

UNIVERSITY OF VIRGINIA

# Facilities Management Sustainability Plan

2023–2030



Facilities Management

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# University of Virginia Facilities Management Sustainability Plan

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*“We serve and plan for our community today while assessing and adapting to the needs of tomorrow.”*

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An important aspect of implementing Facilities Management’s mission statement is being a leader in sustainability, one of the department’s key initiatives. The following Sustainability Plan articulates Facilities Management’s commitment to sustainability — key goals and strategic actions – in alignment with UVA’s 2030 Sustainability Plan, the upcoming 2030 Climate Action Plan and the University’s vision to be both great and good.

**The FM Sustainability Plan encompasses areas where Facilities Management is a primary decision-maker or has its own operational impact across major areas — training and communications, solid waste, building energy efficiency, energy supply, fleet vehicles and purchasing.** Each area includes strategic actions that, when taken, will enable the department to be accountable for its role in the University’s achievement of its 2030 sustainability vision. Going forward, a team will track progress and regularly share updates and challenges with executive leadership.

The key components of this FM Sustainability Plan were developed by a cross-functional task force of contributors between July 2021 and August 2022. Through a series of five meetings (with sub-group meetings in between), the task force: 1) assessed existing projects and initiatives; 2) identified the appropriate scope for the strategic plan and potential levers for impact; 3) researched opportunities and strategic relevance for each of these areas; and

4) refined goals and associated strategies. The FM Sustainability Council, a wider stakeholder group, provided feedback on the draft goals in March and August 2022 and Facilities Management directors reviewed the plan in January 2023.

The Associate Vice President and Chief Facilities Officer and Facilities Management directors will receive quarterly updates on progress towards the goals and strategic actions outlined in this plan beginning in April 2023. Directors or other responsible parties as noted in the plan will oversee and report on progress towards these goals and strategic actions. The FM Sustainability Council will continue to be an opportunity for staff to engage in direct actions that can be implemented in the short term to advance sustainability.



Facilities Management



SUSTAINABILITY · UVA

# Summary of Goals

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## STAFF TRAINING, PROFESSIONAL DEVELOPMENT AND PERFORMANCE

- Increase sustainability innovation and role-specific knowledge across Facilities Management.

## EDUCATION, COMMUNICATION AND CHANGE MANAGEMENT:

- Increase sustainability awareness and sustainability recognition among Facilities Management staff.
- Increase the visibility of FM sustainability initiatives across external audiences and interested partners.

## MATERIALS AND SOLID WASTE

- Reduce the amount of waste material generated across Facilities Management departments, in FM workplaces and project sites and increase the landfill diversion rate of these items.
- Proactively seek and support opportunities to increase landfill diversion infrastructure (e.g., recycling and compost bins), in permanent locations, on construction sites and at events.

## PROCUREMENT

- Minimize Facilities Management material disposal associated with purchasing of products and services for FM operations.

## FLEET VEHICLES

- Decarbonize Facilities Management's fleet while improving safety and reducing costs.
- Develop best practices to apply to all University fleets.

## BUILDING ENERGY EFFICIENCY

- Support and oversee compliance with the Green Building Standards.
- Reduce building energy use by 20% across the Facilities Management complex and other FM-owned spaces.

## ENERGY SUPPLY

- Evaluate, recommend, and implement projects and new technologies to help decarbonize UVA and to expand UVA's renewable energy portfolio.



# STAFF TRAINING, PROFESSIONAL DEVELOPMENT AND PERFORMANCE

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**GOAL: INCREASE SUSTAINABILITY INNOVATION AND ROLE-SPECIFIC KNOWLEDGE ACROSS FACILITIES MANAGEMENT.**

RESPONSIBLE DIRECTORS: SARAH MCCOMB (UVA HUMAN RESOURCES), LAURA DUCKWORTH (OCCUPATIONAL PROGRAMS) AND ANDREA TRIMBLE (OFFICE FOR SUSTAINABILITY)

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## Strategic Actions:

- Continue to include sustainability in New Employee Orientation sessions.
  - Lead: Occupational Programs
- Develop a set of example sustainability goals specific to various roles, beginning with leadership and supervisors, that could be incorporated into staff goal narratives and that align with organizational goals and Inclusive Excellence goals.
  - Lead: Office for Sustainability with UVA Human Resources and other directors
- Hold department-specific sustainability training sessions, such as Green Building Standards training for Capital Construction & Renovations staff, recycling/compost training for Recycling and Custodial Services staff, etc.
  - Lead: Office for Sustainability
- Create and hold training sessions for external audiences, such as Green Building Standards training and overview of benefits – create videos for project teams and high-level stakeholders (Housing & Residence Life, UVA Health, Athletics).
  - Lead: Office for Sustainability
- Create workplace-specific training for new employees to ensure all workers understand proper disposal processes for the locations in which they work.
- Build training in alignment with the FM Inclusive Excellence goals and strategies, including ensuring that training is equitable and accessible.
  - Lead: Occupational Programs
- Communicate and make available sustainability-related professional development opportunities.
  - Lead: Occupational Programs
- Explore the opportunity for incentives to reduce FM's environmental impact and streamline operations, such as through individual or departmental competitions.
  - Lead: FM Sustainability Council

# EDUCATION, COMMUNICATION AND CHANGE MANAGEMENT

**GOAL: INCREASE SUSTAINABILITY AWARENESS AND SUSTAINABILITY RECOGNITION AMONG FACILITIES MANAGEMENT STAFF.**

**GOAL: INCREASE THE VISIBILITY OF FM SUSTAINABILITY INITIATIVES ACROSS EXTERNAL AUDIENCES AND INTERESTED PARTNERS.**

RESPONSIBLE DIRECTORS: CHRIS SMEDS (TECHNOLOGY & INNOVATION) AND ANDREA TRIMBLE (OFFICE FOR SUSTAINABILITY), WITH JENNIFER WATSON (USER EXPERIENCE & ENGAGEMENT) AND FM SUSTAINABILITY COUNCIL

## Strategic Actions:

- Form an FM Sustainability Plan Communications Team within the FM Sustainability Council to promote, coordinate, plan and oversee the Education, Communication and Change Management goals for the 2030 Plan. Initial tasks might include:
  - Regularly feature sustainability in department communications channels such as Sustainability Plan practices that employees can engage in both at home and in the workplace.
  - Recurring column in newsletters providing sustainability how-to guides/tips.
  - Research the feasibility of sustainability-themed wall murals in the FM yard.
  - Create campaign featuring employees such as FM Sustainability Heroes trading cards.
  - Increase ReUSE Store marketing and advertising.
  - Leads: Dana Schroeder and Cat McCue (Office for Sustainability) and Jennifer Watson (User Experience & Engagement)



# MATERIALS AND SOLID WASTE

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**GOAL: REDUCE THE AMOUNT OF WASTE MATERIAL GENERATED ACROSS FACILITIES MANAGEMENT DEPARTMENTS AND IN FM WORKPLACES AND PROJECT SITES AND INCREASE THE LANDFILL DIVERSION RATE OF THESE MATERIALS.**

**GOAL: PROACTIVELY SEEK AND SUPPORT OPPORTUNITIES TO INCREASE LANDFILL DIVERSION INFRASTRUCTURE (E.G., RECYCLING AND COMPOST BINS), IN PERMANENT LOCATIONS, ON CONSTRUCTION SITES AND AT EVENTS.**

RESPONSIBLE DIRECTOR: ROLLIE ZUMBRUNN (OPERATIONS)

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## Strategic Actions:

- Create workplace-specific lists in shared locations of all recyclable, reusable, recoverable and/or compostable materials for each FM team and work location, as well as for major materials that are purchased. Use this information to develop tailored waste management procedures for each location to ensure that appropriate recycling containers and disposal procedures are in place and to reduce the amount of materials generated, including packaging.
  - Lead: Office for Sustainability will organize the process and level of specificity, identifying a lead within each department, shop or zone.
- Perform annual check-in with each FM workplace to ensure that procedures and disposal infrastructure remain current and that all employees are properly trained, and to promote awareness of new procurement opportunities.
  - Lead: Recycling
- Work with Sustainability and other University partners to develop a comprehensive waste audit procedure. This procedure will be used to complete a minimum of one waste audit per year in at least three diverse spaces, to inform both FM's waste goals and UVA's more comprehensive sustainability goals.
  - Lead: Custodial Services teams and Recycling
- Complete installation of centralized waste disposal stations in buildings where FM Operations provides custodial services in 2022. Standardize training process for frontline custodial personnel to increase communication about contamination and landfill disposal of materials that can be diverted. Where applicable, Custodial Services teams will share lessons learned with areas not covered, including IM-Rec, Athletics and UVA Health.
  - Lead: Custodial Services teams and Recycling
- Continue expansion of composting collection and occupant training, including seeking to support composting infrastructure at major events, and installation of paper towel composting bins in high-traffic shared restrooms. Operations will incorporate a contamination check into daily quality control processes to track issues and escalate outreach to occupant groups.
  - Lead: Custodial Services teams



