



THE UNIVERSITY OF VERMONT
FACILITIES MANAGEMENT

Facilities Sustainability Plan 2021-2030



Aerial photo on central campus, with Central Heating and Cooling Plant in foreground, looking north. Photo courtesy of UVM Communications.

October 2021

Message from the Executive Director of Facilities Management

This Facilities Sustainability Plan (FSP) is the result of a collaborative process involving staff from throughout the five departmental units that comprise Facilities

Management (FM) at the University of Vermont. This Plan addresses nearly every operational aspect of what our FM units do and includes goals in each section as part of a larger effort to advance sustainability at UVM. Sustainability is a high priority of our students and faculty. It is also of great importance to many staff members. In identifying sustainability goals using the planning process described in the Appendix, participants also recommended ways to strengthen our FM organization (see Appendices). A section on organizational goals is also included here, followed by sustainability goals organized into five parts: landscape, transportation, buildings, energy, and waste.

As a professional facilities organization, FM is committed to integrating sustainability and systems thinking into our workplace culture, our routine operations and responsibilities, and our long-range planning and thinking. This plan is expected to evolve in the coming years, along with the creation of a new Comprehensive Sustainability Plan for the University. In the short term, I intend for this plan's evolution to involve revisiting goals monthly and identifying goals to tackle quarterly. I welcome your ideas about these initiatives.

*Luce Hillman, P.E., Executive Director of Facilities Management
The University of Vermont*

Facilities Management

Facilities Management was formed in February 2020 as a new organizational unit within the Division of Finance and Administration at UVM. This occurred just one month prior to a global pandemic creating a major disruption and diverting attention away from organizational development work. This section's goals relate to Facilities Management as an organization, important context for integrating sustainability across the University. This is not intended to be a complete list of all FM organizational development goals. Instead, this list of goals and their accompanying strategies (page 7) are leverage points for forming a more holistic organization, even in the context of continually changing conditions.

- A.** Cultivate a holistic Facilities Management organization.
- B.** Create short- and long-term Facilities Improvement Plans.
- C.** Recruit and retain high quality FM staff.
- D.** Provide opportunities for career growth and offer professional development.
- E.** Invest in Integrated Workplace Management System (IWMS) for a new level of information connectivity.



Maintenance staff presentation at Davis Center, 2018. Photo courtesy of UVM Physical Plant.



Students at Week of Welcome overlooking the Davis Center Atrium. Photo courtesy of UVM Communications.

Sustainability

This section highlights Facilities Management’s participation in University-level sustainability goal setting, planning, and activities. Since 2014 UVM has reached a University-level goal of achieving a Gold Rating in the Sustainability Tracking, Assessment and Rating System (STARS). Facilities Management contributed significantly to the Operations score by providing data on energy, transportation, waste, landscaping, and other topics. This 2021 Plan precedes the expected development of a UVM Comprehensive Sustainability Plan. This plan will be updated to support those broader goals, such as carbon emissions reductions goals and associated timelines. This first version of the FSP highlights ways that staff in FM departments can collaborate to increase the sustainability in campus operations and to advance toward a net-zero carbon campus. Related strategies are on page 8.

- 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.

Landscape

UVM’s land use is governed by the Campus Master Plan. UVM’s stormwater management plan defines best management practices for treatment and conveyance of water, ponds, pervious pavers, catch-basins, tanks, green roofs, and rain gardens. The main campus is currently designated as a Tree Campus USA, a Bee Campus USA, and a Gold-level Bicycle Friendly University. In addition to supporting current best practices, the goals below aim to improve accessibility, health, and safety (see strategies on page 9). Strategies related to space use are in Buildings A.1-5 (see page 11).

- 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.



Student bicycling across campus in winter. Photo courtesy of UVM Communications.

