15 April 2022

DRAFT EMAIL
Subject: University of Maine Survey on Campus Actions to Address Climate Change

Dear FIRSTNAMEOFRESPONDENT,

We invite you to complete a survey to help the campus move forward in meeting the challenges of climate change.

- The survey takes about **xx minutes**.
- It consists of about 20 questions. We recommend that you do it in one quick sitting.

Your unique link to take the survey is _____.

Please complete the survey on or before <day and date>

> ANONYMITY: Your survey responses are completely anonymous. The response database and the participation database are not linked and will not be linked. Your survey responses are completely anonymous unless you expressly identify yourself in a text entry question.

Optional resources:

- Technical terms are defined and linked to a Technical Glossary, which you may also read in advance.
- We also recommend you read the Zero Carbon Commitment whitepaper before taking the survey.

Your response may influence University of Maine environmental and energy priorities in the future.

Thank you so much for contributing.

Best regards,
Zero Carbon Commitment Subcommittee
UMaine Faculty Senate Environment Committee

*<Do undergrad **Student Government** and **Grad Student Government** want to be listed?>*

Contact for questions: harlan.onsrud@maine.edu

University of Maine Survey on Campus Actions to Address Climate Change

Instructions: Please respond to the following questions to help better articulate the desires and priorities of the campus community relative to a selected range of environmental issues.

Note: Survey text items underlined below will be linked to their definitions/explanations in the technical glossary. That glossary is also attached at the end of this document.

(1) Supporting Campus Actions Responsive to Climate Science Findings
The University of Maine should make renewable energy infrastructure a high funding priority to reduce greenhouse gas emissions in furtherance of the findings and recommendations related to global warming published by the Intergovernmental Panel on Climate Change (IPCC).

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(2) Building a Campus-wide Societal Problem-Solving Reputation
The University of Maine should strive to become a destination campus for students from across the state, nation and the globe who want to make a difference in solving societal problems.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

<If response is ***strongly agree*** or ***agree***, the following question appears.>
(2a) In which societal issues might you be most interested in addressing through coursework, projects, or research at the University of Maine?
<text entry window>

(3) Building a Campus-wide Sustainability Reputation
The University of Maine should strive to become a magnet for students, researchers, educators, and industry partners who are interested in working from diverse disciplinary perspectives to address the technological, social, economic, and environmental challenges of climate change and sustainability.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(4) Staying the Course in Achieving the UMaine Zero Carbon Emission Commitment
The University of Maine should abide by its 2007 widely publicized and annually confirmed long-term commitment to achieve net-zero carbon emissions by 2040.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(5) Ensuring Annual Progress
The University should decrease greenhouse gas emissions each and every year at a rate consistent with the required annual minimum or greater to achieve the 2040 commitment or should expend the funds for carbon sequestering or carbon offsets to achieve yearly targets.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(6) No Expansion of Campus Greenhouse Gas Emissions: Building Design and Cost
New campus construction and renovation projects should not cause expansion of the net campus carbon footprint during either construction or long-term operation of the new or rebuilt facilities.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(7) No Expansion of Campus Greenhouse Gas Emissions: State and Federal Matching Funds
The University of Maine administration and the UMS Board of Trustees should not seek or approve the use of any state or federal funds for any new construction or reconstruction that would expand the University of Maine net carbon footprint.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(8) Decreasing the Campus Carbon Footprint
Decreasing the carbon footprint of the campus should be made a design and funding requirement of each and every campus building and infrastructure project.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(9) Preference for Non-Combustion Zero Carbon Energy Sources
The University of Maine should prioritize its clean energy infrastructure core spending on long-term solutions (e.g., heating and electricity powered by wind, solar, hydro, and other non-combustion near-zero energy sources) over a combustion-based wood biomass solution that would continue to emit pollutants and greenhouse gases on campus.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(10) Building Conversions to Enable Primary Use of Wind, Solar, and Other Non-combustion Zero Carbon Energy Sources
The highest funding priority for the university in the future should be for electrification of existing university buildings to allow their use of wind, solar, hydro, and other non-combustion near-zero carbon energy sources to supply both their heat and electricity, regardless of whether the university pursues primarily a biofuels heating solution with currently available funding.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(11) Banning Addition of Any Fossil Fuel Connections
The University of Maine should not install fossil fuel connections to any new campus construction or renovation projects.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(12) Campus Clean Energy Spending Priorities with New Funds
Imagine the University of Maine has acquired $500 million from the Maine Legislature. The money must be spent on projects that meet green design and construction standards and new buildings may not depend on fossil fuels for any of their energy. The $500 million may be spent only on a limited set of long-lifespan infrastructure projects, below. How would you allocate the funds among the projects?

Instructions: Insert 0 to 5 for each choice in hundred-million-dollar increments. Your choices must add up to 5. If not, none of your selections will be included in the summary results. Blank choices are counted as zero.

