How to Report on Resilience Goals in a Climate Action Plan

Last updated: May 2, 2019

Example Climate Action Plans

- California State University Los Angeles
- Lane Community College
- Southern Connecticut State University
- Temple University
- University of Illinois at Chicago

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Why include Resilience in the Climate Action Plan?

Second Nature recommends a Climate Action Plan (CAP) including both carbon neutrality and climate resilience goals. An integrated CAP will help campuses think comprehensively about addressing climate change, and may highlight synergies between mitigation and adaptation strategies. However, campuses may choose to develop separate carbon reduction and climate resilience plans if this makes more sense for the institution's planning processes.

Climate and Resilience Commitment Text:

Within three years of the implementation start date complete the Plan, (also reflecting joint community-campus components), which will include:

- *A target date by which defined thresholds of resilience will be met*
- *Interim target dates for meeting milestones that will lead to increasing resilience*
- *Mechanisms and indicators for tracking progress (including those that cut across campus-community boundaries)*
- *Actions to make resilience a part of the curriculum and other educational experiences for all students*
- *Actions to expand research in resilience*

The Planning Process

Core Components of the Plan

- Strategies to increase resilience, based off the results of the Campus-Community Resilience Assessment
- Clearly defined goals, with indicators and metrics to measure progress
- Consideration of implementation partners and community stakeholders
- Flexibility and responsiveness to changing future climate conditions

Results of the Campus-Community Resilience Assessment

The initial Campus-Community Resilience Assessment will give campuses a good idea of strengths, vulnerabilities to climate change, and potential actions to increase resilience. Campuses should use the outcomes of their Assessment to inform the Climate Action Plan (CAP). They will likely need to prioritize a few strategies from a long list of potential actions to increase resilience. See Second Nature's website for suggestions on how to prioritize action steps.

While the Assessment covers five dimensions of resilience (health & wellness, social equity & governance, ecosystem services, infrastructure, economics), campuses are **not** required to include strategies from each dimension in the CAP.