Transportation

UVM already supports many transportation initiatives that improve the community's quality of life and reduce negative environmental impacts: an Active Transportation Plan, a green Fleet Vehicle Procurement Procedure, a sustainable transportation module as a parking pass prerequisite, car- and bike-sharing programs, free on-campus and local bus rides, a carpool matching service, and electric vehicle (EV) charging stations. The goals below aim to reduce negative impacts of transportation while improving the experience of getting to and around campus (see also strategies on page 12). Transportation infrastructure needs (bike racks, lanes, pedestrian amenities, etc.) are addressed in Landscape A.1-8 and Buildings C.3.

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

Buildings

This section addresses how Facilities Management can sustainably plan, design, develop, construct, use, maintain and operate buildings throughout the buildings' lifespans. Reducing the overall spatial footprint of the campus is an efficient way of making progress toward many sustainability goals simultaneously if the needs of the campus community can still be met. Goals and strategies concerning funding for buildings, energy consumption, communications and materials are listed in the sections on Facilities Management, Overarching Sustainability Goals, Transportation, Energy and Waste. Building-related strategies are on page 11.

- A.** Optimize space utilization and reduce building footprint.
- B.** Develop 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.



Interior of Central Heating and Cooling Plant. Photo courtesy of Physical Plant Department.

Energy

UVM operates its own efficient, on-campus Central Heating and Cooling District Energy Plant that runs on natural gas and reliably supplies heating, cooling and hot water to most buildings on the main campus. Due to major upgrades and renovations, thermal and electrical energy use in 2019 was almost the same as in 2007, despite building space increasing by 16% and population increasing by 25%. The next long-term challenge is to reduce reliance on carbon-intensive energy sources, all while maintaining backup systems. See also energy strategies on page 12.

- A. Document existing conditions and compile studies, 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.

Waste

UVM has been committed to responsible disposal of materials through recycling and composting programs long before the State of Vermont mandated the diversion of recyclables and organics from the landfill. UVM now maintains a 50% diversion rate (as of 2019), a level comparable to most other northeast universities. However, some are at 75%. This section focuses on ways to influence purchasing behaviors and encourage reuse in addition to proper sorting of materials. Waste-related strategies can also be found in the Overarching Sustainability Goals section, and on page 13.

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

Appendices

A. Goals and Strategies	
I. Facilities Management	7
II. Sustainability	8
III. Landscape	9
IV. Transportation	10
V. Buildings	11
VI. Energy	12
VII. Waste	13
B. What does “sustainability” mean for Facilities Management?	14
C. Why create a Facilities Sustainability Plan?	14
D. Acronyms	15
E. Process for the Development of this Plan	16
F. Results of Post-presentation Surveys	17

A. Goals and Strategies

<i>I. Facilities Management</i>
A. Cultivate a holistic Facilities Management (FM) organization.
1. Invest in staff development, recruitment, retention, and competitive compensation.
2. Establish effective internal communications processes to inform all levels of FM staff of shared vision, plans and goals and shared vision.
3. Integrate FM work activities across units through IWMS staff training and implementation.
4. Identify and adopt Key Performance Indicators (KPIs) for all FM work, including sustainability KPIs.
5. Create internal and external partnerships to help advance FM sustainability goals.
B. Create short- and long-term Facilities Improvement Plan.
1. Outline and define a clear process for conducting building condition assessments.
2. Create and update a Capital Plan for asset renewal and deferred maintenance priorities.
3. Ensure that sustainability goals are incorporated into University-wide plans (capital, housing, etc.).
C. Recruit and retain high quality FM staff.
1. Develop diversity, equity and inclusion and cultural competency initiatives for all staff.
2. Streamline and reduce time involved in hiring processes, especially for frontline workers.
3. Create FM-wide orientation/onboarding program that includes sustainability.
4. Evaluate current position descriptions and ensure accuracy.
5. If feasible for a position, offer telework opportunities to be competitive with public sector and allow hiring from a broader pool.
6. Modify pay scales to be market-competitive with private sector (and higher education peers).
7. Establish GED program on campus and continue ESL classes to be more accessible to FM staff.
8. Define a clear path of progression for all levels of positions.
9. Ensure safe work practices are embedded within organization culture.
10. Encourage and support membership and participation in professional FM-related organizations
D. Provide opportunities for career growth and offer professional development.
1. Build a pipeline of skilled trades workers from within FM with cross-training or internal apprenticeship programs. Provide access to courses for licensure requirements.
2. Continue ESL training and partnerships with community organizations.
3. Explore new training program delivery methods (video, vendor trainings, etc.).
4. Enact flexible policies to enable employee participation in training, including licensure.
E. Invest in Integrated Workplace Management System (IWMS) for a new level of information connectivity.
1. Establish comprehensive reporting of built environment with IWMS for evaluation of costs (building, equipment, assets).
2. Train Facilities staff to ensure IWMS utilization.
3. Ensure continuous improvement and data accuracy to support data-driven decision-making.
4. Continually track and share Key Performance Indicators (KPI), create dashboards.
5. Utilize IWMS system for tracking and managing sustainability and preventive maintenance data.
F. Create and enhance funding mechanisms for major FM initiatives.
1. Identify thermal projects with payback beyond seven years for \$13M Energy Revolving Fund.
2. Review and reorganize the Transportation and Parking revenue structure.
3. Research the feasibility of an internal carbon fund for renewable energy transition and upgrades.
4. Create a funding mechanism for deferred maintenance of existing buildings and outdoor spaces.

