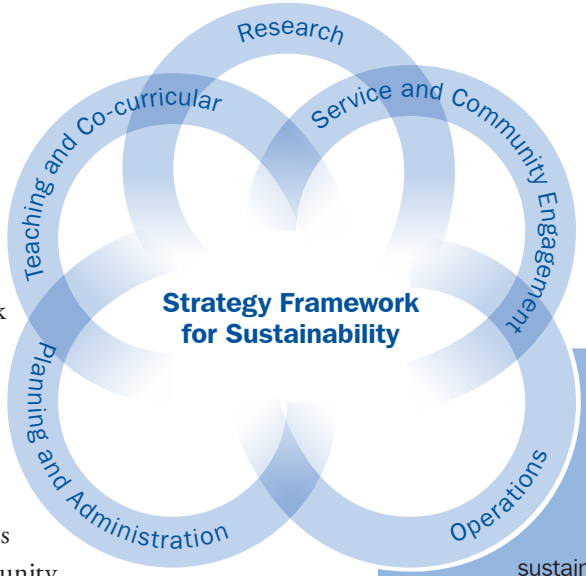
Above and beyond: Involve external partners in brainstorming potential strategies and identifying the role they could play in making them a reality. Consider ways that students could be involved by, for example, gathering data or conducting research to support the process.

Image: Christie Clancy

The Nittany Lion charges his car at the MorningStar solar home at Penn State's University Park campus.

The Strategy Framework for Sustainability

Your unit's focus on strategic sustainability will feature goals and strategies in a number of areas. We have created the Strategy Framework for Sustainability that shows five major areas on which Penn State as a whole is focused. Notice that each area is distinct yet connected to the others. Research, for example, is separate but linked with community engagement and operations.



Overview of the Strategy Areas

Teaching and Co-curricular

This refers to opportunities to infuse sustainability into student learning: both curricular and co-curricular programs. This area also is home to goals aimed at increasing the capacity and capability of faculty through faculty development workshops and changes in policies or systems that impede strategic sustainability.

Examples for Academic Units

Sustainability is added to new student orientation to highlight opportunities and stories within your unit and at Penn State. Your college or campus convenes a workshop or roundtable for faculty to integrate sustainability into their courses. A Student Sustainability Summit is organized to highlight career and grad school opportunities, on-campus activities, and community resources.

Examples for Support Units

A group of staff hires an intern to help assess opportunities to reduce resource use (energy, water, material waste). Facilities staff work with a faculty member and her class to develop on-campus project proposals for applied research. Energy managers work with a writing class to develop a report on all the energy efficiency projects and results on campus.

Research

This refers to the addition or enhancement of sustainability in undergraduate, graduate, and faculty research conducted by your unit. Perhaps there are opportunities to better link existing sustainability research or start a new research program.

Examples for Academic Units

Collaborative team forms to conduct a pilot study using regional/campus data to inform the development of a larger proposal. A new initiative to help identify sustainability-focused funding opportunities and publications is initiated.

Examples for Support Units

A team trying to figure out the most sustainable product for a particular purpose (computer or cleaning supplies for example) partners with a faculty member with relevant expertise who can conduct the proper analysis.

Service and Community Engagement

This refers to the blending of sustainability into existing or new community partnerships that provide learning opportunities for students, applied research opportunities for faculty, and benefit to the community. What problems exist in the community that your unit's expertise could help to solve? What changes—new incentives or the removal of barriers—are necessary to allow for the sharing of this expertise?

Examples for Academic Units

Staff conduct a sustainability assessment of the region to identify new market opportunities. A meeting is convened with local and regional government, business, and non-profit partners. Faculty and student teams work with local social service and environmental agencies to create a job skills program focused on sustainability.

Examples for Support Units

Staff members work with local partners to arrange for a farmer's market to be held on campus. The waste management team and dining services work with local government and businesses to develop a composting program.

Operations

This refers to the integration of sustainability into the management and use of the physical facilities, vehicles, and grounds of your unit, including classrooms, labs, sports facilities, offices, and service vehicles as well as at events, conferences, and meetings. What are ways your unit can reduce resource use such as in fuel, electricity, water, materials, etc.?

Examples for Academic Units

Faculty members convene a panel of facilities and operations staff in order to understand their environmental and human health and safety challenges. Following the panel, faculty and students create proposals to offer solutions.

Examples for Support Units

A group works with professional development and training staff to create a sustainability-focused educational program. A director creates a new policy for sustainable purchasing which makes requirements for all major contracts and purchase orders.

Planning and Administration

This refers to the ways a unit has integrated sustainability into its organizational structure, systems, and policies. Have formal structures been put into place, like a sustainability working group or committee with representatives from various departments?

Examples for Academic Units

Leadership appoints a well-respected leader to be the college or campus sustainability chair. An awards program is created to recognize sustainability leaders among students, faculty, and staff at an annual event. A task force is appointed to explore how the promotion and tenure criteria can support applied work on campus and in the community.

Examples for Support Units

A new policy is developed for sustainable purchasing in order to reduce packaging and the resource efficiency of products. A section is created in the newsletter to highlight sustainability projects and their results. A sustainability management system is developed with IT faculty and students to track and report on sustainability measures.

Brainstorming

Many employees use this method of gathering ideas but few take full advantage of its potential. It is key to set the stage and utilize some simple rules to make "brainstorming" really effective. After you have a good set of ideas, the next tool, the "Decision Matrix," on the next page, can help you sort them and prioritize them.

How to brainstorm

Brainstorming was developed by Alex Osborn, an advertising executive, in his 1953 book, "Applied Imagination." Many researchers and practitioners since then have utilized and expanded his original ideas. From the many applications of his ideas, some keys to a good brainstorm have emerged:

- A compelling question or problem
- A creative and open environment
- A spirit of non-judgment or no discussion/debate. It limits creativity at this point.
- Everyone has an equal opportunity to participate.