- Create a new Zero Waste Event request process allowing tracking of expanded event information. Operations teams, including Custodial Services teams and Recycling, will work with the Office for Sustainability and other University partners to select a minimum of four events per year for formal audit to identify problematic products, opportunities for improved training and signage, and other process improvements.
  - Lead: Office for Sustainability
- Develop a standardized process and resource allocation for support, coordination, oversight and performance tracking of construction and demolition waste across projects as well as proactive development of more beneficial diversion opportunities.
  - Lead: Capital Construction & Renovations



# PROCUREMENT

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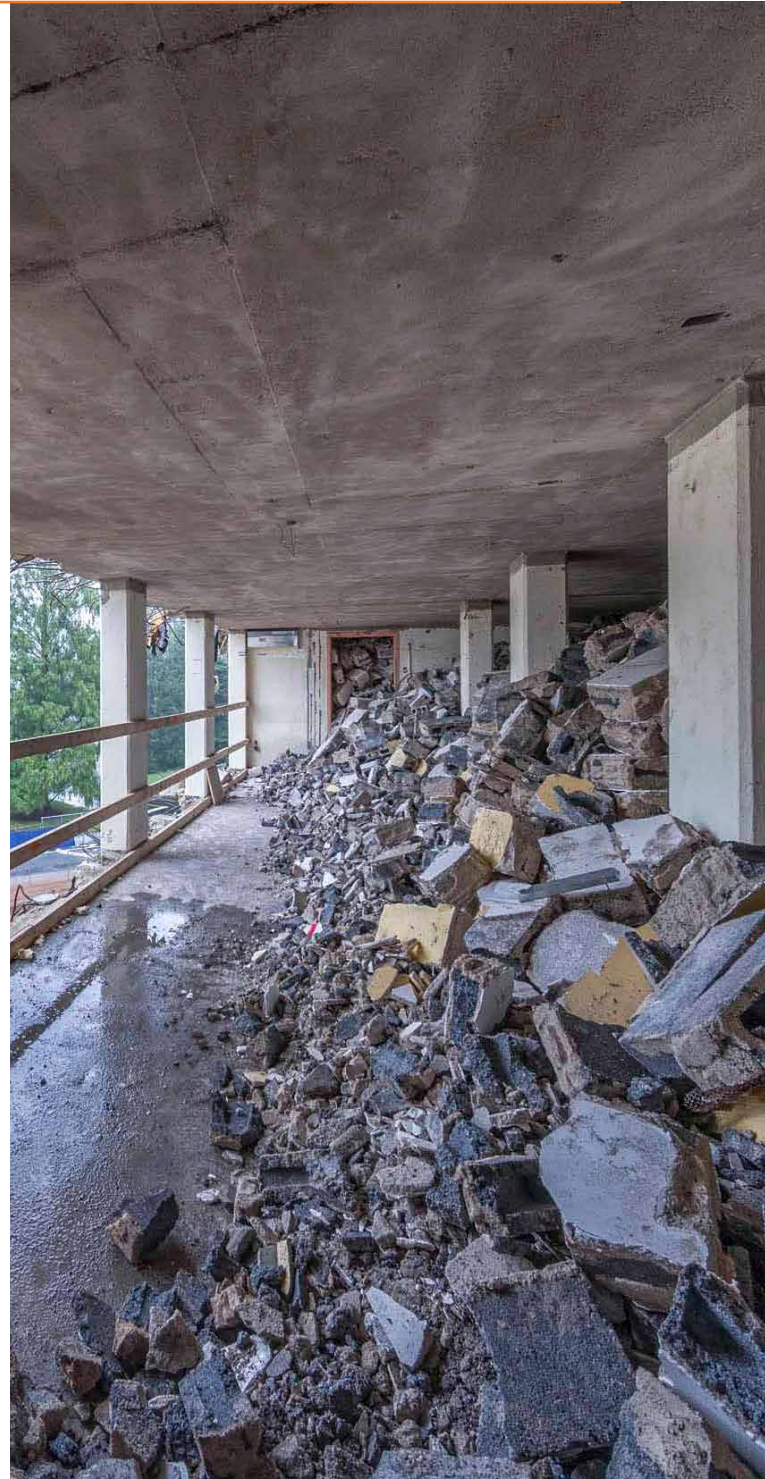
**GOAL: MINIMIZE FACILITIES MANAGEMENT MATERIAL DISPOSAL ASSOCIATED WITH PURCHASING OF PRODUCTS AND SERVICES FOR FM OPERATIONS.**