II. Sustainability

A. Align facilities-related goals with campus-wide sustainability and decarbonization goals, and vice versa.

1. Update UVM's Comprehensive Sustainability Plan every five years, review progress annually.
2. Develop a campus-wide plan addressing academics, engagement, operations, and policy. Time the planning process to follow the three-year submission cycle of STARS reports.
3. Participate in the creation, timely updates, and integration of sustainability into University-wide plans (Campus Master Plan capital, utilities, housing, transportation, waste etc.).
4. Support the telework policy where possible to reduce costs and impacts of transportation, buildings, energy, waste, water and improve quality of life.
5. Identify and secure new funding sources for sustainability-related priorities, report on their use.
6. Align Sustainable Campus Fund criteria with FSP and other University-level sustainability plans and goals.

B. Measure and report regularly on campus-wide sustainability and decarbonization progress.

1. Every three years submit data to the Sustainability Tracking, Assessment and Rating System (STARS) for rating.
2. Annually report publicly on greenhouse gas emissions through Second Nature, GRITS, or other relevant platforms.
3. Annually update leadership on FM aspects of climate planning and the Comprehensive Sustainability Plan, once created.
4. Annually update to FM supervisors on sustainability goal progress.

C. Engage Facilities Management staff in campus-wide sustainability efforts.

1. Set up systems to collaborate with faculty and students through research, classes, and internships.
2. Make ongoing sustainability professional development opportunities available to all FM staff.
3. Identify a small team of FM staff (called Facilities Sustainability Plan team) to work collaboratively on implementing FSP across departments.
4. Identify proposals for funding through the Sustainable Campus Fund.
5. Align Eco-Reps program to support FM priorities through student outreach and passion projects.

D. Consider costs and value of ownership over the lifetime of structures, assets, and equipment.

1. Include Total Cost of Ownership (TCO) in decision-making for buildings, equipment, vehicles, furnishings, building materials, etc.
2. Implement a Life Cycle Analysis (LCA) matrix when evaluating and sourcing products and systems that use energy, fuel, and water.
3. Reprioritize funding to better accommodate TCO and LCA approaches.
4. Develop a reparability index for high impact materials and major purchases to determine whether product should be repaired or replaced (ex: electronics, vehicles, etc.).
5. Develop comprehensive plan for movable equipment lifespan and replacement (IT, furniture, etc.).