The goal is quantity, breadth, and variety. You will organize the ideas later.

You have a vision of sustainability, and by now, a good sense of your unique contribution. The key question for the brainstorm is something like:

"What are the critical steps we must take to arrive at our vision?"

List as many possibilities as you can from the mundane to the outlandish. After you have a list, you can look for connections between ideas and for overlap. Then you can use the Decision Matrix to zoom in on a smaller number of strategies.

Worksheet

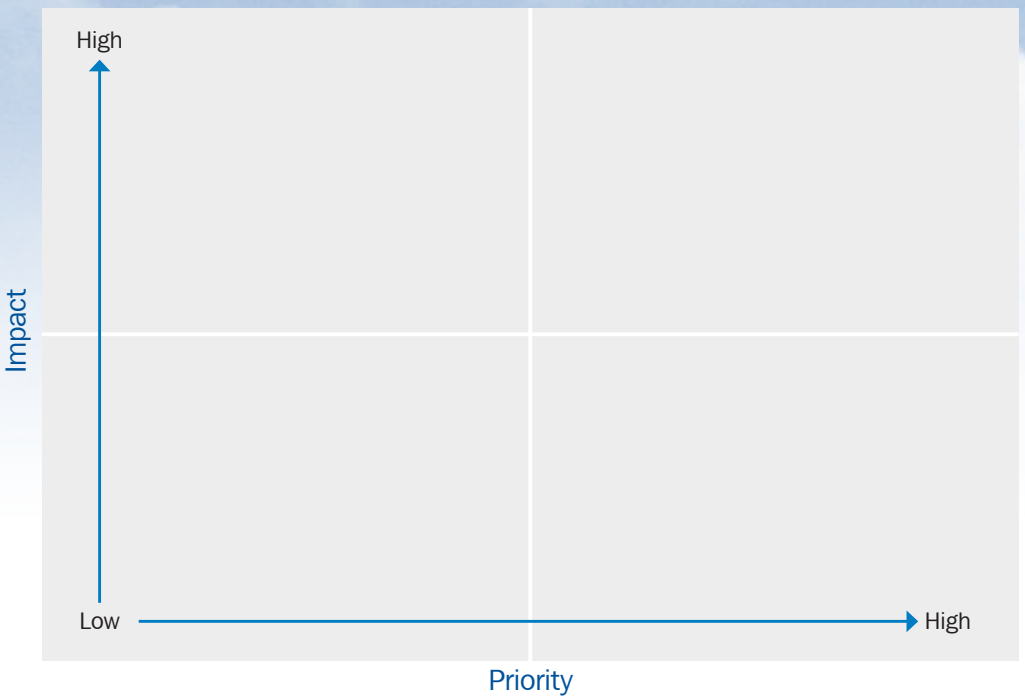
Decision Matrix

The Decision Matrix can be an effective way to prioritize a brainstormed list of potential strategies. First, define and determine criteria for what constitutes "Impact" and "Priority". Second, plot the potential strategies on the matrix.

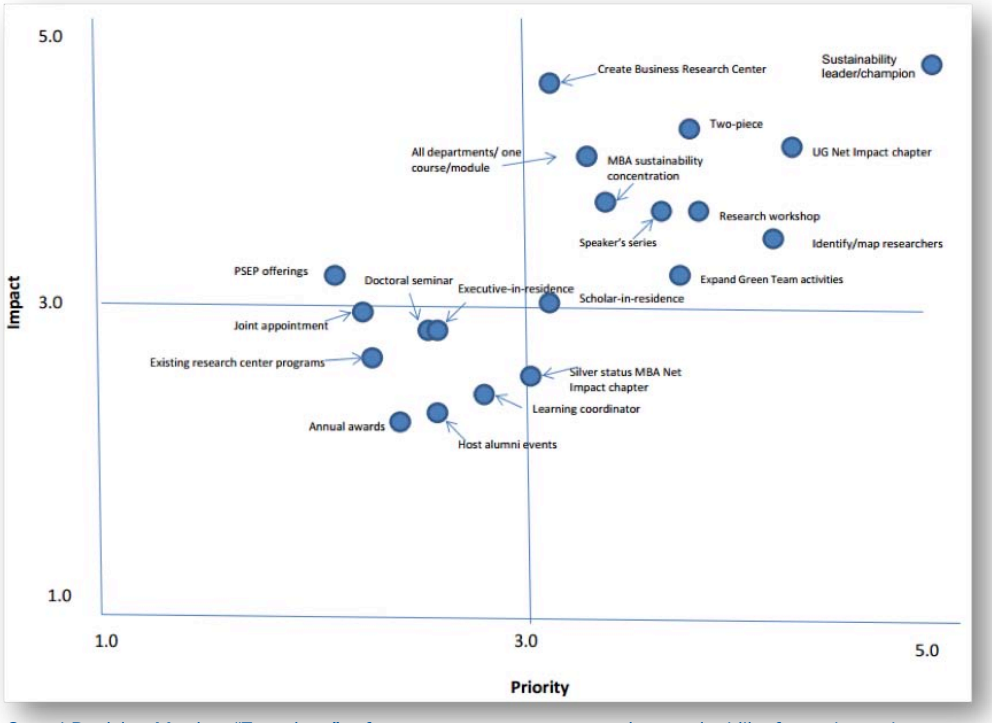
The plotting can take place via a scorecard process: a spreadsheet with criteria and associated weights assigned to each. Then each strategy is scored by individuals present and the scores are summed and averaged. The plotting can also take place more quickly and subjectively, with individuals making a determination in light of the criteria.

The items in the upper right that are high priority and high impact are the top candidates.