RESPONSIBLE DIRECTORS: ROLLIE ZUMBRUNN (OPERATIONS) AND BLAKE WATSON (BUSINESS SERVICES), WITH MARK WEBB (PROGRAMS & INFORMATICS)

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## Strategic Actions:

- Inventory Facilities Management-related packaging and identify opportunities to reduce packaging materials while maintaining the reliability and safety of the products.
- Assess three or four of FM's larger vendors (e.g., Johnson Controls, Granger, Daycon) to understand their sustainability commitments and expertise and determine whether they can partner to help us advance our goals.
- Develop a standard process for identifying low-environmental impact products and services in the market and prioritize these purchases.
- Develop process for consolidation of deliveries from the same vendor to minimize packaging and emissions.
- Identify sustainable products within key categories and guide purchasers in prioritizing these preferred items in procurement platforms.
- Conduct sufficient research to set goal for recycling construction and demolition waste, including for specific high-use items like tires and mattresses.
  - Lead on all: Logistics



# FLEET VEHICLES

**GOAL: DECARBONIZE FACILITIES MANAGEMENT'S FLEET WHILE IMPROVING SAFETY AND REDUCING COSTS.**

**GOAL: DEVELOP BEST PRACTICES TO APPLY TO ALL UNIVERSITY FLEETS.**

RESPONSIBLE DIRECTORS: MARK WEBB (PROGRAMS & INFORMATICS), WITH MIKE DUFFY (FLEET)



## Strategic Actions:

- Assess FM's fleet through a framework of four interconnected approaches: Review, Measure, Engage and Manage. Use this information to determine highest-leverage decarbonization, safety and cost reduction opportunities.
  - Review — Through implementation of telematics within FM fleet, develop clear understanding of fleet duty cycle.
  - Measure — Gain understanding of total fuel usage by gasoline, diesel and kWh, nightly parking locations, total cost of ownership, utilization percentages, projected capital investments needed and potential cost savings.
  - Engage — Identify all University fleet users, whether schools or units, beyond FM's 42%.
- Investigate potential decarbonization benefits, cost efficiencies and safety opportunities in centralizing the University's fleet.
- Manage — Develop centralized fleet management plan that extends from the vehicle request to all aspects of fleet management including re-marketing of asset upon its retirement.
  - Lead: Mike Duffy (Fleet)
- Research optimal solutions for electric vehicle charging infrastructure development, maintenance support facilities, procurement and disposal practices. Include an assessment of impacts on Energy & Utilities, the influence of ongoing supply chain challenges and design criteria for Parking and Transportation's new facility.
  - Lead: Sathish Anabathula (Power & Light)

# BUILDING ENERGY EFFICIENCY

**GOAL: SUPPORT AND OVERSEE COMPLIANCE WITH THE GREEN BUILDING STANDARDS WITH SUPPORTING RESOURCES AND TOOLS AND UPDATE GREEN BUILDING STANDARDS TO ALIGN WITH GOALS AND LESSONS LEARNED.**

**GOAL: REDUCE ENERGY USE BY 20% ACROSS THE FACILITIES MANAGEMENT COMPLEX AND OTHER FM-OWNED SPACES.**

RESPONSIBLE DIRECTORS: ANDREA TRIMBLE (OFFICE FOR SUSTAINABILITY), WITH MARK STANIS (CAPITAL CONSTRUCTION & RENOVATIONS) AND PAUL ZMICK (ENERGY & UTILITIES)