III. Landscape

A. Prioritize walking, biking and ADA accessibility and safety in land use planning.

1. Support walking and bike circulation with a continuous and convenient network of bike lanes, sidewalks and shared paths that follow desired lines, are clearly marked, have adequate lighting, and incorporate weather-protected corridors.
2. Include multi-modal transportation outdoor infrastructure in all future building projects (ex: more bus shelters, covered/indoor bike parking, and accessibility ramps).
3. Include bikeshare and EV charging stations in campus planning and construction projects.
4. Make city road crossings that border central campus safer for pedestrians (ex: raised intersections, pedestrian refuge islands, high visibility ladder crossings, etc.).
5. Separate pedestrian and bike spaces or create clear bidirectional traffic paths when separation is not possible.
6. Ensure campus projects include safe and direct crossings, pedestrian level lighting and appropriately widened sidewalks (min 8') and side paths (min 10'; 15' if shared with bicyclists).
7. Move parking from center to periphery of campus, utilizing cross campus shuttles and vertical parking (i.e., structures over surface, like an intermodal intercept facility).
8. Review ADA parking across campus for alignment with code requirements.

B. Improve efficiency and flexibility of campus land use and improve quality of outdoor experience.

1. Analyze existing open space for points of interest at human scale intervals.
2. Enhance outdoor gathering spaces (furniture, plantings, art) to encourage use.
3. Develop multiple uses for outdoor spaces to optimize year-round enjoyment (e.g., basketball court/ice skating).
4. Create innovative outdoor teaching and research spaces.
5. Identify and reserve stable land banks for underground utilities (avoid "above-ground bias").
6. Create a long-term flex parking lot for contractors and consultants.

C. Employ sustainable landscape management practices.

1. Reduce use of bark mulch and other harvested natural resources.
2. Establish a plan for more permaculture, self-sustaining and lower-maintenance landscapes.
3. Update and implement plans for invasive species and Integrated Pest Management (IPM), including strategy for Emerald Ash Borer.
4. Electrify grounds equipment.

D. Continue and increase compliance with Municipal Separate Storm Sewer System (MS4) permit.

1. Identify and remove illicit discharges to storm sewer.
2. Incorporate on-site treatment and runoff reduction practices into design standards (e.g. raingardens, gravel wetlands, Trinity infiltration).
3. Identify optimal locations for on-site treatment and runoff reduction.
4. Measure and improve quality of water leaving campus after undergoing stormwater treatment practices.
5. Reduce road salt usage and explore alternative de-icing practices, while maintaining high safety standards.
6. Support on-site stormwater improvements that are small scale and used as educational or research opportunities (Ex: rainwater capture and storage for reuse in campus operations).

IV. Transportation

A. Enhance convenient, accessible, affordable, low-carbon transportation options

1. Create a centrally located accessible space for a Transportation Hub that includes TPS, the Bike Co-Op, pickup/drop-off, buses, and shared bikes/cars.
2. Run regular on-campus bike safety workshops for employees and students.
3. Communicate transportation alternatives to new and incoming students as formal part of orientation and throughout their first year.
4. Develop program for business travel and study abroad carbon offsets.
5. Encourage remote conferencing and guest speakers.
6. Provide a multi-modal campus hub.

B. Reduce single occupancy vehicles; increase use of alternatives and shared modes.

1. Align UVM shuttle system to complement local bus service.
2. Expand car sharing vehicles on campus.
3. Research the feasibility and implications of a parking ban on second-year students.
4. Transition to daily parking permit system.
5. Adjust parking rates to meet industry standards.
6. Alter local bus routes to better serve employee and student needs.
7. Increase park-and-ride opportunities.
8. Partner with surrounding communities to improve bicycle mobility infrastructure leading to campus.

C. Ensure that fleet vehicles are rightsized, shared and alternatively fueled.

1. Select the smallest and most efficient fleet vehicles for the jobs.
2. Create a shared fleet across departments to reduce number of UVM-owned vehicles and ensure vehicles are actively used.
3. Transition to an alternatively fueled fleet (primarily by electrification).
4. Mandate minimum fuel efficiency requirements for fleet vehicles.
5. Demonstrate Total Cost of Ownership (TCO) approach in vehicle purchase decision-making.
6. Define minimum fuel efficiencies on rental cars for business travel, and count emissions in GHG inventory.