Prioritized strategies or goals often need to be rewritten so they are specific, actionable, and measurable. The SMART Strategy Builder is a powerful, yet simple tool for this purpose.



Example:

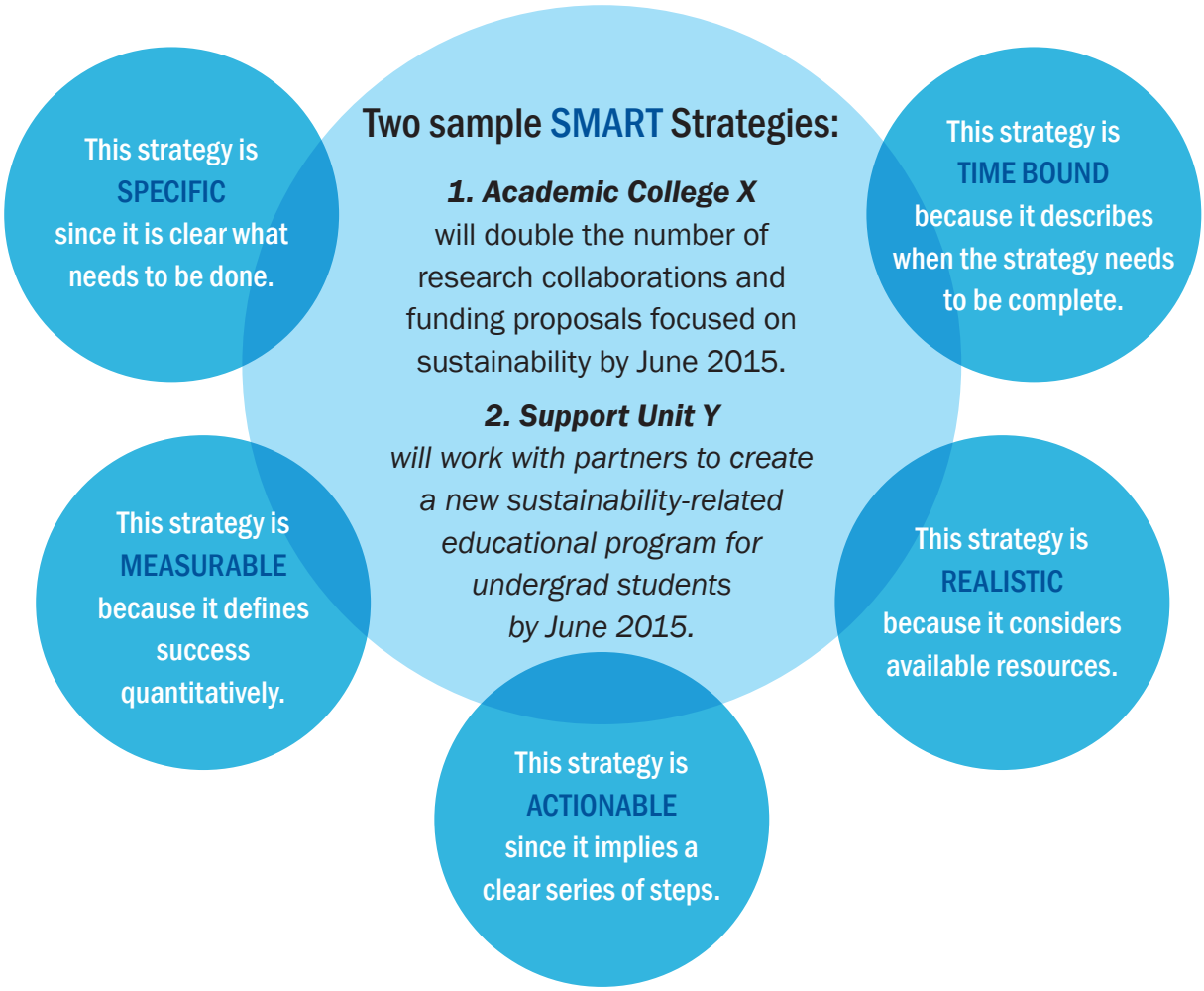


Smeal Decision Matrix – "Two-piece" refers to a new two-course set in sustainability for undergrads. "PSEP" stands for Penn State Executive Programs. This was excerpted from the Smeal Sustainability Plan available at: *sustainability.psu.edu*.

SMART Strategy Builder

What are SMART strategies? SMART strategies are:

- **Specific:** Is the strategy detailed enough that someone who isn't a part of our team would know what needs to be done and how?
- **Measurable:** Is there a clear way to measure success? How will you know when you've reached your goal?
- **Actionable:** Is there a clear series of steps to take to accomplish your strategy?
- **Realistic:** Is it possible to reach this strategy considering the resources available to your team?
- **Time Bound:** When will the strategy be accomplished?



Worksheet

You may want to make more copies of this worksheet for your planning team.

1. Write a rough version of the strategy or goal here:

2. Use the table below to help you consider the five SMART dimensions of your strategy. Refer back to the previous page for leading questions and an example. Use the space provided below to write your initial thoughts/ideas for making the strategy specific, measurable, etc.

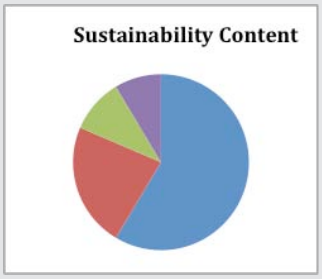
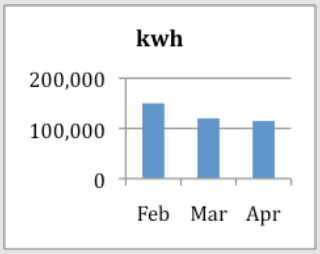
3. Use the insights gained above write your unit's SMART strategy.

