

Facilities Sustainability Plan 2021-2030

Spring 2023 Progress Update

Developing a Sustainable FM Organization

Topics

- I. Facilities Management as an Organization
- II. Integrating Sustainability into FM
- III. Landscape
- IV. Transportation
- V. Buildings
- VI. Energy
- VII. Waste



FM's Commitment to Sustainability

For Facilities Management, a commitment to sustainability requires us to consider environmental and social factors to be at least equally weighty as financial factors when evaluating, planning and making decisions, whether for the short term or long term. This Facilities Sustainability Plan strives to address these three factors simultaneously:

- **Social** (quality of life, human factors): Promoting health, equity, and justice for students, employees, visitors, and our surrounding community.
- **Environmental** (ecological health factors): Mitigating climate change, protecting biodiversity, and maintaining or improving land, air, and water quality.
- **Economic** (financial factors): Supporting UVM's financial health over time, and securing resources within FM to integrate sustainability best practices into the management of campus facilities.

--Excerpt from [UVM Facilities Sustainability Plan 2021-2030](#)



I. Facilities Management (FM) as an Organization: Goals

1. Cultivate a holistic Facilities Management (FM) organization.
2. Create a short- and long-term Facilities Improvement Plan.
3. Recruit and retain high quality FM staff.
4. Provide opportunities for career growth and offer professional development.
5. Invest in Integrated Workplace Management System (IWMS) for a new level of information connectivity.
6. Create and enhance funding mechanisms for major FM initiatives.

FM as an Organization: Progress

- Physical Plant hosted two career exploration events with Northland Job Corps and the Center for Technology Essex (CTE) for students to learn about career opportunities in skilled trades and building systems.
- Published first issue of [FM Employee Newsletter](#) to increase internal communications for the 400 employees who work within FM units.
- Linking [“Meet Our Staff” video profiles](#) to UVM job postings to enhance our staff recruitment efforts.
- An FM Subcommittee helped develop goals for recruitment and retention, professional development, and accessibility for the Division's [2022-2027 Inclusive Excellence Action Plan](#).