V. Buildings

A. Optimize space utilization and reduce building footprint.

1. Update campus space usage guidelines with best practices.
2. Monitor space use with periodic comprehensive reporting: integrate utilization data for scheduled spaces; evaluate space inventory and feasibility of tracking more detail to inform space utilization (use IWMS).
3. Use renovation projects as opportunities to optimize space use and create flexible space.
4. Reassign campus spaces as telework needs change.
5. Identify opportunities to decommission, sell or lease facilities to third parties.

B. Develop comprehensive asset strategy for capital renewal and deferred maintenance.

1. Define priorities for maintenance and restoration of historic buildings and structures.
2. Use major capital projects as opportunities to retrofit, improve building envelope, accessibility, efficiency, and operability.
3. Focus building activities on main campus to limit sprawl.

C. Integrate sustainability into project planning, project management and delivery.

1. Clarify policy for minimum design standards (e.g., LEED) and compliance with applicable codes.
2. Develop minimum standards to ensure capital projects prioritize access to quality transit, land protection, multiple building access points, shower facilities, and bicycle amenities.
3. Choose refrigerant systems that are considered ozone friendly.
4. Expand and standardize building commissioning scope for new and existing buildings through monitoring-based commissioning.
5. Create “owner commissioning” or “clerk of the works” function.
6. Engage stakeholders in every design process meaningfully, early and often.
7. Outline and clarify process for who and how the building project warranty is managed.
8. Incorporate funding for each building project warranty into original cost estimate.
9. Maximize accountability for recovery, reuse and recycling of construction and demolition waste.
10. Apply universal design principles to building access and use during major construction, where possible.

D. Adopt sustainable, proactive, and preventive practices for maintenance and operations.

1. Connect all remaining buildings to central Building Automation Monitoring controls system.
2. Align HVAC maintenance scheduling with actual space usage/occupancy.
3. Use newer technologies (e.g., micro scrubbers) to improve floor care & reduce use of string mops.
4. Strategically place custodial and PPD equipment and machines for access throughout campus.
5. Pilot new custodial technology/equipment to evaluate environmental impact, cost, and user experience (e.g., automated and robotic equipment).
6. Increase percentage of Green Seal certified cleaning products.
7. Use information systems such as barcodes on major custodial equipment.
8. Complete the installation of ozone cleaning system.
9. Develop and implement Preventive Maintenance (PM) programs for all equipment.
10. Eliminate floor finishes that require toxic maintenance protocols.

VI. Energy

A. Document existing conditions and compile studies, information.

1. Finish condition inventory and documentation of all utility and energy equipment.
2. Develop staffing succession plan for operators to capture institutional knowledge.
3. Automate measurement and comparison of all 400 buildings' utility use, integrate with IWMS.
4. Review all previous studies, create a Pareto chart ranking environmental, economic, and societal benefits, and integrate into one cohesive Utility Plan.

B. Leverage internal and external resources to invest in energy upgrades and renewables.

1. Obtain a greater amount of efficiency rebates from utilities, relative to fees contributed.
2. Understand Vermont Gas Farm Program for reducing CO2 with local renewable fuels.
3. Create a capital improvement fund to replace aging chillers and cooling systems; transition to modern refrigerants, and document and manage refrigerant use.
4. Identify thermal projects with payback beyond seven years for \$13M Energy Revolving Fund.
5. Define options at the local, state and federal levels for energy initiatives specific to higher education.
6. Coordinate Rubenstein School's Net Zero Goals with University-level goals.

C. Develop a balanced Energy Plan to create efficiency and a bridge to renewables.

1. Ensure energy & other plans allow fuel/energy diversity, energy storage, and peak power shedding.
2. Increase system efficiency with more energy recovery.
3. Understand differences in long-term CO2 from steam versus hot water in the central thermal plant.
4. Partner with Utilities for Hydrogen, ISO-NE surplus Clean Energy Market, CHP, or Micro CHP.
5. Participate in the ISO New England cost market, explore opportunities for rate changes and innovative mechanisms for grid stabilization.