You can write drafts of your strategy statement here. Keep trying different versions until it is clear and meets the SMART strategy framework. Finally, be sure to decide who is responsible for making the strategy happen.

Worksheet

Metrics Worksheet[11]: The saying "what gets measured, gets managed" holds true for sustainability. Effective integration of sustainability leads to strategies that are measurable and accountable. The Metrics Worksheet below is a tool to help you develop your metrics.

Most columns are probably self-explanatory except for "Sample Chart," which encourages teams to identify early how data will be presented. Teams can work backwards from what the chart or table will look like to what kind of data they need and how they need to collect it. The table can be easily recreated in Excel or a similar program. Make sure you develop good metrics and a way to track and report on them.

Metric	Ultimate Goal	Baseline	Source of Data	Sample Chart
Academic example: Percentage of courses in strategic areas within our dept/college with sustainability content	45% by 2016	10% in 2013	Internal survey	
Support Unit example: Monthly electricity consumption	50% reduction by 2016	150,000kwh/ month	Office of Physical Plant	

[11]Hitchcock, Darcy E., and Marsha L. Willard. The Step-by-step Guide to Sustainability Planning: How to Create and Implement Sustainability Plans in Any Business or Organization. London: Earthscan, 2008

Before You Go On!

Go back to page 5 and write your conclusions in *Step 5*.

STEP 6 Develop Your Implementation Plan

It's all talk unless there is an implementation plan to make it all happen. Who is going to do what? By when? How will you assess effectiveness? After finishing this section, you will have:

- A plan to develop the proper support systems around your strategies
- An implementation plan to ensure clear responsibilities, timelines, and budgets

Establishing Support Systems

DON'T SKIP THIS STEP. You would not build a house on a faulty foundation. Beneath your new sustainability plan, you need a strong foundation of support systems. Without such a foundation, your investment to create a solid plan (Steps 1-6) could be at risk.

"Support systems" refers to the various administrative structures, policies, and communications that focus and build capacity within an organization to carry out the work. These are the key enablers of your sustainability plan. If you leave sustainability unresourced, isolated, and without accountability, it will wither. ***On the other hand, if sustainability has a prominent seat at the table, is an obvious and visible part of the organizational structure and culture, and is properly resourced, it will succeed.***

This is where you consider and make decisions about questions like:

- Have formal structures been put into place like a sustainability working group or committee with representatives from various departments?
- What new policies, systems, or standards may be needed or old ones amended to support your sustainability goals?

Tip for the Facilitator

Once you have your strategies and metrics finalized, put them in writing in a document underneath the vision statement. Show this to the group to demonstrate that progress is being made. It is recommended that someone draft an implementation plan or at minimum an outline. Bring a drafted plan to a meeting and do a simple "plus/delta." "Pluses" are the document's strengths and "deltas" are opportunities to make it even better. Be sure to get formal approval from your top leadership.

Above and beyond: Schedule quarterly meetings to monitor implementation and make sure it is on the calendar of all the main people responsible for different strategies. Have the appropriate unit leader present at these meetings so she/he is kept informed of progress.

- Whose support inside and outside the organization will we need to be successful? And how will we make sure they are aware and "on board" with our sustainability goals?

These critical questions will be answered by addressing four parts of your support system:

- Organizational structure and policies
- Team learning and innovation
- Communications
- Reporting and accountability

Organizational Structure and Policies: *the Right People*

Your unit surely has a number of committees, councils, advisory boards, task forces, etc. that have various responsibilities. These groups have regular meetings and key topics they analyze, discuss, and make decisions or recommendations about. The key issue here is how sustainability will be built into this organizational structure.

Effective approaches that some units have taken include:

- On an existing committee, create a chairperson for sustainability who reports on progress, identifies obstacles, and convenes conversations when needed.
- On an existing committee, create a subcommittee focused on sustainability.

- Create a new committee focused on strategic sustainability in your unit, such as a group of faculty teaching sustainability or conducting research in this area.
- Create a new position or role in your unit for someone to focus on strategic sustainability (if you already have a diversity representative or champion, for example, the idea is similar).
- Create an external or internal advisory board of faculty from other colleges or universities or from industry that can advise your focus on strategic sustainability.

Units have a number of formal and informal policies, standards, and norms—some from the unit and some originating from the university. These can support, impede, or not apply to your new sustainability plan. For example, promotion and tenure criteria may inadvertently discourage applied sustainability research. Faculty may not get credit for applied projects that may provide sound learning outcomes and benefit to the community or campus but don't satisfy a peer-reviewed publication or "service to the university" requirement. On the other hand, the same promotion and tenure criteria can actually advance sustainability research by ensuring its rigor and grounding in scientific principles.

How does our Green Team play a role?

It depends on your unit and your goals. In general, we say that Green Teams play the critical role of improving day-to-day operations. Strategic planning is focused on longer term initiatives tied to the unit's core mission. Both are needed.

What are Green Teams?

Penn State Green Teams are groups of faculty, staff, and students who take specific actions to help their organization (college, department, building, etc.) operate in a more efficient, innovative, and healthy way. Penn State has Green Teams at nearly every campus. Learn more at our website: *sustainability.psu.edu*

Team Learning and Innovation: *the Right Understanding and Creative Environment*

Your unit already has a way to ensure that faculty and staff receive instruction or training on various topics, from managing TAs to using technology to leadership and communication skills. Sustainability also requires new skills, knowledge, and values. The specific type and content of faculty or professional development depends on the unit and your sustainability goals.

Examine your goals and consider the skills and knowledge required to realize them. Do those skills and knowledge exist within the people who are responsible for implementing the plan? If so, how could they be enhanced? If not, how could they be acquired? What resources exist in the college, campus, or at Penn State that could help?