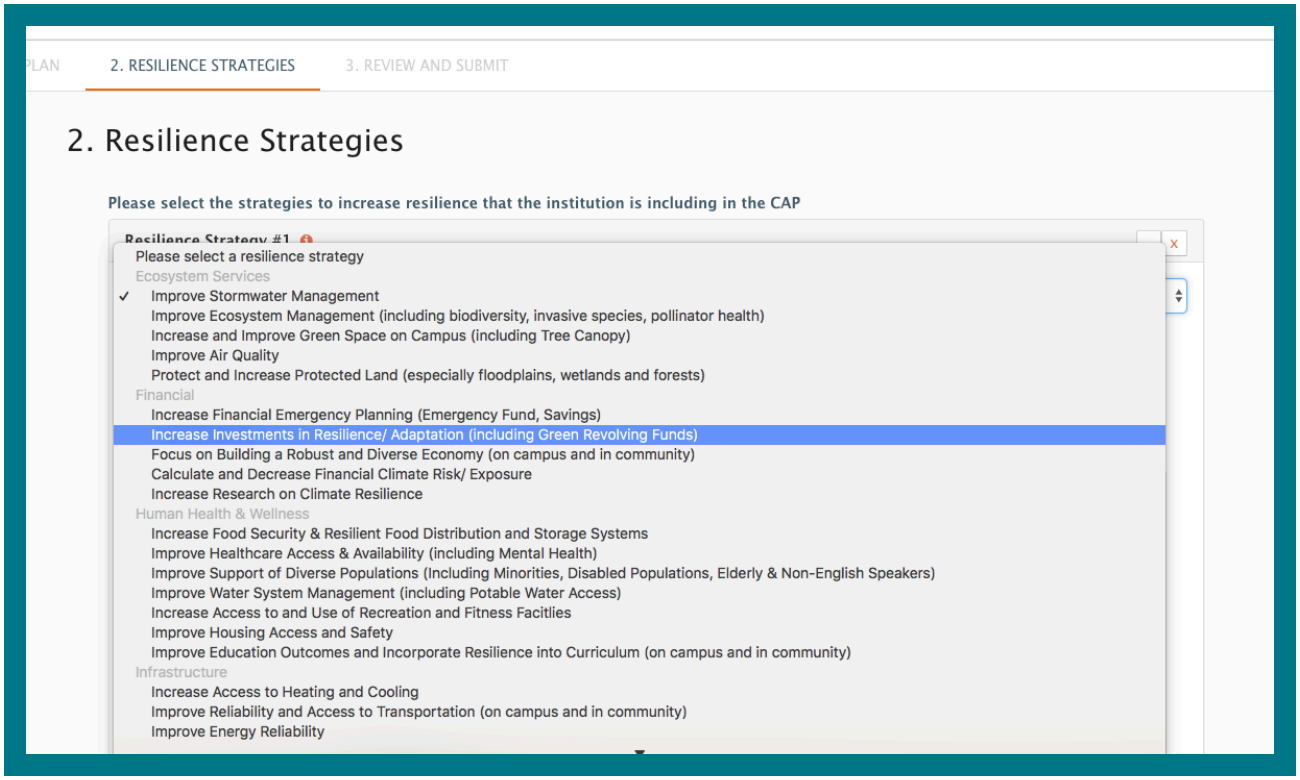
Determining the Scope

Each campus will determine the scope of their CAP. Most college and university CAPs will apply primarily to the campus, however Second Nature encourages campuses to collaborate with community partners where feasible. In some cases, colleges and universities will develop joint plans with their town or city. A campus-focused plan may also include resilience strategies and goals that will be implemented in partnership with community stakeholders. At the minimum, campuses should consider the community context when developing their plans.

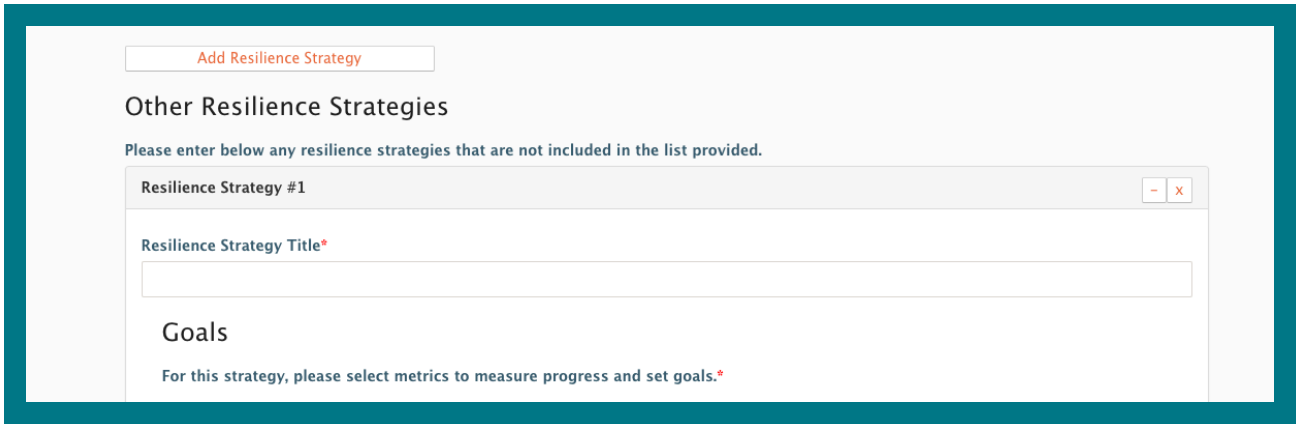
Resilience Strategies

Each campus is required to select at least one strategy to increase resilience. Strategies can be broad areas that incorporate many different actions. Second Nature provides a list of suggested strategies to increase resilience, and encourages campuses to use this list (See Appendix A). The strategies are derived from the initial indicators and opportunities to increase resilience that campuses identified in their Resilience Assessments. Campuses also have the option to include a new strategy not included in the list provided.

In the Reporting Platform, the strategies are categorized by their primary dimension of resilience. This categorization is primarily for organization, and to assist campuses in finding strategies. The five dimensions of resilience are NOT mutually exclusive; a single strategy may contribute to multiple dimensions of resilience. Campuses are not required to include strategies from each dimension in their CAP.



The Reporting Platform CAP report includes a tab for resilience. Campuses should select at least one strategy from the drop down list provided. Second Nature encourages campuses to report on multiple strategies to increase resilience.



If campuses wish to include a resilience strategy that is not provided in the list, they have the option to write in a new resilience strategy.