## Strategic Actions:

- Implement a Building Efficiency Program-funded project to address health, safety and energy use in the buildings across the Facilities Management complex by Spring 2023. The list of eight buildings which will be included in this action include: Leake, Skipwith, Lacy Hall, FM Shops #1, 3, 4, 5, and West, and Landscape. The energy reduction goal for each building will be a 20% reduction in total energy consumption compared to a base year (FY22).
  - Lead: Jesse Warren (Office for Sustainability) & Doug Livingston (Automation Services)
- To advance electrification, continue awareness-building and education efforts related to replacing fossil-fuel boilers and other key infrastructure at end-of-life. Maintain delineation over time between vehicle charging and stationary demand.
  - Lead: Jesse Warren (Office for Sustainability)
- Hold Green Building Standards trainings with relevant stakeholders. Create and communicate tools to help streamline implementation of the standards and analyze and report on their impact.
  - Lead: Jesse Warren (Office for Sustainability)
- Develop load-engageable pilot program. As part of an effort to enhance UVA's demand response



results with CPower and to pilot ways to improve our central plant efficiency, programming logic will be developed and tested to study the ways in which our buildings on Grounds can be leveraged to maximize the impact of these programs. Undertake implementation, measurement and verification in 2023.

- Leads: Sathish Anabathula (Power & Light), Paul Stevens (E&U Engineering and Energy), Justin Callihan (Chiller Plants)

# ENERGY SUPPLY

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**GOAL: EVALUATE, RECOMMEND AND IMPLEMENT PROJECTS AND NEW TECHNOLOGIES TO HELP DECARBONIZE UVA.**

**GOAL: EVALUATE, RECOMMEND AND IMPLEMENT MECHANISMS AND PROJECTS TO EXPAND UVA'S RENEWABLE ENERGY PORTFOLIO.**

RESPONSIBLE DIRECTOR: PAUL ZMICK (ENERGY & UTILITIES)

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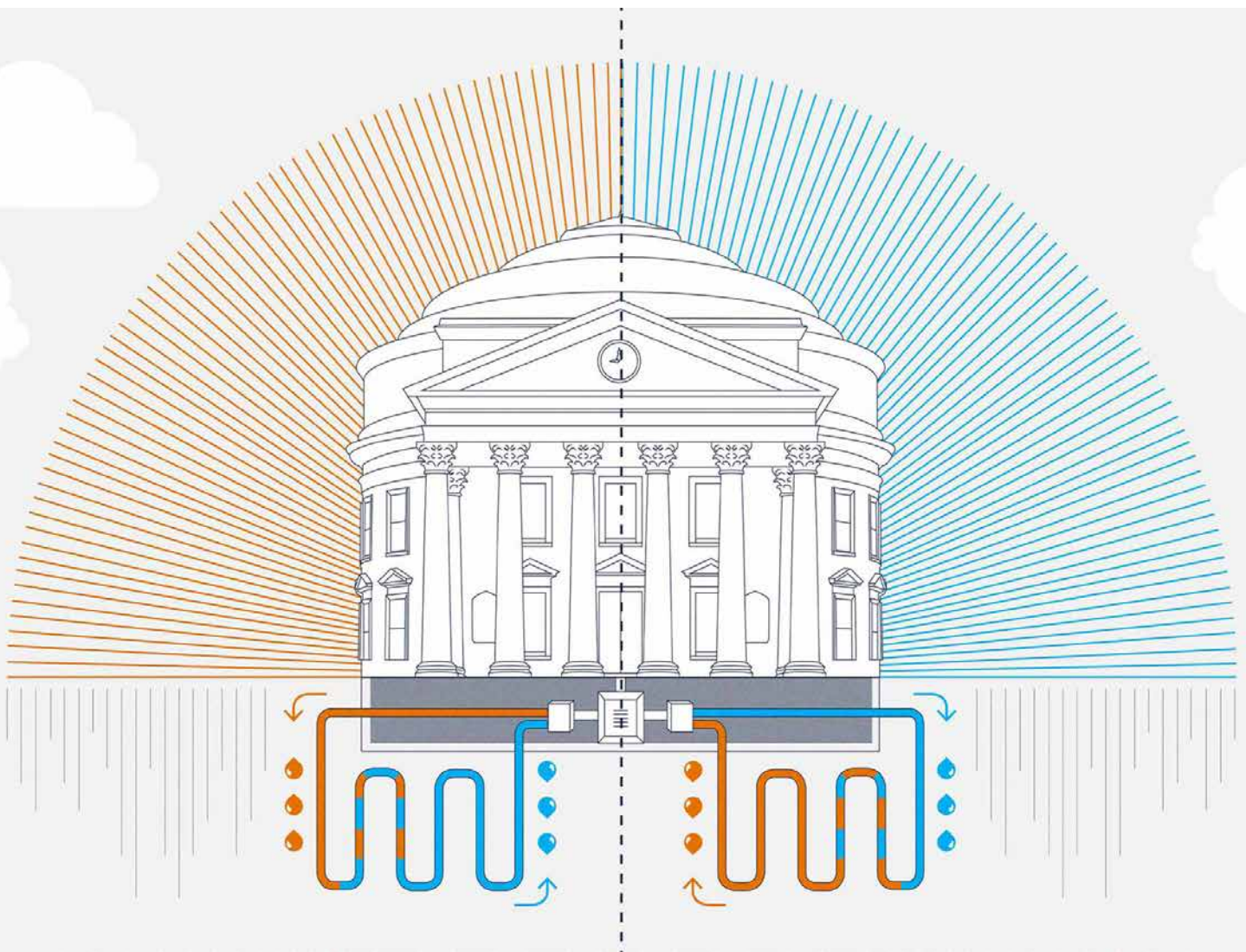
Many initiatives are underway to advance these goals, such as a conversion to low-temperature hot water, transitioning away from coal as a back-up fuel and other strategies aligned with the *Strategic Thermal Energy Study*. In addition:

## Strategic Actions:

- Establish vehicle for rooftop solar Power Purchase Agreements (PPAs). Execute agreement based on an existing Request for Proposal (RFP) with cooperative language or establish a new RFP that allows UVA to form long-term agreements for rooftop solar.
- Designate the first set of buildings for solar photovoltaic (PV) PPA project, with focus on projects with favorable economics. Request proposals for larger installations (1MW, 2MW and 3MW) to establish quantity of scale pricing.
  - Lead: Sathish Anabathula (Power & Light)
- In the longer term, rooftop solar across Grounds via PPA projects totaling 3-4 MW.
  - Lead: Sathish Anabathula (Power & Light)
- Explore technology, logistics and economics of installing a food waste digester near Main Heat Plant or other central plant, potentially resulting in the generation of methane for beneficial use and create compost usable by our composting partner.
  - Lead: Paul Zmick (Energy & Utilities)



- Explore and potentially deploy geexchange technologies. Begin by drilling seven test wells across Grounds to help inform design of geexchange/heat pump systems. Use one test well as a “living lab” for academic research on geexchange or other energy storage technologies.
  - Lead: Paul Stevens (E&U Engineering and Energy)



# FM Sustainability Strategic Planning Task Force, 2021-2022

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Many thanks to the individuals who served on the FM Sustainability Strategic Planning Task Force and to the FM Sustainability Council for their review and feedback:

- Emily Douglas, Diversity, Equity and Inclusion Specialist
- Erika Herz, Sustainability Strategic Planning Specialist
- Doug Livingston, Associate Director of Automation Services
- Michael Payne, Associate Director for Maintenance
- Chris Smeds, Director of Technology and Innovation
- Mark Stanis, Director of Capital Construction & Renovation
- Andrea Trimble, Director of Office for Sustainability
- Jesse Warren, Associate Director of Office for Sustainability
- Jennifer Watson, Manager of User Experience and Engagement
- Derek Wilson, Director of Health System Physical Plant
- Paul Zmick, Director of Energy and Utilities
- Rollie Zumbrunn, Director of Operations

## FM Sustainability Council, 2021-2022

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- Dana Schroeder, Sustainability Education and Outreach Manager (co-chair)
- Bobby Putrino, Occupational Health & Safety Trainer (co-chair)
- Lela Garner, Sustainability Outreach and Engagement Specialist (ex officio)
- Adam Gragg, Construction & Renovation Services Senior Manager
- Jim Keller, C&RS Project Controls Manager
- Jason Hall, C&RS Estimator
- Ted Nelson, CC&R Construction Administration Manager
- Keith Schrimp, former CC&R Construction Administration Manager
- Cameron Ratliff, Associate Director of Utilities
- Mike Jessee, former North Grounds Zone Coordinator
- Mike Duffy, Transportation Operations & Fleet Manager
- Tiffany Morris, former E&G Custodial Services Newcomb Zone Manager
- Cheryl Gomez, former Director of Operations
- Kevin Beal, Landscape Supervisor Senior
- Tracy Marcotte, Finance Senior Budget Analyst
- Everleigh Stokes, Technology & Innovation Solutions Architect
- Will Schnorr, Associate Director of Health System Physical Plant
- Ben Melugin, former Apprentice