Sometimes it is not necessarily skills and knowledge that is needed but partnerships and space for reflection and innovation. Perhaps one or more of your goals will require new partnerships with faculty or staff in other areas, groups in the community, or external agencies, businesses, or organizations.

What if you had a meeting of faculty, dining service employees, local farmers, and social workers to explore ways to develop a local food program that provided nutrition to low-income populations while providing learning and research opportunities for students?

What if you had monthly Innovation Labs, where faculty or staff met during an afternoon or morning about a strategic sustainability topic? Using brainstorming, small group work, and personal reflection, all types of new ideas and process improvements would emerge.

Communications: *the Right Message and a Way to Listen*

Your unit probably has a number of ways for communicating information: website, social media, fundraising letters and meetings, alumni newsletters, emails, bulletin boards, meetings, and special events. ***Consider how your new sustainability goals and commitment can be featured and highlighted regularly in these communications.***

Some general communication tips for sustainability:

- Communications includes listening to internal and external stakeholders via meetings, surveys, etc.
- Work with your leadership to determine the key messages and types of communication you want to incorporate into your traditional communications.

Be able to fill in the blank: "The most important message (name of leader) wants to communicate about sustainability is

_____

_____."

Note that she/he may have a slightly different message for different audiences, so be sure to list messages by audience. The message to students could and should be a little different from the message to staff or faculty or alumni.

- Keep finding fresh, positive new ways to communicate this message.
- Always relate the stories to the unit's core mission and priorities.
- Be sure to show the breadth of what sustainability represents: social, economic and environmental dimensions.

Evaluation, Reporting & Accountability Processes: *the Right Measurement*

Your unit already has a regular schedule and process to gather quantitative and qualitative data in a number of areas: research publications, student learning, customers served, project costs, etc. And you have a way to share this information internally and externally.

How will you incorporate sustainability into these existing measurement and reporting processes?

To ensure long-term support and success, you will need to be able to make a rigorous, evidence-based case for the unit's strategic sustainability efforts. Be prepared for this kind of critical analysis by putting in place a program evaluation plan at the outset. Return to Step 5, "Set Goals and Develop Metrics," and develop your evaluation plan using the metrics you developed.

Image: Marissa Carney

Worksheet

Support Systems Checklist

Check off the following once you have ensured that these critical support systems are in place to support the realization of your goals.

☐ Organizational Structure and Policies

You have decided how sustainability will be built into your organizational structure, decision-making processes, and policies.

☐ Team Learning and Innovation

You have decided what system you will put into place to ensure team learning, reflection, and focus on innovation.

☐ Communications

You have a communications plan to ensure sustainability and the various strategic initiatives put into place are an important part of your leadership's message and the unit's communications. Likewise, you have a plan to listen regularly to the needs and concerns of key stakeholders.

☐ Evaluation, Reporting and Accountability

You have decided how you will incorporate sustainability into new or existing measurement and reporting processes and schedules.

Worksheet

Implementation Template

Here is where you put it all together. Ensure that each strategy has someone capable who is responsible for getting it done within a certain timeframe.

Your unit probably has its own way of developing implementation plans or action plans. Some methods are more formal than others. The "template" below can be recreated in Excel or a similar program. Likewise, the same categories could be created in a Word document. The most important thing is to have these categories accounted for because they force you to be clear and specific about how you will carry out your goals.

Goal	Objectives w/Action Steps	Who	Timeframe	Metric	Budget

Before You Go On!

Go back to page 5 and write your conclusions in *Step 6*.

Appendices: OVERVIEW, DEFINITIONS, RESOURCES, and PILOT SUMMARIES

More information on all these resources can be found at **sustainability.psu.edu**

Overview of the Sustainability Strategic Plan[12]

In December 2012, Penn State's first Sustainability Strategic Plan was completed and delivered to the University president. The Sustainability Strategic Plan was developed by a University Sustainability Council appointed by then-Provost Rodney Erickson in 2011. The council's charge was to "integrate sustainability in a way that adds value to our institution, communities, the Commonwealth of Pennsylvania, and beyond." The Sustainability Strategic Plan is the result of a collaborative process, featuring input sessions with faculty, staff, administrators, and community leaders held at nearly every campus and involving more than 500 people.

Five Key Pillars of the Sustainability Strategic Plan and Why They Matter for Planning

Key Pillars of the Plan	Specific Benefits to Planning	General Benefits to Planning
1. Definition of sustainability	Many definitions exist, and Penn State developed its own so units don't have the burden of deciding which definition to utilize.	All five pillars provide a common set of definitions and criteria to support effective decision-making. Understanding the five pillars allows all units to organize around the same core ideas and vision.
2. Vision and mission	Knowing where we ultimately are trying to go will inform what units do to contribute to that vision.	
3. Three principles	Values and principles are critical for planning as they provide the ethical foundation for action.	
4. Three goals and associated strategies	The high-level goals and strategies will help spur ideas for your unit.	
5. The living laboratory concept	This is the primary, organizing concept driving much of the university's overall approach.	

Penn State Definition of Sustainability

Sustainability is the simultaneous pursuit of human health and happiness, environmental quality, and economic well-being for current and future generations.

Penn State Sustainability Vision

Penn State's vision is to embed sustainability as a fundamental value at the University through the development of sustainability literacy, solutions, and leadership.

Penn State Sustainability Mission

The comprehensive integration of sustainability into the University's research, teaching, outreach, and operations will prepare students, faculty, and staff to be sustainability leaders.