Setting Goals

For each strategy selected, campuses should set a short term goal, a mid term goal, and a long term goal. Because the strategies to increase resilience are broad, there are many specific goals

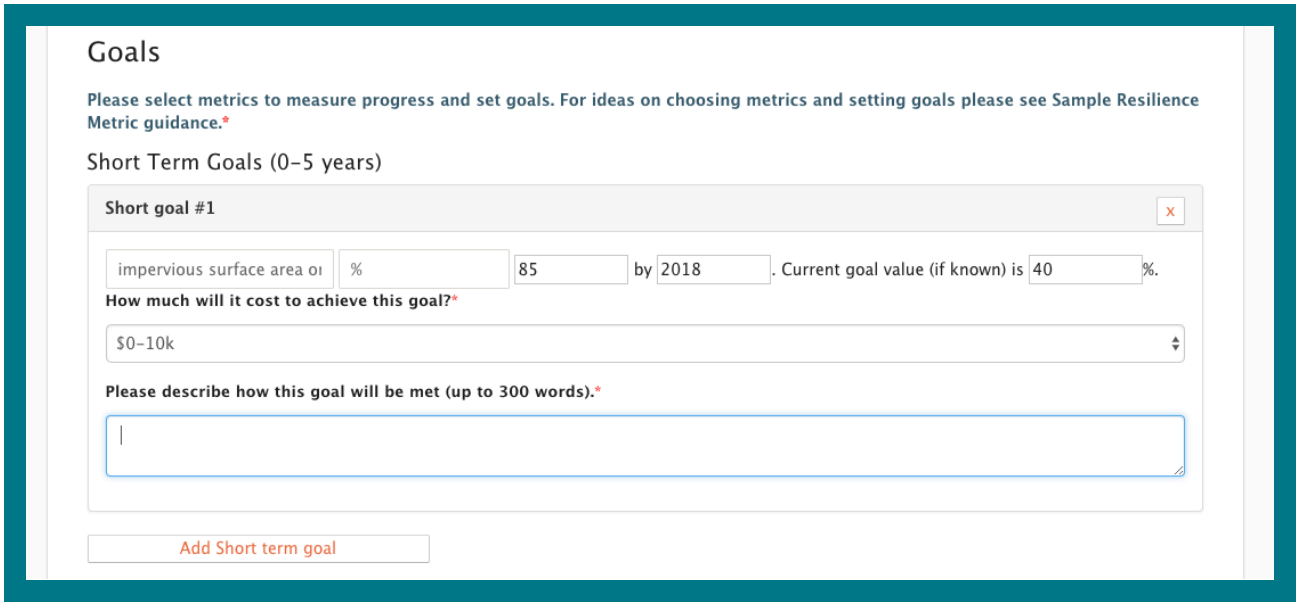
and metrics that could be included with any given strategy. Campuses are encouraged to set more than one goal per time frame for each strategy. Refer to the Sample Resilience Metrics for ideas.

Suggested Resources for Goal Setting:

- The Green Values National Stormwater Management Calculator is a tool that can help assess the benefits of green infrastructure compared to conventional stormwater management.
- The **Resilience Goal Setting Worksheet** is a simple template to walk campuses through defining resilience goals, strategies for implementation, and metrics for measurement. Campuses can view an example completed worksheet, and download a blank word template for their own use. *The worksheet is adapted from Gregg RM. 2018. Monitoring Climate Impacts and Evaluating Adaptation Success Worksheet, EcoAdapt, Bainbridge Island, WA*

Short Term Goals

Short term goals are goals that will be met in the 0-5 year time frame. These should be achievable projects or activities, with clearly defined plans for implementation. Short term goals may include easy wins that build support for resilience planning and longer term initiatives.



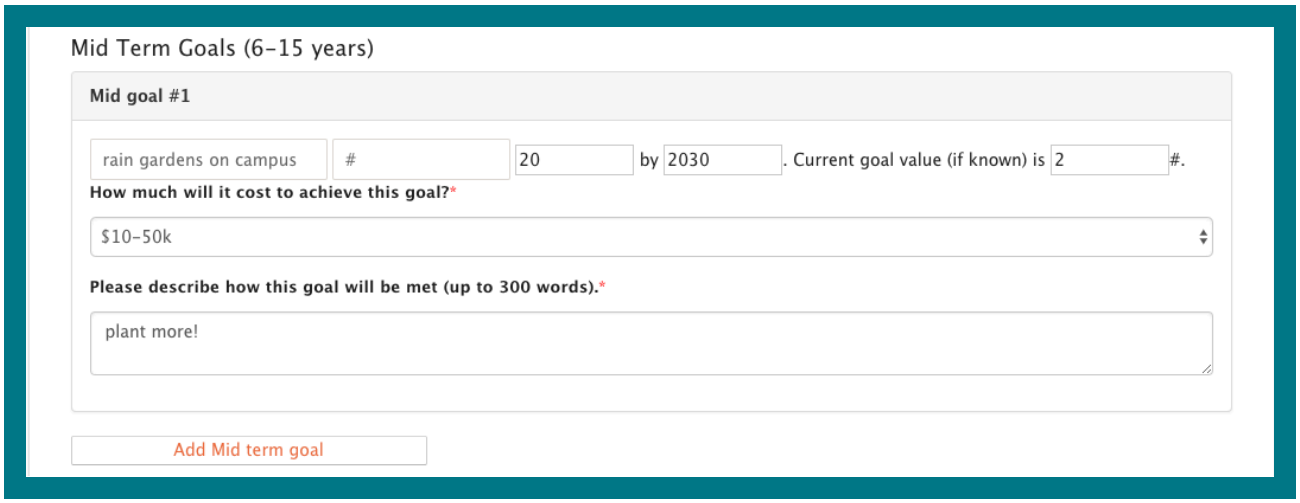
For each goal set, campuses need to provide a metric, a unit of measurement, the goal value, and the target year that value will be achieved. If the data is known, campuses can also include the current value of the metric to serve as a baseline.

