

Meeting Summary May 4, 2020

Council Members Present (online):

Carlo Colella, Vice President, Administration and Finance (Chair) Patty Perillo, Vice President, Student Affairs David Cronrath, Associate Provost Maureen Kotlas, Executive Director, Department of Environmental Safety, Sustainability & Risk Kristy Long, Executive Director, Operations & Maintenance, Facilities Management Scott Lupin, Assoc Dir., Environmental Safety, Sustainability & Risk, & Dir., Office of Sustainability Bryan Quinn, Director of Technical Operation, Department of Electrical & Computer Engineering David Cooper, Assistant Director of Operations, Division of IT Eric Wachsman, Prof., Materials Science and Engineering and Director, MD Energy Innovation Institute Joe Sullivan, Professor and Associate Dean, College of Agriculture and Natural Resources Jana VanderGoot, Assistant Professor, Architecture Candela Cerpa, Undergraduate Student Representative Aditi Dubey, Graduate Student Representative

Guests Present:

Mary Hummel, Assistant Vice President, Student Affairs Kris Phillips, Director, Facilities Planning, FM Don Rushing, Acting Director, Engineering & Energy, FM Chris Ho, Engineer, Facilities Planning, FM Darwin Feuerstein, Assistant Director, Facilities Planning, FM Jason Baer, Assistant Director, Environmental Affairs, ESSR

Meeting start time: 12:00pm

Meeting Highlights

Annual Water Report

Chris Ho and Jason Baer presented an annual update on the Sustainability Council's 2014 recommendations for improving stormwater management and reducing potable water consumption on campus. The 2014 Water Report established six priorities. Updates on each priority were presented. See the attached slide deck. There was little discussion on the Council in response to the updates.

Sustainability Fund – Proposal to Rescind a Grant

Mark Stewart, Sustainability Manager and Sustainability Fund Coordinator, and Candela Cerpa discussed the Sustainability Fund Review Committee's recommendation to rescind a grant given earlier in the year for

the reACT project. The grant was issued based on the proposal for reACT to compete in a Solar Decathlon competition in Dubai in 2020. In spring 2020, the Dubai competition was cancelled due to the COVID-19 pandemic. Since the grant could no longer be used for its intended purpose, the Sustainability Fund Review Committee recommends rescinding the grant and encouraging the reACT team to reapply for a grant in October 2020 based on project needs at that time. The Council voted unanimously (with one abstention) to accept the Committee's recommendation.

Accelerating Climate Action – Continued Discussion

The Council revisited it discussion on moving UMD's carbon neutrality target date from 2050 to 2025 or earlier.

Discussion:

- Mark Stewart Arizona State University achieved carbon neutrality for scope 1 and 2 emissions in 2019. ASU aims to achieve carbon neutrality for air travel and commuting by 2035.
- Scott Lupin Several other universities are targeting carbon neutrality by 2025. The idea is for UMD to set a similar target and continue the long, hard work of reducing direct emissions while managing an offset program that can neutralize UMD's climate impact in the near term.
- Eric Wachsman and Bryan Quinn In favor of implementing internal carbon pricing but prefer to see revenue used for on-campus projects that reduce direct emissions before using it for carbon credits. Should seek a balance between funding internal and external projects.
- Carlo Colella Offsets are not a substitute for on-campus action but are a bridge to cover a gap between economically-feasible actions and urgent action to reduce global emissions.
- Scott Lupin The goal is to use revenue from the internal carbon pricing to make the most costeffective emissions reduction decisions, which can include on-site and off-site projects.

Council voted unanimously to approve the recommendations. A final version is attached to these minutes.

ZEV Infrastructure Report

Sally DeLeon, Senior Project Manager in the Office of Sustainability (OS), provided an update on the zero emissions vehicles (ZEV) recommendations approved by the Council in fall 2019. OS is working with campus partners to develop a scope of work for a ZEV infrastructure study. Estimated cost is \$50,000. A small committee including OS interviewed potential consultants, reviewed procurement options, and is preparing to initiate competitive bidding for the work.