Penn State Sustainability Principles

Principle 1: The recognition of the fundamental ethical right of all humans, both now and in the future, to basic needs such as healthy food, clean water, dependable healthcare, a living wage, and affordable education

Principle 2: A scientific appreciation of the interconnections between human prosperity and ecological health

Principle 3: The necessity of providing the economic means for addressing human needs and supporting human flourishing, while ensuring the long-term health of ecosystems

[12]The Penn State Sustainability Strategic Plan, adopted by Penn State in October 2012 and accessible here: *sustainability.psu.edu*

Penn State Sustainability Goals

Goal 1: LEARN

Sustainability Literacy

All members of the Penn State community will realize, advocate, and contribute to sustainability literacy.

A sustainability literate person should:

- Understand the need for change to a sustainable way of doing things, individually and collectively
- Have sufficient knowledge and skills to decide and act
- Recognize and reward other people's decisions and actions

Goal 1 Strategies

1.1 Incorporate sustainability learning opportunities into daily life across the University, including the built environment and service and program delivery.

1.2 Develop and promote academic programs that address sustainability, including both online and residential offerings.

1.3 Create sustainability-focused programs and learning opportunities for external constituents, including alumni, corporate partners, and the general public.

Goal 2: LIVE

Sustainability in Practice

Penn State will put knowledge to work as it actively engages the science, practice, and art of sustainability.

As a leading international research university with a land-grant mission, Penn State has a responsibility to incorporate sustainability as a primary tenet of its own decision-making, and to implement available solutions that support the long-term success and prosperity of students, staff, faculty, alumni, and the communities in which we are embedded. Penn State is committed to supporting the internal and external partnerships that are necessary for the implementation and communication of sustainability solutions on scales from local to global.

Goal 2 Strategies

2.1 Identify obstacles to widespread adoption of sustainability best practices into daily life across the university.

2.2 Create strategies and programs for the implementation of sustainability solutions beyond the Penn State community.

2.3 Create strategies and programs for the implementation of sustainability solutions within the Penn State community.

2.4 Develop an effective infrastructure for communicating sustainability solutions to inspire the widespread adoption of sustainability practices.

Goal 3: LEAD

Sustainability Inspiration

Penn State will lead higher education in transformational innovations in policy, practice, and knowledge that address critical, complex, and systems-level sustainability challenges.

Leadership is the ability to inspire individuals, institutions, and society at large to examine how their values and behaviors affect the quality of life on the planet, for current and future generations, and enlist their aid and support in the constant pursuit of a sustainable world. Leadership is demonstrated through the recognition of the frontiers of sustainability challenges, the effective directing of resources to these frontiers, the ability to create and practice truly transformational innovations, and their communication to others for widespread adoption.

Goal 3 Strategies

3.1 Achieve full integration of sustainability into Penn State University as evidenced by the setting of long-term measurable goals, establishment of mature measurement systems, and alignment of all systems and operations.

3.2 Develop means to readily recognize new frontiers in sustainability challenges and respond to them.

3.3 Recognize and reward the innovations of students, staff, faculty, administrators, and alumni in the generation of sustainability solutions.

3.4 Develop resources for innovation.

3.5 Contribute substantively to national and international sustainability conversations and solutions through membership, leadership, and service in sustainability-related organizations and forums.

Definitions of sustainability research, courses and public engagement

The source for the following definitions, unless otherwise noted, is the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment and Reporting System (STARS) assessment tool. More information at: *https://stars.aashe.org*

Sustainability Research

AASHE definition:

Sustainability research is research that leads toward solutions that simultaneously support social wellbeing, economic prosperity, and ecological health. It includes academic research that:

- Explicitly addresses sustainability and/or furthers our understanding of the interconnectedness of social, economic and environmental issues;
- Contributes directly toward solving one or more major sustainability challenge (e.g. contributes toward achieving principles outlined in the Earth Charter); and/or
- Engages community members with the aim of combining knowledge and action to achieve positive social, economic and environmental outcomes (e.g. participatory and community-based research and engaged scholarship)

Penn State definition:

Sustainability research aims to understand, develop or assess strategies for sustaining the earth's resources to meet society's current and future needs, and to preserve the integrity of the Earth's systems.

- Strategies may include technologies, policies, methodologies, or interventions.
- Assessments may consider the environmental, social, ethical, health, and economic consequences of the strategies.
- Resources include clean water, clean air, natural and managed ecosystems, energy, and materials.

These elements are interrelated and thus a holistic view is often required.

Image: Robert Mulvihill

Image: Penn State Behrend

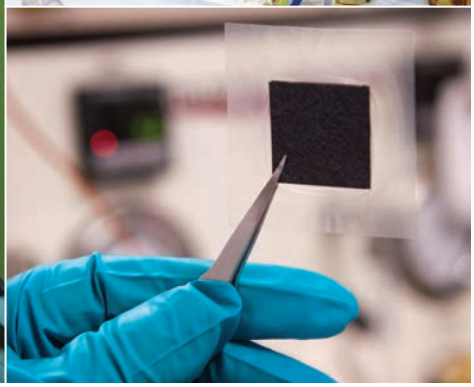


Image: Patrick Mansell, Penn State Public Information

Sustainability Course

AASHE definition:

"Sustainability courses are courses in which the primary and explicit focus is on sustainability and/or on understanding or solving one or more major sustainability challenge (e.g. the course contributes toward achieving principles outlined in the Earth Charter). This includes:

1) Foundational courses in which the primary and explicit focus is on sustainability as an integrated concept having social, economic, and environmental dimensions. Obvious examples include Introduction to Sustainability, Sustainable Development, and Sustainability Science, however courses may also count if their course descriptions indicate a primary and explicit focus on sustainability.
2) Courses in which the primary and explicit focus is on the application of sustainability within a field. As sustainability is an interdisciplinary topic, such courses generally incorporate insights from multiple disciplines. Obvious examples include Sustainable Agriculture, Architecture for Sustainability, and Sustainable Business, however courses may also count if their course descriptions indicate a primary and explicit focus on sustainability within a field.
3) Courses in which the primary focus is on providing skills and/or knowledge directly connected to understanding or solving one or more major sustainability challenges. A course might provide knowledge and understanding of the problem or tools for solving it, for example Climate Change Science, Renewable Energy Policy, Environmental Justice, or Green Chemistry. Such courses do not necessarily cover "sustainability" as a concept, but should address more than one of the three dimensions of sustainability (i.e. social wellbeing, economic prosperity, and environmental health).