Campuses are asked to consider the estimated cost of achieving each goal, and to include a few sentences on how the goal will be met. This should include the parties responsible for

implementation, and key steps. The official CAP document may contain a more detailed plan for each resilience strategy.

Mid Term Goals

Mid term goals should be achieved in the 6-15 year time frame. These can build upon short term goals and use the same metrics to measure progress. For example, a short term goal could be to install 5 bioswales over the next 5 years, and a mid term goal could be to install 10 bioswales by year 15. Mid term goals can also be unique from short term goals and use entirely different metrics to measure progress. Campuses should be aggressive in setting mid term goals, and consider projects with a large impact on campus and community resilience.

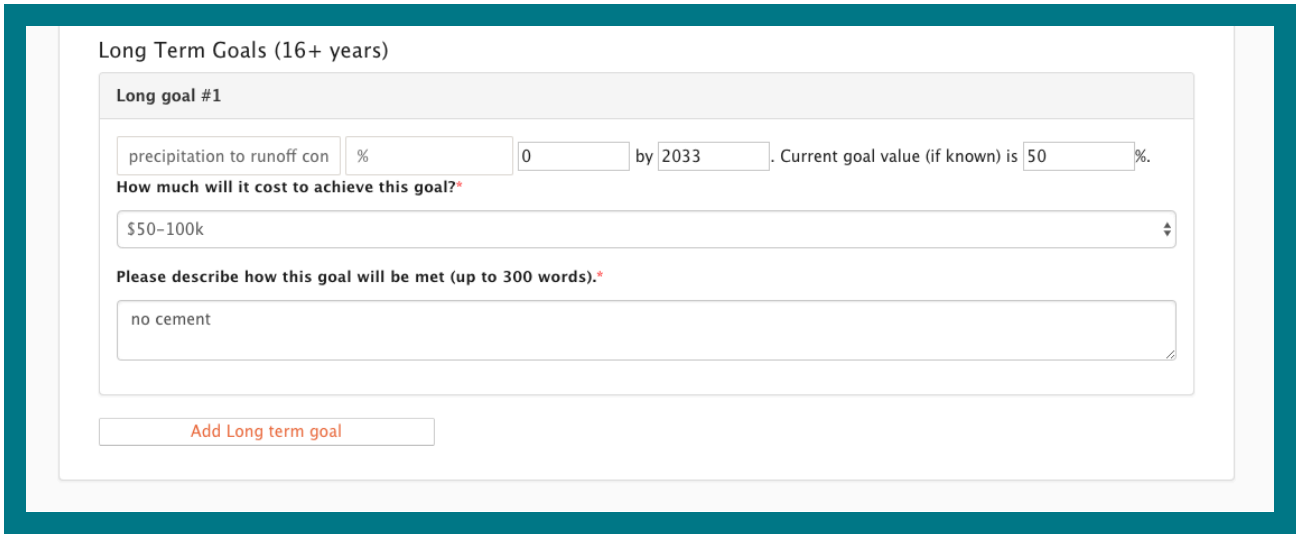


Campuses are required to set at least one mid term goal per strategy, but are encouraged to set more than one.

Campuses are asked to consider the estimated cost of achieving the goal, and to describe how the goal will be met. For mid term goals, campuses may not know all of the steps to implementation, but should include the key partners and stakeholders that will be needed.

