Environmental Council 2018-19

Report to President Laurie Patton
May 3, 2019

Regarding:

I. Internal Carbon Pricing

II. Sustainable Procurement

III. UN Sustainable Development Goals

IV. Middlebury Institute of International Studies Sustainability Council Projects

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Summary of Environmental Council Recommendations and Next Steps

I. Internal Carbon Pricing

1. As part of the Energy 2028 plan's aim to reduce emissions by 25% by 2028, Middlebury College will adopt an internal carbon price at the start of the 2019-20 fiscal year

2. The pricing plan will assess a charge on College carbon emissions, placing the revenues into an internal fund to support energy reduction and awareness initiatives. Projected revenues to the internal carbon fund are $400,000 to $500,000 per year, generated from these sectors:
    a. Emissions from heating, electricity, and landfill emissions will be priced at $40/metric ton of carbon dioxide equivalent (MTCDE).
    b. Emissions from transportation will be tracked and billed at the budget-unit (e.g. departmental) level. A baseline of emissions from the 2014/15 to 2018/19 fiscal years will be calculated for each budget unit. From there, budget units will be assessed on emissions in excess of their yearly baseline, which will be reduced by 2.5% each year for ten years for a total of 25% reduction by 2028. Invoices will be paid from the primary budget index associated with each budget unit. Funds can be recouped from subsidiary budget indices using an end-of-year breakdown of charges.
    c. New construction projects will be priced at a flat rate of 0.5% of the total project cost

3. A Carbon Committee will be formed to manage and distribute funds
    a. The Committee will consist of two faculty, three students, one staff member from facilities, and one staff member with financial expertise appointed by the administration
    b. The Committee will solicit proposals from the Middlebury Community for projects related to energy efficiency and education that result in reduced energy consumption, emissions, or environmental impact, and that will reduce costs over the long-term

4. All emissions calculations will be based on data and/or conversion factors from the Office of Sustainability Integration's annual Greenhouse Gas Inventory.

5. The creation of the carbon fund should not require additional staffing. However, implementation will require significant assistance from the Accounts Payable department. It may also result in certain departments who rely heavily on travel to request budget increases as the magnitude of the travel tax increases over the next 10 years (e.g. athletics, advancement, etc.).

6. As possible, the carbon fund should be used to help facilitate reaching the goals set forth in the Energy 2028 plan. Proposed projects that assist with the transition to 100% renewable energy and an overall consumption reduction of 25% should be favored.

7. The Environmental Council's committee on carbon pricing recommends that Middlebury College sign on to Our Climate's Higher Education Carbon Pricing Endorsement Initiative to demonstrate the colleges support for federal carbon pricing legislation.

II. Sustainable Procurement

The Sustainable Procurement committee recommends that all purchasing decisions prioritize reducing environmental impact, supporting the local economy, and supporting minority-owned and socially responsible businesses. The proposed purchasing policy is intended to apply to all general, business-related purchases.

This document includes specific recommendations for Middlebury in the categories of Appliances, Janitorial and Cleaning Products, Dining Services, Retail Stores, Food and Water; Paper and Office Supplies; Grounds and Landscaping, Paint, Furniture and Rugs, and Electronics. In most cases, the Environmental Council recommends adhering to reputable standards systems that certify products that comply with the standards. We note circumstances in which the College has already developed or implemented sustainability guidelines.

Our first priority moving forward is to create a sustainable purchasing group within the Green Mountain Higher Education Consortium and use the Middlebury College purchasing policy as a starting point for the GMHEC sustainable purchasing policy.

Next steps:
In our first year of working toward sustainability in purchasing, we have learned a great deal about the steps necessary for implementing a policy as well as the challenges involved in this process. To continue toward our goal, we plan to take the following steps:

1. Create a 'sustainable purchasing' group within the Green Mountain Higher Education Consortium, with the goal of making a more organized and powerful attempt to implement sustainability policy into purchasing on a larger scale. We will contact the appropriate people at St. Michael's College and Champlain College and present the current Middlebury College Purchasing Policy as a starting point for the GMHEC purchasing policy.

2. With the GMHEC group, select a 'first product' to focus on. This product should be one that is purchased on a large scale across all three GMHEC schools and have the potential to make a large impact if purchasing decisions incorporate sustainability policy.

3. Work with the GMHEC to reduce packaging waste associated with W.B. Mason deliveries.

4. Create a plan for raising awareness on campus about sustainable purchasing options. This will be the most effective way to make a large impact.

5. Collect data on current and past purchasing choices and trends at the College. Use these data as a baseline against which we can compare future purchasing trends that occur after sustainability in purchasing policy is implemented. Contact Corinna Noelke of GMHEC.

6. Develop guidelines for choosing business partners.

III. UN Sustainable Development Goals

Based on our research on Middlebury's alignment with the SDGs and on the implications of becoming a signatory, ***we recommend*** that Middlebury College sign the Accord. In order to do this, President Patton would need to sign on behalf of the institution. We believe the President should sign the Accord for the following reasons:

1. Signing on would align with the portion of the college's mission statement that reads "commitment to integrating environmental stewardship into both our curriculum and our practices on campus. Yet the College also reaches far beyond the Green Mountains, offering a rich array of undergraduate and graduate programs that connect our community to other places, countries, and cultures." Signing on is a public statement that our institution is constantly standing by its commitment to creating a student body that is globally engaged in environmental and social justice issues.