While a foundational course such as chemistry or sociology might provide knowledge that is useful to practitioners of sustainability, it would not be considered a sustainability course. Likewise, although specific tools or practices such as GIS (Geographical Information Systems) or engineering can be applied towards sustainability, such courses would not count as sustainability courses unless their primary and explicit focus is on sustainable applications. If there is a sustainability unit, module or activity within one of these courses, but it is not the main focus, the course may be counted as a course that includes sustainability."

Image: Christie Clancy

Sustainability Public Engagement

AASHE Definition:

Type of Partnership	Indicators
A. Supportive	• *Scope:* Addresses a sustainability topic or a specific aspect of sustainability (e.g. community garden, environmental remediation, community environmental health and education) • *Duration:* May be time-limited (short-term projects and events), multi-year, or ongoing • *Commitment:* Institutional involvement may include financial and/or staff support or may be limited to resource sharing and/or endorsement • *Governance:* Campus and community leaders or representatives are engaged in program/project development
B. Collaborative	• *Scope:* Addresses one or more sustainability challenge and may simultaneously support social equity and wellbeing, economic prosperity, and ecological health (e.g. a green jobs program in an economically disadvantaged neighborhood) • *Duration:* May be time-limited, multi-year, or ongoing • *Commitment:* Institution provides faculty/staff, financial, and/or material support • *Governance:* Campus and local community members are both engaged in program/project development, from agenda setting and planning to decision-making, implementation and review
C. Transformative	• *Scope:* Catalyzes community resiliency and local/regional sustainability by simultaneously supporting social equity and wellbeing, economic prosperity, and ecological health on a community or regional scale (e.g. "transition" projects and partnerships focused on community adaptation to climate change) • *Duration:* Is multi-year or ongoing and proposes or plans for institutionalized and systemic change • *Commitment:* Institution provides faculty/staff and financial or material support • *Governance:* Partnership has adopted a stakeholder engagement framework through which community members, vulnerable populations, faculty, staff, students and other stakeholders are engaged in program/project development, from agenda setting and planning to decision-making, implementation and review

Resources For more information on Sustainability Institute resources: *sustainability.psu.edu*

Reinvention Fund Seed Grant Program

The Reinvention Fund will serve as a financial catalyst to empower transformative sustainability initiatives at Penn State. The Fund will invest in a broad portfolio of innovative, interdisciplinary projects of basic and applied research, practice, education, and outreach that will enhance our collective expertise on sustainability, initiate interdisciplinary projects across the University, and increase recipients' abilities to secure larger external grants.

What this could mean for you

Funding for the goals and strategic initiatives you established in the guidebook, especially those that allow for interdisciplinary and cross-functional teams.

Sustainable Communities Collaborative (SCC)

The SCC is the University's strategic platform for innovative university/community based collaborations that engage Penn State faculty and students in existing courses through real world, community-identified sustainability projects.Partnerships are created between the Sustainability Institute and local government officials, who may elect to involve other organizations and entities in the community. In a typical year, SCC anticipates it will support 15-20 projects associated with a single community, involving more than 400 students across 20-30 classes associated with a wide range of disciplines, devoting 40,000+ hours of effort.

What this could mean for you

Assistance making connections to the community and guidance on incorporating this into your college, campus, or just a course. This program could be replicated at other campuses.

Sustainability Experience Center (SEC)

The nine-acre SEC at University Park is a destination for students, teachers, business leaders, and citizens to experience and experiment with new (and old) ways to apply the practices of sustainability to food, water, building materials, and energy systems. Located at SEC is the MorningStar Solar Home, a net-zero home that produces as much (and even more) energy than it consumes.

What this could mean for you

At University Park, it is a place to bring students or to do research. If you are away from UP, it can be worth the trip to visit.

Sustainability Leadership Minor

The Intercollege Minor in Sustainability Leadership allows students in any major to incorporate sustainability as a significant theme in their undergraduate degree program. Through a combination of coursework and immersive experiences in sustainability, students develop the knowledge, skills, and attitudes required to become sustainability leaders in their respective fields. This is an 18-credit minor. (At least nine credits must be from outside the student's major department.)

What this could mean for you

A minor for students to gain a broader understanding of sustainability and an opportunity to add your course to those that students can take for the minor.

Field Guide to Teaching Sustainability

The Field Guide to Teaching Sustainability at Penn State is an online resource, developed to make it easier for professors to effectively address the various aspects of sustainability, no matter the discipline. Within the Field Guide, people share information about what and how they are teaching, find out what and how others are teaching, and share other resources. The guide is under development, but already many assignments in many disciplines have been uploaded and can be viewed.

What this could mean for you

The Field Guide can assist faculty in quickly gaining ideas on how to incorporate sustainability into their teaching.

Faculty Development Workshops in Sustainability

Faculty development workshops at Penn State fall into two main categories: shorter workshops held during the semester and multiple-day workshops for faculty who wish to create new sustainability-focused courses. In both cases, we work with faculty to help them find ways to incorporate more sustainability concepts and practices into coursework across disciplines.

What this could mean for you

An opportunity for faculty to meet with and learn from other faculty.