Long Term Goals

Long term goals are beyond 16 years from the writing of the CAP. They can build upon short and mid term goals, or they can focus on a different initiative and use different metrics to measure progress. Campuses should be aggressive and aspirational in setting long term goals. What does a resilient future truly look like for the campus and community?



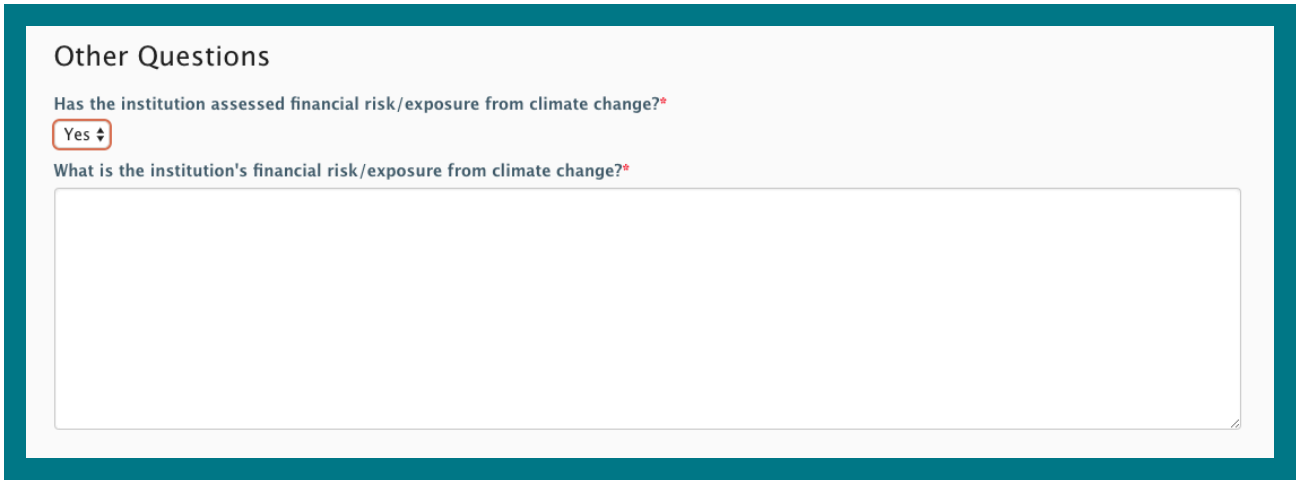
Long term goals may be more visionary than short and mid term goals, however campuses should still consider the cost to achieve and the process to implement

The long term goals are where campuses are defining what a resilient future looks like. CAPs are updated every 5 years, so campuses will have an opportunity to revisit long term goals and refine the implementation plan.

Narrative Questions

The reporting platform includes four additional narrative questions about campuses' CAPs. The first question addresses financial risk posed by climate change.

1. Financial Risk/ Exposure from Climate Change



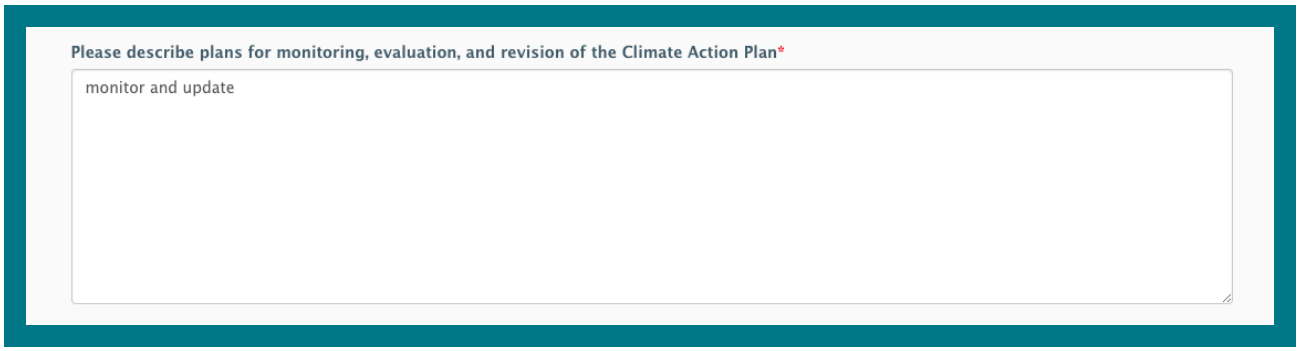
Campuses are asked if they have assessed their financial risk or exposure from climate change.

