



## Swarthmore College Sustainability Framework – Executive Summary

### Vision and Purpose

Swarthmore College has a longstanding tradition of embracing environmental sustainability including simple living and conservation of resources. As an arboretum campus, the College also has a long history of land stewardship. The College is a signatory of the American College and University President’s Climate Commitment<sup>1</sup> and is committed to achieving carbon neutrality by 2035.

The purpose of the Environmental Sustainability Framework, adopted by the College’s Board of Managers in September, 2015, is to organize the College’s sustainability targets in order for the College to establish goals and prioritize funding for landscapes, buildings, and operations. The 79-page document outlines standards, implementation plans, measurement protocols for tracking progress, and recommended next steps to advance the College’s commitments to sustainability and climate protection.

### Key Findings and Objectives

The framework includes guidelines for stormwater management, carbon and energy use reduction, sustainable buildings, and recommendations for implementation. A selection of the key recommended targets are summarized here.<sup>2</sup>

#### *Stormwater Management*

- Increase stormwater management techniques above those required by regulation<sup>3</sup> and improve the health of the Crum Creek watershed.

#### *Carbon and Energy*

- Achieve between 23% and 40% reduction over projected business as usual (growth adjusted) 2035 carbon emissions. Meter all buildings for electricity, steam, chilled water, and natural gas.

#### *Sustainable Buildings*

This section sets campus and building level targets and identifies design strategies for the built environment for energy, landscape and stormwater managements, water conservation, indoor environmental quality and materials, and operations and maintenance. Some of these targets include:

- Energy: Target net-zero carbon in all new building construction, design all new construction to 50% better than ASHRAE 90.1-2010 energy standards for buildings (before renewables), and achieve specific efficiency targets for all major projects.
- Landscape and stormwater management: Install a minimum of 45% native/adaptive vegetation and replace turf where possible with native/adaptive plantings; install LED exterior lighting fixtures; reduce waste associated with projects.
- Water conservation: Reduce potable water use by 35%; select efficient and low flow fixtures; offset 50% of irrigation with captured stormwater; utilize captured stormwater for cooling towers and other non-potable uses (e.g. toilets).
- Indoor environmental quality and materials: Meet thermal comfort standards; provide access to exterior views (90%) and useful daylight (75%) for regularly occupied spaces; develop high

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<sup>1</sup> This Commitment has recently been rebranded as the Carbon Commitment, a Climate Leadership Commitment focused on carbon neutrality.

<sup>2</sup> Please see the full Sustainability Framework for a complete list of targets and recommendations.

<sup>3</sup> To the 98<sup>th</sup> storm event



quality lighting environments and utilize efficient, long-life fixtures; source 50% of materials from sustainable sources; use low emitting materials where possible.

- Operations and maintenance: Continue the existing preventative maintenance program, integrated pest management, green cleaning, recycling, and educational programs; install energy and water meters in buildings; track utility use on a building-by-building basis; install educational dashboards to further educate building users.

### *Implementation Recommendations*

Achieving the College's goals requires a significant commitment of effort and financial resources to support, fund, and prioritize campus sustainability initiatives. Most importantly, success requires the ability to measure improvement and validate project performance, enabling the College to make informed decisions. The Framework includes strategies that will help the College achieve its goals and an implementation checklist to support tracking and reporting of the building guidelines.

### *Next Steps*

The College recognizes that adopting this Framework is an important step, but that achieving the goals identified will require significant, sustained effort. Fifteen recommended steps are identified in the report and are summarized here:

- Identify stand-alone watershed mitigation projects
- Determine how carbon offsets will be acquired
- Develop a carbon emission reduction implementation plan
- Develop a method for conducting life cycle analysis to account for the full costs of projects
- Determine next steps for building metering and sub-metering
- Develop a timeline for phasing out campus steam, installing new heating systems, and reconfiguring the central plant
- Conduct a campus Transportation emissions audit
- Develop a plan to collect data from water use meters on a building level
- Revise Campus Standards documents to include specific sustainability performance targets
- Perform an assessment of campus housekeeping protocols and materials
- Continue to encourage staff participation in green building conventions
- Continue to consider using external benchmarking systems to verify landscape and building performance
- Continue to connect with sustainability groups at other peer institutions
- Develop an integrated design protocol for project request for qualifications and request for proposal processes
- Establish funding for the added costs associated with the environmental improvements set forth in this framework