Recognition of Outgoing Members

Joe Sullivan, Jelena Srebric, Candela Cerpa, and Aditi Dubey concluded the terms of their appointments to the Council. Carlo thanked them for their service.

Adjourn 1:36 pm



June 29, 2020

TO:	Dr. Wallace Loh, President
FROM:	Carlo Colella, Vice President, Administration and Finance <u>cc</u>
RE:	Accelerating Carbon Neutrality at UMD

In 2007, the university became a charter signatory to the American College and University Presidents Climate Commitment. This action was taken in recognition of the growing global concern over climate change and the need by all governments and institutions to reduce greenhouse gas emissions. UMD adopted a campus Climate Action Plan (CAP) that set a goal of becoming carbon neutral by 2050. This date was based on accepted science and knowledge at that time.

Since adoption of the CAP, UMD has reduced its greenhouse gas footprint by 50% and continues to institute several reduction strategies. In November 2018, the SGA sent a letter to the University Sustainability Council and your office calling on the university to accelerate its efforts to reduce greenhouse gas emissions and become carbon neutral by 2025. The Council deliberated this issue over 18 months and within that time, approved plans to reduce emissions from the university's fleet and purchase verified carbon credits to offset 100% of undergraduate student commuter emissions.

I am forwarding, with my endorsement, the University Sustainability Council's recommendations entitled "Accelerating Carbon Neutrality" that would allow UMD to achieve carbon neutrality by 2025.

UMD has long been viewed as a national leader in sustainability and climate action. Adoption of the Council's recommendations will allow UMD to keep pace with several large universities, including all of the University of California institutions, aiming to be carbon neutral by 2025. Further, such a commitment visibly supports the tremendous research and teaching on these issues by all of our academic units.

CC: UMD Sustainability Council

Accelerating Climate Action

Recommendations from the University Sustainability Council to President Loh

Background

The University of Maryland (UMD) became a charter signatory of the American College and University Presidents' Climate Commitment (now called the Carbon Commitment) in 2007 and published its first Climate Action Plan (CAP) in 2009. UMD updated its CAP in 2016, but target dates for reducing the university's net greenhouse gas (GHG) emissions remained the same: cut emissions from 2005 levels by 50% by 2020, 60% by 2025, and achieve carbon neutrality (net-zero GHG emissions) by 2050. As of 2018, UMD reduced its net GHG emissions 51%, reaching its 2020 target two years ahead of schedule.

Call for Acceleration

UMD's Student Government Association (SGA) sent a letter to the University Sustainability Council and the Office of the President in November, 2018, urging the university to accelerate its climate action and achieve carbon neutrality by 2025 instead of 2050. SGA cited several reasons for its request including:

- 1. The United Nations' Intergovernmental Panel on Climate Change (IPCC) issued a special report in 2018 explaining that the entire global economy must rapidly decarbonize and reach net-zero GHG emissions by mid-century in order to prevent catastrophic climate change.
- 2. UMD already cut its net GHG emissions in half in just over a decade. The university should strive to accelerate its efforts by mitigating the rest of its GHG emissions within the next few years.
- 3. UMD has a stated goal of being a leader on climate action and a national model for a Green University. At least 20 other universities in the United States plan to achieve carbon neutrality in 2025 or earlier.

Recommendations

The University Sustainability Council shares the SGA's concerns and is recommending an accelerated climate commitment for UMD. The following recommendations do not represent a comprehensive climate plan, but, offer new targets and strategies that would become the framework for UMD's next CAP. Our proposal for UMD's new climate commitment can be summarized in a sentence:

UMD will put a price on carbon and implement the most cost-effective solutions to achieve net-zero greenhouse gas emissions while it works to phase-out fossil fuels and become climate restorative.