Second Nature suggests campuses consider the financial risks from climate change. This could be direct results of climate change, such as physical damage from severe weather. Financial risk may also result from indirect impacts of climate change, such as increasing costs of a key product used by the campus or regulations on greenhouse gas emissions. There are different approaches to calculating financial risk from climate change. For example, campuses could consider the value of assets exposed to climate impacts. They could also look at historic economic impact from extreme climate events.

Suggested Resources:

- The Urban Land Institute published a Guide for Assessing Climate Change Risk which includes a framework to identify risk scenarios and the estimated cost to key assets under each scenario.

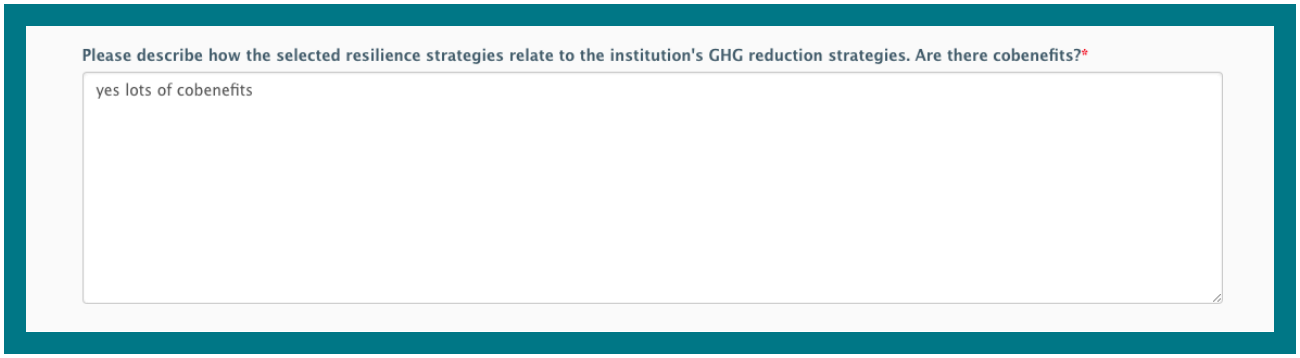
2. Monitoring, Evaluating, and Revising the CAP



Campuses should include plans for monitoring, evaluating, and revising their CAP.

Second Nature also asks campuses to consider how they will monitor, evaluate, and revise their CAP. Rather than a static document, an effective CAP will likely be a working plan that is frequently updated. Resilience in particular may be a constantly evolving goal, and planning for climate resilience includes factoring in uncertainty. Campuses should build flexibility into their planning process, and anticipate that the CAP will need to adapt to changing climate futures.

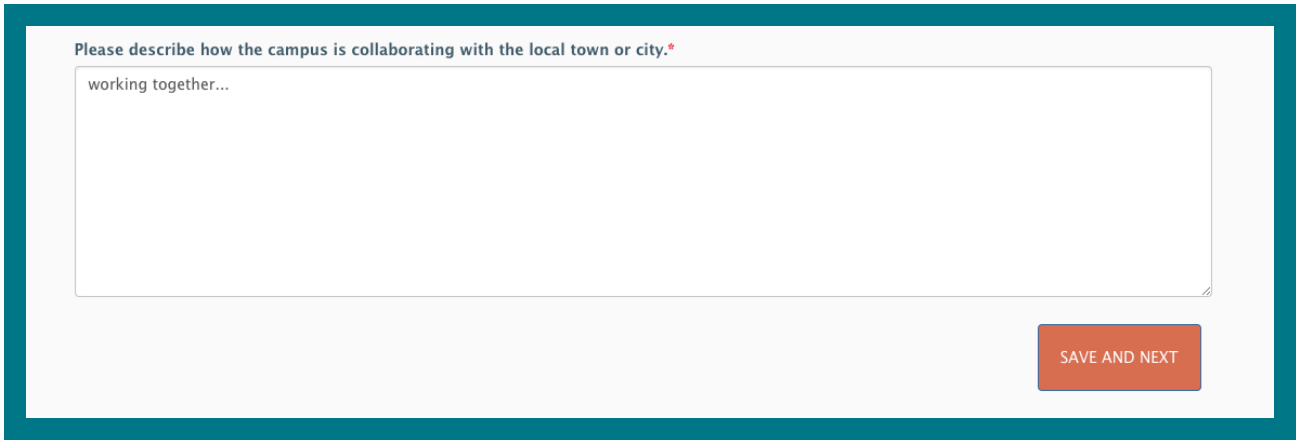
3. Cobenefits with GHG Reduction Strategies



Campuses should consider connections between mitigation and adaptation strategies.