2. The fact that not many peer institutions have signed on gives us the opportunity to continue to be an environmental leader.

3. Many of the goals of Energy2028 align with the SDGs, meaning we will already be working towards many of these objectives and will gain access to a set of standards and resources to assess our progress.

4. Our campus' beliefs and actions are already aligned with the Accord, so officially and publicly signing will simply encourage longevity and accountability.

5. SDG signatories are invited to join the SDG Accord Learning Network. This is a global network, which allows for SDG discussion and the sharing of best practices, would enrich the College's participation in the global community.

6. There are essentially no drawbacks, as we are not held to any standards but rather set our own objectives.

We recognize the importance of the President representing the opinion of the greater community through this action, and as such expect that a prerequisite to signing the Accord would be the clear demonstration of broad support for this initiative from the Middlebury community. This is the primary reason for our ***second recommendation***, which is that the EC has a recurring committee dedicated to the SDGs. We propose that next year's committee would first be tasked with tabling and

collecting signatures to indicate support from the student body for signing the Accord. Additionally, having this committee every year would ensure that no extra administrative burden would be created via annual reporting to the UN. Much of our time and effort this year as a committee was spent collecting information and creating an inventory, and it would be inefficient for any group or individual charged with reporting to have to repeat any of these efforts. By creating a longstanding committee (even with annual membership turnover), we can facilitate steady progress and continuation of previous efforts.

I. Proposal for an Internal Carbon Pricing Plan at Middlebury College

Respectfully Submitted April 26, 2019 by: David Allen, Will Amidon, Gabe Desmond, Ming Lee Harris-Weidner, Amelia Miller, Emma Ramirez-Richer, Haley Roe, Remi Welbel

Proposal for an Internal Carbon Pricing Plan at Middlebury College

Executive Summary

1. As part of the Energy 2028 plan's aim to reduce emissions by 25% by 2028, Middlebury College will adopt an internal carbon price at the start of the 2019-20 fiscal year

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    c. New construction projects will be priced at a flat rate of 0.5% of the total project cost

3. A Carbon Committee will be formed to manage and distribute funds
    a. The Committee will consist of two faculty, three students, one staff member from facilities, and one staff member with financial expertise appointed by the administration
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4. All emissions calculations will be based on data and/or conversion factors from the Office of Sustainability Integration's annual Greenhouse Gas Inventory.

5. The creation of the carbon fund should not require additional staffing. However, implementation will require significant assistance from the Accounts Payable department. It may also result in certain departments who rely heavily on travel to request budget increases as the magnitude of the travel tax increases over the next 10 years (e.g. athletics, advancement, etc.).

6. As possible, the carbon fund should be used to help facilitate reaching the goals set forth in the Energy 2028 plan. Proposed projects that assist with the transition to 100% renewable energy and an overall consumption reduction of 25% should be favored.

7. The Environmental Council's committee on carbon pricing recommends that Middlebury College sign on to Our Climate's Higher Education Carbon Pricing Endorsement Initiative to demonstrate the colleges support for federal carbon pricing legislation.

1. Introduction

Given the impending impacts of carbon emissions and associated global warming, it is clearly in our collective interest to incentivize carbon emission reductions, so they occur as quickly as possible. Although Middlebury has recently achieved carbon neutrality, much of this has come through carbon offsets, which are a costly short-term solution and do not achieve underlying efficiency improvements and associated emissions reductions. To reduce emissions and save money going forward, Middlebury has established a new energy and emissions reduction plan called Energy 2028. One way to support the Energy 2028 plan is to incentivize energy efficiency using an internal carbon pricing plan, which would levy a surcharge on carbon emissions to fund efficiency projects. To this end, numerous businesses, municipalities, and institutions have begun implementing internal carbon pricing plans. Such plans have been adopted by over 1,200 business non-state entities over the last 20 years (e.g. figure 1 below). In addition to the global benefits of carbon reduction, such plans also help entities to become more efficient and save money in the long run.

Given the rationale outlined above, the Environmental Council proposes that Middlebury College adopt an internal carbon pricing program that would levy a surcharge on carbon emissions generated in four sectors of the college: 1) transportation related to college business, 2) campus waste, 3) campus energy consumption, and 4) new construction activities. The college would essentially charge itself, transferring revenues into a central 'Carbon Fund' which would then be used to support energy efficiency improvements implemented by students, staff, and facilities. These projects could range from small student-sponsored initiatives to larger facilities-sponsored renovations, efficiency upgrades, or electrical generation projects. A key tenet of this proposal is that all of these projects should save energy or produce energy at a lower cost, ultimately saving money for the College. As such projects reduce energy consumption and emissions, internal carbon pricing revenues would decrease proportionally until, in theory, Middlebury achieves zero emissions and internal carbon pricing is discontinued.