Recommendation 1: Put a Price on Carbon

It is recommended that UMD expand its carbon pricing program to cover all sources of GHG emissions by 2025, or earlier. UMD's current carbon pricing program applies a surcharge per metric ton of carbon dioxide equivalent (MTCO2e) on air travel and undergraduate student commuting. The Office of Sustainability invests carbon pricing revenue in the most cost-effective solutions to neutralize GHG emissions that align with UMD's mission and values. This is being carried out within the context of the Carbon Offset Work Group recommendations, as adopted by the Sustainability Council.

The cost for UMD to achieve carbon neutrality based on estimated emissions and verified carbon credit pricing is \$520,000 as shown in the table below.

Emissions Source	Estimated Emissions	Estimated Cost
Combined Heat and Power (CHP) Plant	126,000 MTCO2e	\$388,000
Faculty, Staff, & Graduate Student Commuting	19,000 MTCO2e	\$58,000
Distributed On-Campus Energy (ex. Boilers and Generators)	12,000 MTCO2e	\$37,000
Fleet and Reimbursed Travel	8,000 MTCO2e	\$25,000
Agriculture, Refrigerants, & Solid Waste	4,000 MTCO2e	\$12,000
Total	169,000 MTC02e	\$520,000

While the purchase of verified carbon credits is the most feasible strategy to achieve carbon neutrality in the short term, UMD should continue its other ongoing strategies to drive down GHG emissions and carbon credit purchases. This includes a continued focus on improved energy performance and conservation; the adoption of new and improved technologies; fuel switching; and behavior change.

Recommendation 2: Achieve and Maintain Net-Zero GHG Emissions

It is recommended that UMD invest carbon pricing revenues on-campus and around the world to reduce or offset all of UMD's remaining GHG emissions by 2025, or earlier. The carbon price should be adjusted as needed by the Vice President for Administration & Finance, in consultation with the Office of Sustainability and Sustainability Council, to fulfil this commitment annually. If UMD accomplishes this soon, it could become the first large university in the nation to achieve carbon neutrality.

Recommendation 3: Phase-Out Fossil Fuels

It is recommended that UMD aim to phase-out fossil fuels. UMD should expand its use of renewable energy sources for heat and power production and systematically replace gasoline and diesel fleet vehicles with zero-emissions vehicles when fiscally responsible. UMD should encourage faculty, staff, and students to contribute to this effort by using zero-emissions options for commuting and travel.

Recommendation 4: Become Climate Restorative

It is recommended that UMD challenge itself to become climate restorative. Simple and complex solutions could allow UMD to remove more GHGs from the atmosphere than it emits. UMD should aim to go beyond net-zero emissions as its next phase of national leadership on sustainability.

Next Steps

With approval, the University Sustainability Council and Office of Sustainability would work with the Office of the Vice President for Administration & Finance and campus partners to update the CAP and develop communications for a campus announcement.

2020 Annual Water Update

Facilities Management & Dept. of Environmental Safety, Sustainability & Risk



Outline

- Sustainable Water Use and Watershed Initiatives
- Stormwater Permits
- Vehicle Wash Update





2014 Sustainable Water Use and Watershed Report

- Report Made13 Recommendations
- Six of them became High Priority initiatives
 - Develop asset inventory
 - Restore Campus Creek
 - Develop a stormwater master plan
 - Conduct water capture/reuse feasibility study
 - Reorganize Roles/Responsibilities-Hire a Water Supply and Efficiency Engineer
 - Address Copper Discharges





UNIVERSITY SUSTAINABILITY COUNCIL SUSTAINABLE WATER USE AND WATERSHED REPORT

May 2014



💥 sustainableumd



Develop Utility Asset Inventory

- Baseline information for the GIS map of storm drain system has been developed.
- Working with GIS group to make this webavailable.
- Storm drain mapping ended in 2018
- No additional utilities being surveyed or added to database at this time



Develop Utility Asset Inventory (cont.)