Ideally, campuses will develop an integrated CAP that includes both climate resilience and carbon mitigation strategies. (This is not required, and campuses may develop separate carbon and resilience action plans if that is most effective for the institution.) Second Nature encourages campuses to consider the relation between plans for greenhouse gas reduction and climate resilience. Are there activities that contribute to both?

4. Community Collaboration



Campuses should coordinate with their towns or cities in developing their CAPs.

Finally, campuses should consider the broader community context when setting resilience strategies and goals. A campus cannot be truly resilient on its own if it is located in a vulnerable community; it is important that campuses coordinate and potentially partner with their municipalities. As a reminder, campuses can and should update their Campus-Community Structure report. The committee or group working on resilience will likely change throughout the multi-year process, and campuses should regularly update the Reporting Platform to reflect this.

Appendix A Strategies to Increase Resilience

These are the Strategies to Increase Resilience listed in the Reporting Platform. Campuses may also write in their own strategy not included here.

Strategies to Increase Resilience	Primary Dimension
Improve Stormwater Management	E (Ecosystem Services)
Improve Ecosystem Management (including biodiversity, invasive species, pollinator health)	E
Increase and Improve Green Space on Campus (including Tree Canopy)	E
Improve Air Quality	E
Protect and Increase Protected Land (especially floodplains, wetlands and forests)	E
Increase Financial Emergency Planning (Emergency Fund, Savings)	F (Financial)
Increase Investments in Resilience/ Adaptation (including Green Revolving Funds)	F
Focus on Building a Robust and Diverse Economy (on campus and in community)	F
Calculate and Decrease Financial Climate Risk/ Exposure	F
Increase Research on Climate Resilience	F
Increase Food Security & Resilient Food Distribution and Storage Systems	H (Human Health & Wellness)
Improve Healthcare Access & Availability (including Mental Health)	H
Improve Support of Diverse Populations (Including Minorities, Disabled Populations, Elderly & Non-English Speakers)	H
Improve Water System Management (including Potable Water Access)	H
Increase Access to and Use of Recreation and Fitness Facilities	H
Improve Housing Access and Safety	H
Improve Education Outcomes and Incorporate Resilience into Curriculum (on campus and in community)	H
Increase Access to Heating and Cooling	I (Infrastructure)
Improve Reliability and Access to Transportation (on campus and in community)	I
Improve Energy Reliability	I
Energy Efficiency/ Carbon Neutrality Goals, Renewable Energy	I
Improve Building Health (Including Certifications)	I

Improve Waste Management	I
Establish, Enhance, and/or Update Integrated Emergency Management Plans (including Severe Weather Planning)	SG (Social Equity & Governance)
Increase Community Engagement (on campus and with off-campus municipality)	SG
Improve Coordination with Local Municipalities on Emergency Planning and Resource Sharing	SG
Increase Climate Initiatives and Awareness of Climate Change	SG
Improve Social Cohesion & Trust	SG
Strengthen Institutional Commitments to Climate and Resilience Initiatives	SG

Appendix B Other Resources

- The Urban Land Institute initiative on Developing Urban Resilience has several case studies of urban real estate projects highlighting best practices in resilient design

Appendix C Example Activities to Increase Resilience

Below are examples of possible activities within each Strategy to Increase Resilience. There are many more examples beyond this list; if campuses would like to suggest activities be included here please email resilience@secondnature.org

Thank you to Climate Programs Intern Egiimaa Munkhdalai for compiling this list of examples.

Strategies to Increase Resilience	Primary Dimension
Improve Stormwater Management Example: Remove stormwater pollutants such as nitrogen and phosphorus through plant uptake Example: Create stormwater tree trenches that will take runoff from the street and sidewalk	E (Ecosystem Services)
Improve Ecosystem Management (including biodiversity, invasive species, pollinator health) Example: Protect wetlands that provide habitat to a variety of animals to maintain biodiversity Example: Generate and preserve soils to increase their fertility through sustainable landscaping practices	E