Penn State Eco-Reps

Penn State Eco-Reps are student leaders who educate, motivate, and empower their fellow students to adopt sustainable behaviors in the residence halls and other campus facilities by sharing information, hosting interactive events, and modeling sustainable living. Each year, 28 first-year students are selected to be Eco-Reps at University Park. During the fall semester, the students learn about behavior change and focus on recycling and composting. In the spring, the Eco-Reps participate in No Impact Week (encouraging behaviors that reduce our impact on people and the planet) and host a challenge aimed at curbing electrical consumption. Both semesters culminate in residence hall challenges that use fun, interactive programs to engage residents in sustainable behaviors.

What this could mean for you

This great program for students is at University Park right now but could be replicated at any campus.

Green Teams Program

Green Teams are groups of faculty, staff, and students volunteering to take specific actions to help their organization (college, department, building, etc.) operate in a more efficient, innovative, and healthy way. Typically, Green Teams focus on making their operations more sustainable through the easy to follow Green Paws Program and other initiatives unique to their departments. Currently, the University has 95 Green Teams, with 22 of them at the commonwealth campuses, operating in various departments.

Green Paws Office Certification Program

The Green Paws Program is a simple, yet effective way for faculty and staff to "green" their workspace and earn a Green Paws Office Certification for their efforts. The Program is organized into four levels of certification that signify an office's progression towards higher and higher levels of efficiency, health, and environmental sustainability. Over 1,200 faculty and staff participate in the Green Paws Program.

What this could mean for you

Green Teams and *Green Paws* are off-the-shelf programs with many tools developed for taking meaningful action.

If you are looking for a way to get sustainability incorporated into the culture of your unit and into the day-to-day operation...these are for you.

Pilot Summaries

Background: In December 2011, the Penn State Sustainability Strategic Plan was delivered to President Rodney Erickson. He requested that we "test the plan" by seeing how it could be operationalized at the unit level.

We selected four units with whom to run this pilot test of the Sustainability Strategic Plan:

- Smeal College of Business
- Penn State Public Media
- Penn State York (this pilot was delayed due to changes in leadership)
- Finance & Business

Smeal College of Business

The Smeal College of Business appointed two co-chairs for their sustainability planning effort, Dr. Gerry Susman and Dr. Terry Harrison. Dr. Susman and Dr. Harrison have been longtime scholars and internal advocates of sustainability strategy, were respected among their peers, and were therefore seen as the champions to move this initiative forward. They chose the remaining task force members, consisting of faculty and staff from a broad range of departments.

Key to their work was a view that sustainability was not simply an addendum to their curriculum, but transformational of it. Therefore, they identified high-level areas to target and developed an impact matrix to help determine the most important targets. They expected, after submitting the plan to their leadership, to need to revise the plan in order to meet the constraints of the unit. They were pleasantly surprised to find that leadership chose to adopt the entire plan as is.

Key Lessons & Recommendations

- Appointing a faculty champion in sustainability was necessary to overcome obstacles and leverage existing support and initiatives. For an administrative unit, appointing a champion is also key. Make sure champions are good communicators and well-respected leaders.
- Leadership support and dedicated resources were fundamental to success.
- Viewing sustainability as a transformational concept led to bold innovations rather than small, piecemeal initiatives.
- An external advisory board can lead to many innovations and is a good way to align with the work of external partners in industry.

Penn State Public Media

Penn State Outreach's Public Media Creative Group connects people through the power of film, video, and interactive stories. To integrate sustainability strategically into its unit, Public Media created a task force of individuals with an interest in sustainability and committed to making the Sustainability Strategic Plan actionable in their unit. Most task force members consisted of representatives from middle management, project management, and the administrative staff.

They developed a matrix of possible activities, the majority of which focused—at first—on waste management and energy use. In the end, they developed a number of more strategic projects linked to their core mission and unique abilities as the Public Media Creative Group: film, video and interactive stories about sustainability at Penn State and beyond.

Key Lessons & Recommendations

- Begin with a shared understanding of sustainability and knowledge about what is already happening on campus and in the community.
- It took them a long time to get to their unique contribution as a unit (which is creating film and video), but when they found it, the whole process was energized and accelerated.
- Leadership support and ultimate buy-in is paramount to success.
- Create a team for planning and consider creating a separate team—with some overlap—for implementation
- Planning committee should include a representative sub-set of the unit—including people with clout to "get stuff done"—not just the "environmentally" focused people in the office.

Image: Christie Clancy

For further information and to read these units' sustainability plans, go to: sustainability.psu.edu

Finance & Business

Finance & Business, as a large unit of over 5,000 employees and a diverse set of sub-units including but not limited to the University Airport, Office of the Physical Plant, Housing and Food Services, and Office of Human Resources, chose to approach sustainability planning in a top down, bottom up manner. The Finance & Business leadership team held a retreat with the vice president of Finance & Business and created six sustainability priority areas that they would ask all of their sub-units to align with.

Each unit was then asked to set three goals, each of which needed to align with one or more of the priority areas identified by the leadership team. The process of educating on sustainability and aligning goal setting was appointed to the Sustainability Institute to facilitate. Goals were set using the SMART goal framework, and in the end 18 units set three one-year goals for fiscal year 12/13.

Identified Priority Areas:

- Leadership
- Engagement
- Communication
- Resource Reduction
- Funding
- Zero Waste

Key Lessons & Recommendations

- Understanding sustainability and the breadth of what it means for your unit is a critical first step.
- Initially, sustainability for most units equated to basic steps in recycling, composting, and energy consumption. These are important habits but are only the tip of the iceberg.
- Focusing on the unit's mission and its unique contribution leads to the greatest solutions and returns…the bottom of the iceberg.
- Facilitation of units helped to deepen their understanding of sustainability and move units to their unique contributions and mission-relevant initiatives.
- Leadership support is key to gaining buy-in.

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