Please allocate $500 million in increments of $100 million among the following choices:
<<Note: Each respondent will view a different random order among the following choices.>>

Transition to Non-Combustion Clean Power Sources
Replacement of the heating systems in numerous major campus buildings to allow all power for heating, cooling, and electricity to be supplied by solar, wind, and other non-combustion clean energy sources rather than burning fossil fuels.
____ hundred million dollars

Transition to Renewable Biofuels
Construction of a new campus steam plant to burn wood chips and other renewable biofuels on campus to supply heating for buildings rather than burning fossil fuels.
____ hundred million dollars

Develop Campus-Owned Non-Combustion Clean Power Sources
Construction of a campus-owned solar farm and/or wind farm rather than purchasing clean renewable energy through electric utilities.
____ hundred million dollars

Build a Centralized Parking Ramp with Vehicle Recharging Facilities
Construction of a new centralized parking facility with recharging stations powered by clean energy open to all students and faculty to encourage the use of electric cars, trucks, bicycles, and similar vehicles.
____ **hundred million dollars**

Build High Technology Modern Classrooms
Construction of latest technology classrooms supporting synchronous and asynchronous group work and other evidence-based best-learning modalities among on-campus, cross-campus, and online students.
____ **hundred million dollars**

Build Improved Athletic Facilities
Construction of expanded and improved athletic facilities open and available for use by all students.
____ **hundred million dollars**

Build Improved Cultural and Humanities Facilities
Construction of a humanities center with a focus on facilities for the learning and advancement of history, literature, language, philosophy, ethics, and jurisprudence.
____ **hundred million dollars**

Build Improved Research Facilities
Construction of new research facilities for one or more research domains. The facility must support synchronous and asynchronous interdisciplinary and multidisciplinary research group work among on-campus, cross-campus, distant campus, and distant industry collaborators.
____ **hundred million dollars**

Total sum must equal: **5 hundred million dollars**

(13) Tracking Campus Progress toward Zero Carbon Emissions
The Faculty Senate should create a *Climate Change Audit Committee* under the auspices of the standing *Environment Committee* to closely track and aid the campus in achieving zero greenhouse gas emissions by 2040. It should regularly communicate and coordinate with the University of Maine President's Sustainability Council and the UMaine Climate Action Plan Working Group.

__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(14) Divestment of Fossil Fuels
Following the lead of State of Maine Legislative Bill LD99 (2021) that now bans new public investments in fossil fuels and full divestment within 5 years, the University of Maine System should **formally** commit to stopping any new investments in fossil fuel companies and fully divest funds in fossil fuel companies within 5 years.

__ Strongly Agree
__ Agree
__ No Opinion

__ Disagree
__ Strongly Disagree

(15) Adding Carbon Emission Offset Costs to University Travel Expenses
The carbon emissions for each university-funded travel trip should be computed and the cost of offsetting/sequestering the carbon emissions should be applied to the university travel costs for the trip and actually spent for this purpose.
__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(16) *Annual Public Address on Climate Commitment Progress*
The President of the University of Maine should present annually an oral address open to the campus community and public at large on the *State of the University's Climate Commitment toward Achieving Net-Zero Carbon Emissions by 2040*.
__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

(17) University of Maine Sustainability Pledge
I would support a sustainability pledge by which students, staff and faculty might personally commit to making the University of Maine as carbon free and environmentally sustainable as possible.
__ Strongly Agree
__ Agree
__ No Opinion
__ Disagree
__ Strongly Disagree

Respondent Relation to the University of Maine

(For student version of the survey)
(18) My primary relation to the University of Maine is best described as:
__ undergraduate student
__ graduate student
__ other, please describe: _____

(19) I am most closely affiliated with the following college.
__ College of Education and Human Development
__ College of Engineering
__ College of Liberal Arts and Sciences
__ College of Natural Sciences, Forestry, and Agriculture
__ Maine Business School
__ All, none, or Other. Please specify: <small text entry field>

(For faculty/staff version of the survey)

(18) My primary relation to the University of Maine is best described as:

__ full-time faculty member
__ part-time faculty member
__ staff in a primarily research setting
__ staff in a departmental or similar setting
__ research unit head (e.g., organized research unit)
__ unit head (e.g., department or school) or associate/assistant dean
__ upper-level administrator (i.e., dean or above)

(19) I am most closely affiliated with the following college.

__ College of Education and Human Development
__ College of Engineering
__ College of Liberal Arts and Sciences
__ College of Natural Sciences, Forestry, and Agriculture
__ Maine Business School
__ All, None, or Other. Please specify: <small text entry field>

(For both versions of the survey)

General Comments

(20) Please provide any additional comments you wish to make.

<medium size window for text entry>

SUBMIT

We thank you for your time spent taking this survey. Your response has been recorded.
Summary results will be made available on the Faculty Senate Environment Committee website.