Increase and Improve Green Space on Campus (including Tree Canopy) Example: Build natural areas on campus such as parks, benches, fountains, and outdoor sporting fields Example: Renovate and enhance under-utilized green space on campus	E
Improve Air Quality Example: Limit driving by carpooling and promoting the use of public transportation Example: Purchase power derived from renewables such as wind, sun, and hydropower which will result in less emissions of pollutants into the air	E
Protect and Increase Protected Land (especially floodplains, wetlands and forests) Example: Use conservation easements to protect lands from development	E
Increase Financial Emergency Planning (Emergency Fund, Savings) Example: Purchase adequate insurance coverage in advance to protect against natural disasters Example: Create an emergency fund associated with adverse natural events based on probabilistic risk models	F (Financial)
Increase Investments in Resilience/ Adaptation (including Green Revolving Funds) Example: Actively support projects that embody resilience goals Example: Set aside a budget for building green infrastructure	F
Focus on Building a Robust and Diverse Economy (on campus and in community) Example: Encourage businesses and industries with minimal environmental impacts Example: Facilitate collaboration between businesses, non-profits, governments, and citizens in economic growth and sustainable development of natural resources	F
Calculate and Decrease Financial Climate Risk/ Exposure Example: Implement infrastructure projects that reduce climate change risks such as flood protection projects, breakwaters, etc. Example: Engage communities in preparedness for climate change by understanding how climate change will affect them financially	F
Increase Research on Climate Resilience Example: Boost college and university capacity to invest in scientific research in climate sciences and adaptation strategies to climate change	F
Increase Food Security & Resilient Food Distribution and Storage Systems Example: Ensure the increased availability of food through sustainable agricultural production and productivity Example: Providing food and nutrition assistance to vulnerable communities	H (Human Health & Wellness)

Improve Healthcare Access & Availability (including Mental Health) Example: Utilize telehealth and remote monitoring for patients in rural areas	H
Improve Support of Diverse Populations (Including Minorities, Disabled Populations, Elderly & Non-English Speakers) Example: Establish educational and professional advancement programs for underrepresented groups	H
Improve Water System Management (including Potable Water Access) Example: Preserve groundwater resources and remediate contaminated aquifers Example: Increase the efficiency of agricultural water use	H
Increase Access to and Use of Recreation and Fitness Facilities Example: Educate campus communities on the significance of physical activities and their health benefits	H
Improve Housing Access and Safety Example: Experiment with innovative housing models such as shared housing Example: Create smaller, less expensive housing units	H
Improve Education Outcomes and Incorporate Resilience into Curriculum (on campus and in community) Example: Teach college-level classes focused on climate resilience and adaptation Example: Enhance the development and use of climate scenarios in academic classes	H
Increase Access to Heating and Cooling Example: Add insulation to keep buildings warm in the winter and cool in the summer Example: Improve the efficiency of HVAC system	I (Infrastructure)
Improve Reliability and Access to Transportation (on campus and in community) Example: Provide route maps and integrated fare systems Example: Connect intercity and create more bike paths	I
Improve Energy Reliability Example: Reduce dependence on fossil fuels and using energy from other sources (solar, wind etc.) Example: Use smart electric grid technology which will reduce maintenance and operation costs and increase energy reliability	I
Energy Efficiency/ Carbon Neutrality Goals, Renewable Energy Example: Purchase Energy Star certified products which use less energy Example: Buy clean power to reduce carbon emissions and invest in fuel reduction projects	I
Improve Building Health (Including Certifications)	I

Example: Retrofit existing buildings to LEED standard to enhance buildings' water efficiency, energy use, and indoor air quality Example: Embrace sustainable designs in new buildings	
Improve Waste Management Example: Recycle and reuse sustainable materials Example: Turn waste into resources that can be used (transforming landfill waste to energy)	I
Establish, Enhance, and/or Update Integrated Emergency Management Plans (including Severe Weather Planning) Example: Improve campuses' disaster response capabilities Example: Coordinate campus emergency response plans across campus departments	SG (Social Equity & Governance)
Increase Community Engagement (on campus and with off-campus municipality) Example: Build relationships between stakeholders by initiating group discussions on resilience Example: Invite community members to campus to visit resilience demonstration projects	SG
Improve Coordination with Local Municipalities on Emergency Planning and Resource Sharing Example: Increase collaborative efforts and decision-making processes between municipalities and campuses Example: Develop transparent communication between campus and the local government	SG
Increase Climate Initiatives and Awareness of Climate Change Example: Educate students and faculties on the importance of climate resilience and disseminate relevant information to them Example: Organize climate outreach programs focused on climate impacts and vulnerabilities	SG
Improve Social Cohesion & Trust Example: Nurture relationship between partners at different levels formally and informally	SG
Strengthen Institutional Commitments to Climate and Resilience Initiatives Example: Incorporate resilience goals to institutional overall objectives Example: Conduct surveys and polls in campus communities and leverage data to implement resilience initiatives	SG