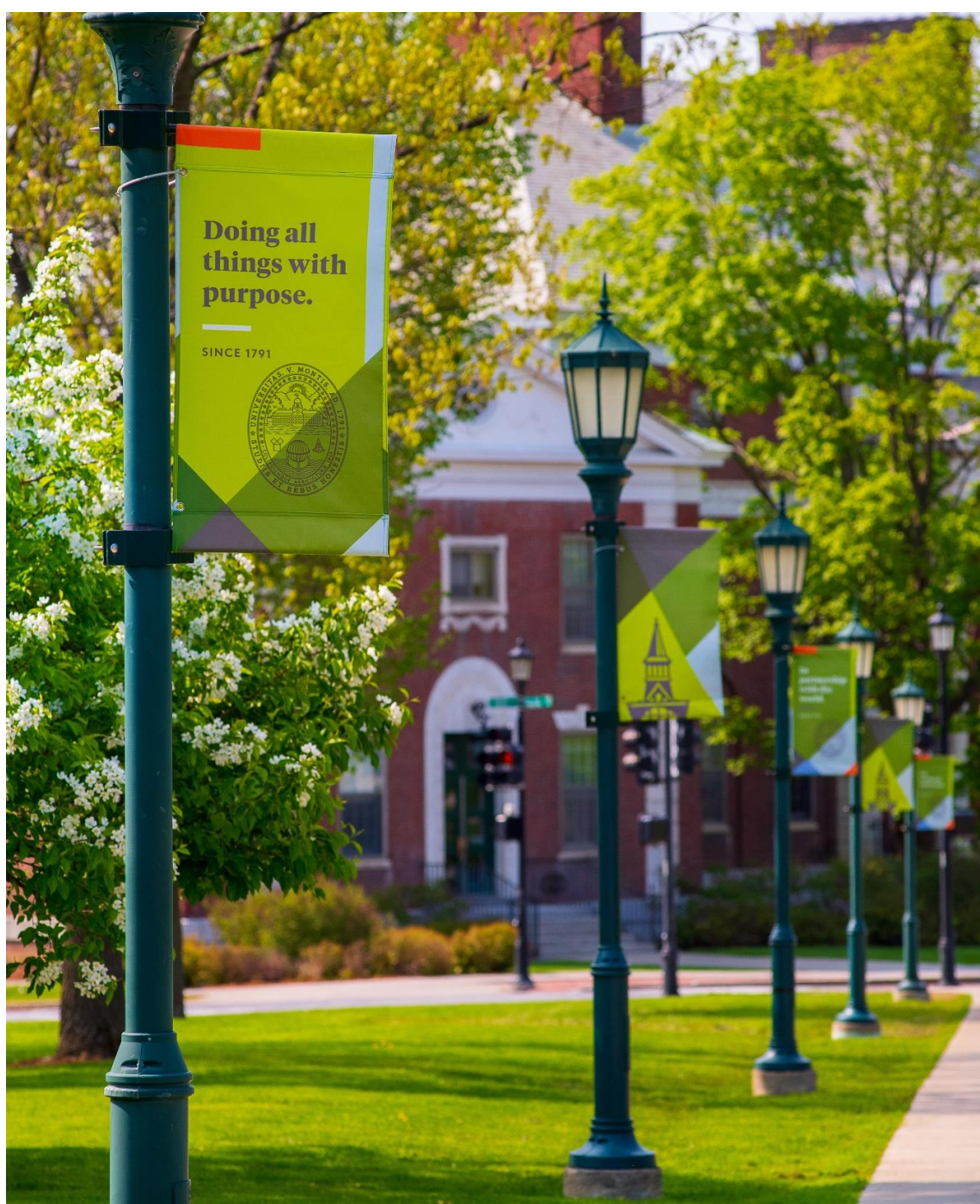


FM Information & Funding: Progress

- Collected, verified and loaded several new data sets into Planon (e.g., ~900 custodial equipment assets that were tracked using a spreadsheet).
- Using strategic decision-making for funding:
 - Used “total cost” approach in decision to install longer-lasting standing seam metal roof at 16 Colchester Avenue.
 - Utilities Engineering has started using total cost approach for comparing alternatives. The first case is the Stafford DX to chilled water conversion. Analysis considered O&M costs, contractor service costs, demand electrical impacts, and power consumption to compare two alternate cooling sources.



THE UNIVERSITY OF VERMONT
FACILITIES MANAGEMENT



II. Integrating Sustainability into Facilities Management: Goals

- A. Align Facilities-related goals with campus-wide sustainability and decarbonization goals, and vice versa.
- B. Measure and report regularly on campus-wide sustainability and decarbonization progress.
- C. Engage Facilities Management staff in campus-wide sustainability efforts.
- D. Consider costs and value of ownership over the lifetime of structures, assets, and equipment.

Integrating Sustainability into FM: Progress



- UVM received a [STARS Gold rating](#) in March 2023 for achievement across academics, engagement, operations, and administration, earning two more points than in 2020.
- The [2022-2032 Campus Plan](#) highlights sustainability as a major theme and draws in part from this plan.
- UVM's 2023-2040 [Comprehensive Sustainability Plan](#) (CSP) focuses on decarbonization—see next page. FM topics in the CSP were informed by the 2021 FM plan.
- The CSP establishes a UVM goal of carbon neutral campus operations, starting in 2030. FM-related aspects of carbon neutrality include energy, transportation, travel, waste and purchasing carbon offsets.

2023 UVM Score: 76.71%	
Rating:	Score:
Platinum	85%
Gold	65%
Silver	45%
Bronze	25%

Comprehensive Sustainability Plan 2023-2040



DECARBONIZATION

- Carbon neutral by 2030.
- Reduce greenhouse gas (GHG) emissions from major University buildings.
- Reduce GHG emissions associated with the UVM fleet.
- Reduce GHG 60% below 2007 levels by 2024.

OPERATIONS

- Increase spending on Vermont-grown food to 25% by 2030.
- Reduce total pounds of waste generated per campus use by 10% by 2035.
- Increase composting and recycling by a combination of 10% or more by 2035.
- Increase the acreage of sustainable and native plantings on campus.