Home ♥ UMD Water Utilities - MES

New Map 🗸 📃 Stephen 🗸

with edits from UMD real estate office. Data compared with Prince Ge

Details 🚈 Add 👻 🛛 🔠 Basemap 🕴 🛐 Analysis 🕦 About 🔚 Content 🗮 Legend

- Contents
 - UMD Campus Boundary -AdministrativeAreaBoundaryLine

 - ▲ ✓ UMD Stormwater
 - Outfall Point
 - Storm Drain Manhole
 - Inlet Point
 - Storm Drain Line
 - Outfall Drainage Area 1 💷 🧖 🧖 🛄 🚥 sdHydraulicConnection

 - sdPipeConnection
 - Stormwater Network Net Junctions
 - ▲ UMD_Sanitary
 - SanitaryManholes
 - SanitarySewerline
 - Sanitary Network Net Junctions
 - Sanitary Sewer Cleanouts
 - ▲ UMD Potable
 - BackflowPreventor

Mater Network Net Junctions Esri.com . ArcGIS Marketplace . Help . Terms of Use . Privacy . Contact Esri , Report Abuse , Contact Us





Restore Campus Creek

- Construction completed in Fall 2019
- Project is currently being monitored
- Consider next phase to restore remainder of creek
 Before
 After





Restore Campus Creek

Before



After





Restore Campus Creek

Before



After





Develop Stormwater Master Plan

- Integrated into MS4 compliance efforts
- Documentation is required by MDE
- Identify opportunities to restore/upgrade existing facilities as part of MS4 permit



Conduct Water Capture/Reuse Feasibility Study

- In 2016, Sustainable Water provided a feasibility study to capture and reuse wastewater on a commercial scale.
- Water conservation and reuse is a stated goal of the President's Energy Initiative Task Force.
- Additional studies will be conducted when the Water Supply and Efficiency Engineer is hired.



Reorganize Roles/Responsibilities

- Water Resource Engineer will be added to Dept. Planning & Construction
- Water and Stormwater Workgroup meet regularly to identify and address issues
- Water Steering Committee meets as needed and provides resources



Stormwater Permits

- Industrial Discharge Permit (08-DP)
- Industrial Activities (12-SW)
- MS4 Permit

Clean Water Act

National Pollutant Discharge Elimination System (NPDES) Program

Stormwater



Copper Discharge Mitigation

- UMD holds discharge permit (#08-DP-2618) for condensate, cooling water, boiler blow-down
- Renewal submitted in October 2016; permit administratively extended; awaiting new permit
- Permit limits discharge of various pollutants
- Historically, UMD has regularly exceeded the permit limits for Copper (9 ug/L)
- Municipal water flowing into the UMD system have been measured at 300 – 600 µg/L
- Although UMD has conducted numerous investigations and capital improvement projects to reduce copper discharges, UMD is still non-compliant with the copper limits







Copper Discharge Mitigation (cont.)

- Meeting held with MDE in October 2019 to discuss modifying permit
- The compliance schedule established in the prior permit has expired. Any request to modify the permit limits prohibited by Anti-Backsliding rules.
- DESSR and FM working to identify non-regulated water sources to re-calculate copper discharge
- Legal working to prevent consent decree



12-SW Permit Update

- 12-SW Permit (stormwater from industrial activities) – stormwater pollution prevention plan implemented in July 2017
 - 7 Corrective Actions
 Implemented in 2017
 - First Annual Inspection
 completed November 2018





MS4 Permit

- UMD submitted the Notice of Intent for coverage under the new MS4 permit on Oct. 30, 2018
- The permit covers the College Park campus and Shady Grove IBBR
- Permit requires 20% treatment of all existing untreated impervious areas



MS4 Permit

- 2019 Annual Report completed
 - 443 acres existing untreated impervious
 - Baseline 20% retrofit 88.6 acres
 - 116 facilities inspected
 - Campus Creek Restoration 105.8 acres of credit



MS4 Permit

- 2020 Annual Report
 - Update database
 - Include 6 MCMs
 - Verification of Permitted BMPs
 - Restoration Plan focus on repair of existing facilities
 - Will start design of Surface Sand Filter Retrofit this year



Vehicle Wash Update

- Study completed
- Moving forward to design 2 separate facilities – Severn Building, Shuttle Bus