D. Implement a long-range Utility Plan.

1. Create and staff a full Utility Engineering department.
2. Develop a strategic plan for communications with utilities and government.
3. Replace Gordon Platt burners and install condensing stack economizers; chillers for LCOM load; loop chilled water mains near HSRF.
4. Explore new funding sources for maintenance (for example, "1% for meters").
5. Obtain long term complementary rates for large users of multiple accounts.
6. Propose a 1% reserve for Utility infrastructure (chillers, boilers, piping etc.).
7. Create a University Response Plan for critical buildings and a level of utility service and response.

E. Explore options for carbon-neutral electricity; expand solar generation on campus.

1. Calculate the value of reducing carbon from electricity through market mechanisms.
2. Advocate for the Public Utilities Commission to increase UVM's 500 kW net-metered solar capacity.
3. Incorporate solar into UVM farms' land-use master plans.
4. Install battery storage/stand-alone solar generation systems, annually review energy use.
5. Register UVM's Renewable Energy Credits (RECs).

F. Improve communication and integration of information.

1. Annually update Senior Leaders on utility needs, equipment obsolescence and related risks.
2. Document and publish campus energy conservation project results.
3. Provide information to help expand campus community's understanding of clean power.
4. Integrate and align Campus Master Plan update with a Utility Master Plan.
5. Create and staff Meter Department with employees with both field and computer/network skills.
6. Create policies on allowable room temperatures across campus based on ASHRAE or other standards.

IV. Waste

A. Reduce the overall volume of waste generated on campus.

1. Conduct waste characterization study to establish a baseline of campus waste composition and identify opportunities for waste reduction.
2. Identify and implement best practices to reduce materials entering our waste stream (ex: printing, giveaways, junk mail, vending machines).
3. Increase use of reusable alternatives to single-use items (ex: Eco Ware, HVAC filters).
4. Better control what comes to campus through purchasing initiatives.
5. Develop a Central Warehouse for Facilities Management to increase purchase power of shared materials.

B. Support innovative redistribution and repair programs.

1. Explore leasing/rental services for durable goods (appliances, vehicles, office furniture, equipment, etc.).
2. Create physical space and/or robust digital platform for on-campus exchange and reuse of small supplies.
3. Expand capacity to manage surplus property and reusable materials.
4. Create targeted reuse programs for specific high need/volume/value items.
5. Establish repair/refurbishment program for applicable waste streams that are not currently addressed (ex: computer equipment, furnishings).
6. Offer Fix-It clinics and repair workshops.

C. Strengthen recycling and organics diversion.

1. Standardize all collection containers, signage, and visible communication across campus.
2. Conduct regular audits of recyclables and organics streams to identify and reduce contamination.
3. Expand food waste and paper towel collection to all campus buildings, catering, and special events.
4. Implement comprehensive waste/recycling education campaign.
5. Install sensors on dumpsters to improve route efficiency and data collection.
6. Enhance student move-out programs.

D. Rethink campus processes and create a zero-waste culture.

1. Explore new waste management accountability systems.
2. Explore possibility for waste-hauling contracts to include incentives for waste reduction and use of alternate fuel vehicles.
3. Encourage use of women and minority owned business enterprises (WMBE) and environmentally preferable products (EPP).
4. Give preference to used, refurbished, and/or remanufactured goods in purchasing decisions.

B. What does “sustainability” mean for Facilities Management?

The UVM Faculty Senate defines sustainability at UVM as follows:

“UVM's vision for sustainability embraces the goal of educating all of its students to understand and contribute to the sustainability of human society. That is, we recognize that the pursuit of ecological, social, and economic vitality must come with the understanding that the needs of the present be met without compromising the ability of future generations to meet their own needs.”

This statement has served as UVM’s official definition on sustainability since 2015 when the Faculty Senate began requiring all undergraduate students to meet a general education requirement for 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

C. Why create a Facilities Sustainability Plan?

The reasons for embarking on this planning process were to:

1. Establish a collective understanding and language about sustainability within all FM units.
2. Engage FM professional and supervisory staff in presentations and discussions about integrating sustainability values into their units’ work.
3. Define goals and strategies for FM to steward the physical campus efficiently and effectively while supporting the University’s reputation as a sustainability leader.
4. Create a system for the FM Executive Director and the Office of Sustainability to manage and monitor progress on sustainability goals and strategies.
5. Produce a summary document to be used as a reference and guide during other University planning efforts (e.g., Campus Master Plan, Comprehensive Sustainability Plan).