GOVERNANCE & PEOPLE

- Support the implementation of Inclusive Excellence Action Plans within departments across the University.
- Invest \$30M from cash investments in socially responsible funds.
- Create partnerships with other training and educational institutions to support the development and training of the green workforce in Vermont.
- Improve purchasing practices to increase sustainable purchases.

RESEARCH & LEARNING

- Launch Sustainable Solutions Lab and cultivate research that uses the campus as a “living lab.”
- Educate students to have a positive impact and contribute to sustainable communities.



III. Landscape: Goals

- A. Prioritize walking, biking and ADA accessibility and safety in land use planning.
- B. Improve efficiency and flexibility of campus land use and improve quality of outdoor experience.
- C. Employ sustainable landscape management practices.
- D. Continue and increase compliance with Municipal Separate Storm Sewer System (MS4) permit.

Landscape: Progress

- Planning, Design and Construction (PDC) is creating a transition plan to improve accessibility throughout campus.
- PDC has updated the UVM [stormwater webpage](#) to contribute towards public education about stormwater.
- PDC has prepared and the Campus Plan advisory group is reviewing draft standards for pedestrian amenities and the outdoor environment on campus.
- Grounds Crew now using electric equipment including 7 backpack blowers, 6 string trimmers, 3 zero-turn mowers, 2 golf carts, 2 chainsaws, 2 pole pruners and 2 hedge trimmers.





IV. Transportation: Goals

- A. Enhance convenient, accessible, affordable, low-carbon transportation options.
- B. Reduce single occupancy vehicles; increase use of alternatives and shared modes.
- C. Ensure that fleet vehicles are rightsized, shared and alternatively fueled.

Transportation: Progress

- The telework policy has contributed to fewer cars coming to campus in spring 2023 than before Covid in March 2020.
- The new Joint Institutional Parking Management Plan renews our commitment to transportation demand management options with the City.
- EV Charging Campus Plan continues to be refined, and station expansion is underway. Since December 2022, UVM has added/ordered 13 electric fleet vehicles, replacing ICE vehicles. This is a 200% increase in UVM-owned EVs.
- Covered bike parking installation at Harris Millis and Davis Center installed this summer (pads are in).
- ResLife bike rooms evaluation and upgrades are on-going by hired consultant, VHB.
- Selection of new regional bikeshare vendor was successful, with summer launch expected.



TPS' new Ford Lightning



V. Buildings: Goals

- A. Optimize space utilization and reduce building footprint.
- B. Develop a comprehensive asset strategy for capital renewal and deferred maintenance.
- C. Integrate sustainability into project planning, project management and delivery.
- D. Adopt sustainable, proactive, and preventive practices for maintenance and operations.

Buildings: Progress

- PDC is compiling updated Facilities Design Standards for eventual publishing on FM website.
- Wadhams House completed renovation will improve its thermal envelope. Collecting before and after energy usage data.
- Allen House is on schedule for building envelope improvements. Working with Vermont Gas to assess energy usage and conduct blower door tests.
- Energy modelling study for Johnson House happening soon.
- PPD Asset Coordinator has verified and uploaded 1,000+ equipment asset records and associated preventive maintenance (PM) schedules are being entered into new Planon system.
- PD&C in process of updating forms, checklists and processes for both small-and large-project management.



Wadhams House project scope included foundation, storm windows, wall insulation and a new roof.



VI. Energy: Goals

- A. Document existing conditions and compile studies and information.
- B. Leverage internal and external resources to invest in energy upgrades and renewables.
- C. Develop a balanced Energy Plan to create efficiency and a bridge to renewables.
- D. Implement a long-range Utility Plan.
- E. Explore options for carbon-neutral electricity; expand solar generation on campus.
- F. Improve communication and integration of information.

Energy Progress: Energy/Utilities Engineering team

- University Engineer and Facilities Finance & Administration (FFA) are working with utility providers to verify meter numbers, rename accounts, create group billing, and establish downloadable data feeds in preparation for Planon Utilities module rollout.
- Installing new chilled water mains for Hills-HSRF buildings, an additional segment of piping to “loop” the campus.
- Reprogrammed Boilers #3, 4 and 5 for gas and electric savings approximately \$150K annually.
- Developed a portable system to clean multiple closed-loops of contaminants/sludge, which improves heat transfer, saves energy, prolongs equipment life, and eliminates need for chemical disposal and antifreeze replacement.