Technical Glossary

Terms Used within the University of Maine Survey on Campus Actions to Address Climate Change

Carbon Emissions, Greenhouse Gas Emissions, and CO_2e

Because ***greenhouse gases (GHGs)*** consist of several gases, the combination of the specific gases emitted from a facility is typically converted to a ***carbon dioxide equivalent*** (***CO_2e***) which is a term for describing different greenhouse gases in a common unit. For a more detailed explanation, see GHG Emissions: Demystifying Carbon Dioxide Equivalent (https://www.era-environmental.com/blog/ghg-emissions-carbon-dioxide-equivalent-co2e) The term ***carbon emissions*** is sometimes used as an informal truncated version meaning the same thing.

Carbon Footprint

The annual **carbon footprint of a building** includes the greenhouse gas emissions resulting from powering the heat, cooling, and electrical needs of the building for a full year. It also includes the greenhouse gases expended during building construction and includes emissions from extracting raw materials, converting them to building materials, transporting materials and workers to and from the building site, and all other greenhouse gas emissions created to erect the building and install all of its systems as spread out over the expected building life.

The annual **carbon footprint of the campus** is typically computed as the total of Scope, 1, 2 and 3 emissions for the campus within a full year. **Scope 1** greenhouse gas (GHG) emissions are ***direct*** emissions from sources that are owned or controlled by the university such as from the combustion of natural gas, #6 oil, #2 oil, propane, gasoline, diesel, and kerosene primarily for heating. **Scope 2** GHG emissions are ***indirect*** emissions from sources that are owned or controlled by the university such as for electricity. **Scope 3** GHG emissions are from sources not owned or directly controlled by the university but directly ***related to university activities*** such as faculty/staff/student commuting, department travel, campus event travel by attendees, and emissions from construction projects.

Carbon Offsets

Rather than the University deploying carbon sequestering itself, the university may pay others to accomplish carbon sequestering that equals the amount emitted on campus by purchasing credits within a carbon trading market.

Carbon Sequestering

Carbon sequestering involves a range of methods for extracting from the atmosphere the same amount of greenhouse gases a facility places into the atmosphere that year (e.g., growing trees over many years that capture and offset the GHG emissions that occur each and every day of the year on the campus).

Fossil Fuels

The primary fossil fuels include coal, petroleum and natural gas. All contain carbon. Existing fossil fuels were formed underground over at least 2 billion years through geologic processes applied to organic matter. They are extracted through mining or drilling and burned by humans typically to create heat or electricity. The carbon emissions from burning these fuels are a major cause of pollution and global warming

Geothermal Heating

Geothermal or ground sourced heat pump systems driven by electricity are highly reliable and proven technologies for transferring energy from the earth for heating and cooling buildings. These ultra-efficient systems save energy, reduce carbon emissions, and increase comfort particularly when driven by near-zero carbon energy sources. For a more detailed explanation on how they work, consult the whitepaper or the U.S. Department of Energy (DOE) website (https://www.energy.gov/eere/geothermal/geothermal-heat-pumps)

Intergovernmental Panel on Climate Change (IPCC)

The Intergovernmental Panel on Climate Change (IPCC) (https://www.un.org/en/climatechange/reports) is the body of the United Nations responsible for assessing the science related to climate change and providing objective and comprehensive reports on climate change. It regularly engages thousands of scientists and other experts to review scientific data and studies germane to climate science. Key findings are compiled into "Assessment Reports" for use by policymakers and available to the general public. Extensive and broad-based peer review ensures that reports are widely agreed upon by leading climate scientists as well as by UN member governments.

Net-Zero Carbon Emissions

Net-zero carbon emissions means that gross carbon emissions are balanced by the sequestering or offsetting of an equivalent amount of carbon. The terms ***net-zero carbon emissions***, ***carbon neutrality***, ***net-zero CO_2e emissions***, and ***net-zero greenhouse gas (GHG) emissions*** are often used interchangeably. Biofuels, for example, may be viewed as ***renewable biofuels*** if the emissions from their combustion and those emitted in their processing, production, and transportation as a fuel are balanced by at least 1 to 1 carbon offsets. The offsets for biofuels are often achieved through new growth or other sequestering or offset credit methods.

UMaine Zero Carbon Emission Commitment

In 2007 the President of the University of Maine was an original signatory to the Presidents' Climate Leadership Statement (https://secondnature.org/signatory-handbook/the-commitments/#Climate_Leadership_Statement). The university has reported on its progress each year yet the campus has fallen behind in meeting its interim targets (https://reporting.secondnature.org/institution/detail!1906##1906). After more than a decade of reporting, it achieved only a 10% reduction in emissions by 2020 whereas the target was 40% by 2020.

Zero Carbon Energy Sources

***Zero carbon* energy** sources refer to energy sources that emit no or very little carbon in their use. **Solar, wind, hydro**, and a few additional emerging energy sources are typically included in this category. They are sometimes referred to as ***non-combustion* energy sources**. These technologies often require some expenditure of carbon in the mining and manufacturing of materials to create, construct and maintain them and thus are sometimes referred to as **near-zero carbon energy sources**.