D. Acronyms

Acronyms used in this document	
CATMA	Chittenden Area Transportation Management Association
CMP	Campus Master Plan
CMPC	Campus Master Planning Committee
CSD	Custodial Services Department
FM	Facilities Management
FSP	Facilities Sustainability Planning
GHG	Greenhouse gas emissions/carbon equivalents
IWMS	Integrated Work Management System
LAS	Landscape Advisory Subcommittee of the Campus Master Planning Committee
OS	Office of Sustainability
PDC	Planning, Design & Construction
PPD	Physical Plant Department
RECs	Renewable Energy Certificates
STARS	Sustainability Tracking Assessment and Rating System
TPS	Transportation and Parking Services

E. Development of this Plan

From January 2021 to March 2021, 75 professional and supervisory staff members in Facilities Management were invited to a weekly series. On average, 50 participants attended each weekly presentation and participated in the subsequent discussion. Presentations were recorded.

Eight sustainability-related topics were originally identified as focus areas. Subject matter experts from within FM were invited to present an overview of their existing work and how it relates to sustainability (see the table of topics and presenters below). Presenters were asked to outline three to five big goals and associated strategies to advance sustainability, both short-term (zero to five years) and long-term (six to ten years). Presenters were encouraged to think broadly and creatively during this initial step and not necessarily to analyze and justify the details.

Participants were asked to give feedback via a brief survey following each presentation, which resulted in an average response rate of 45%. When asked how the proposed goals might affect their work, many respondents expected a positive impact for most goals and very few expected a negative impact for any goal. A summary of survey responses is below (Appendix C).

These three modes of stakeholder engagement—presentations, live questions and answers, dialogue, and written feedback afterwards—created an opportunity for participants to identify new intersections between their work and the work of other Facilities Management areas. Some ideas were repeated often, clearly transcending the individual topic areas, including remote work, staffing, and climate action. Instead of these elements repeating in several sections, they have been elevated to the first two sections, Facilities Management Organization and Overarching Sustainability Goals.

<i>Topic Area Presenters & Subject Matter Experts</i>	
Facilities Sustainability Planning Core Team	Caylin McCamp, Education & Outreach Coordinator, OS Erica Spiegel, Analyst/Planner, PPD Gioia Thompson, Outreach Manager, OS
Sustainability Overview	Caylin McCamp, Education & Outreach Coordinator, OS Gioia Thompson, Outreach Manager, OS
Land Use & Stormwater	Lani Ravin, Associate Planner, PDC Adam Frazier, Deferred Maintenance Project Coordinator, PPD
Buildings & Space Use	Dave Blatchly, Capital Renewal Engineer, PPD Joanna Birbeck, Campus Planning Space Program Manager, PDC
Transportation & Mobility	Jim Barr, Director TPS Abby Bleything, Sustainable Transportation Coordinator, TPS
Building Utilities	Lynn Wood, Davis Zone Manager, PPD Rob Boal, Retro-commissioning Engineer, PPD
Materials & Waste	Corey Berman, Zero Waste Program Manager, CSD
Central Plant	Mike Pelletier, University Engineer, PPD
Renewable Energy	Mike Pelletier, University Engineer, PPD Todd Merchant, Senior Construction Administrator, PDC
Indoor Environmental Quality	Gerald Coleman, Director CSD Guy Shane, Academic and Facilities Manager, CSD

F. Results of Post-presentation Surveys

Participants were asked to give feedback via a brief survey following each presentation, which resulted in an average response rate of 45%. When asked how each proposed goal might affect their work, most participants in each of the presentation sessions responded that they expected a positive impact for most goals and very few expected a negative impact for any goal. Here are the results.