**Portable filtering "skid"
custom designed for cleaning
UVM mechanical equipment**

Energy Progress: Energy/Utilities Engineering team cont'd

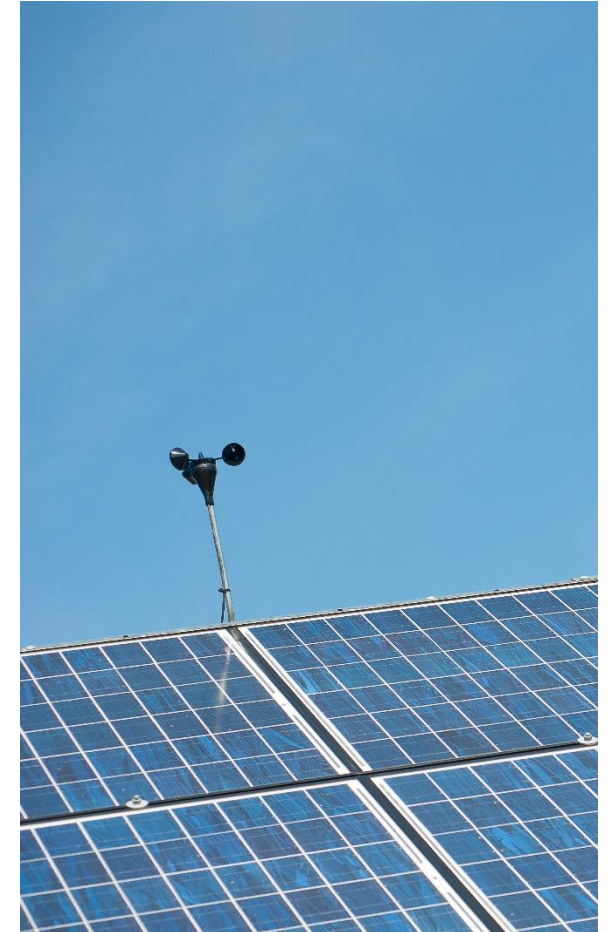
- Major projects completed:
 - Waterman boiler replacement
 - Chiller #4 installation
 - Main Campus cooling tower repairs
- Steam vault repairs are being completed on major utility infrastructure.
- Athletic Complex Energy Study is in process.
- An [Energy Efficiency Project Submittal](#) form allows FM project managers to input energy savings for coordinating utility company rebates.
- The [Brightly Energy Manager](#) portal has replaced School Dude Utility Direct, for easier viewing.



42 steam and chilled water vaults are getting repaired.

Energy Progress: Renewables

- Installing alternate electrical power source for potential HSRF chiller replacement, converting from natural gas, steam-driven to electric.
- Consultant has completed geothermal study for the Miller Farm's milking parlor; known deficiencies need to be fixed to update the study.
- Renewable Projects Coordinator position was established to manage UVM's solar portfolio and develop a long-term strategy for solar.
- Athletic Complex Energy Study is under contract, with the consultant to evaluate site conditions for drilling geothermal test wells in fall 2023.
- Design/development is under contract for onsite renewables at the Horticultural Farm in South Burlington.





VII. Waste: Goals

- A. Reduce the overall volume of waste generated on campus.
- B. Support innovative redistribution and repair programs.
- C. Strengthen recycling and organics diversion.
- D. Rethink campus processes and create a zero-waste culture.

Waste: Progress

- Campus-wide waste reduction goals have been approved by President Garimella as part of the Comprehensive Sustainability Plan (CSP).
- A "zero-waste" message is featured in a complete rebranding of the sustainability-related social media sites.
- Funding has been requested through the CSP for a waste characterization study.
- Campus partners are working to secure space to relaunch the surplus property program, this time with improved tracking and inventory management.
- The Purchasing and Sustainability offices are collaborating to include sustainability criteria and options in RFPs and contracts.