In addition to the potential financial benefits of this plan, it also strengthens the educational mission of the college and exemplifies the high moral standard we would like to instill in our community. Nowhere is this better exemplified than the mission statement, which reads: *"Through a commitment to immersive learning, we prepare students to lead engaged, consequential, and creative lives, contribute to their communities, and address the world's most challenging problems."* As a leader in sustainable higher education, it seems only appropriate that Middlebury College take initiative in further decreasing its carbon footprint and overall environmental impact.

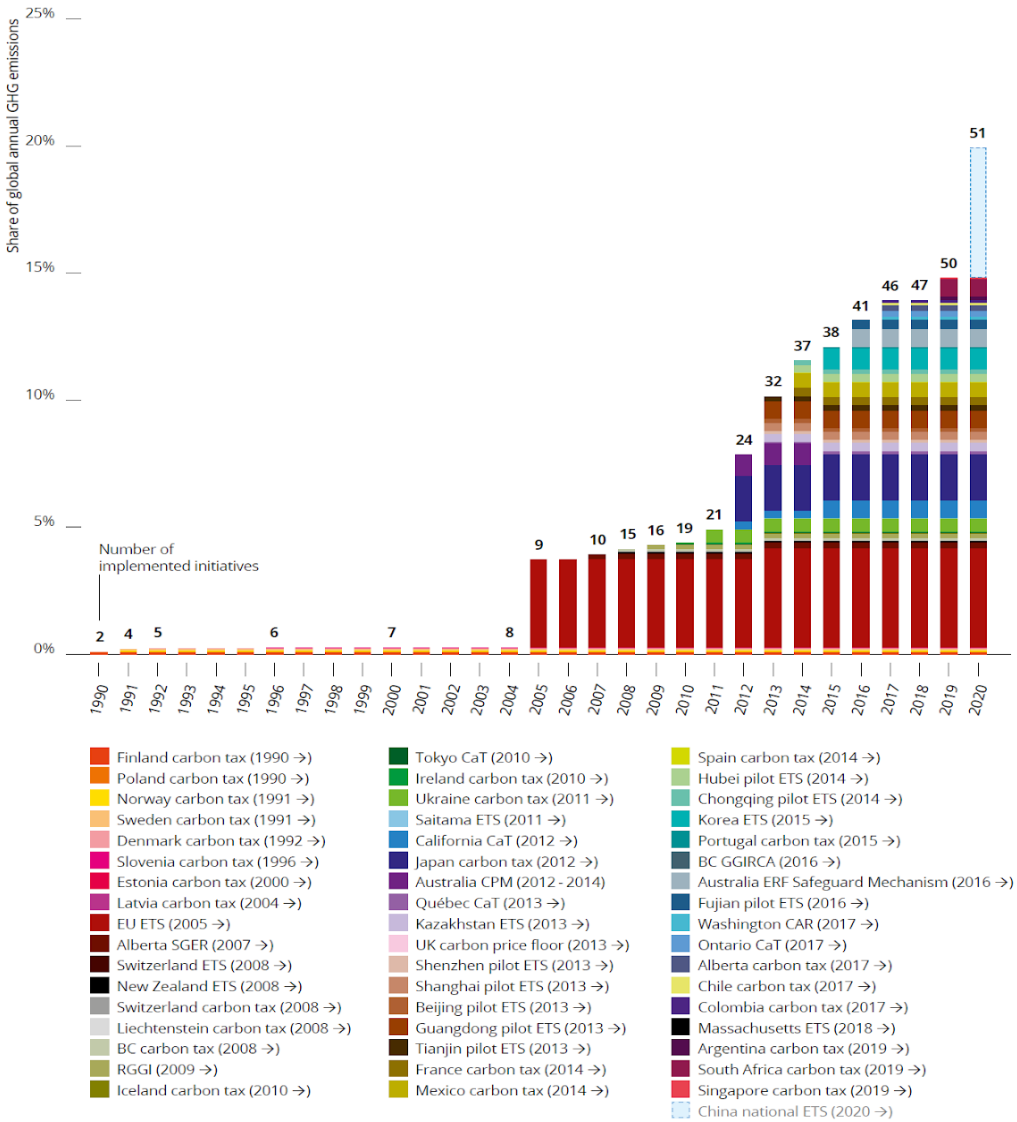
2. Structure of the Plan, carbon prices, and Projected Revenues

If adopted, the internal pricing plan would price carbon emissions in four main sectors of the college: 1) campus energy consumption, 2) campus waste, 3) transportation related to college business, and 4) new construction activities. Although exact emissions accounting will vary across these four sectors as described below, we propose to price carbon at a uniform rate of $40

per metric ton of carbon dioxide emitted (MTCDE). Because the environmental damages associated with greenhouse gas emissions are not reflected in the price of carbon emitting goods, like fossil fuels, the cost of emitting is not factored into the college's basic cost-benefit analysis that relies heavily on monetarily measured inputs and outputs. These unaccounted-for externalities are often referred to as the social cost of carbon.

A 2015 survey of over 300 economists who publish peer-reviewed research on climate change found that three quarters of economists believed that the social cost of carbon was equal to or higher than $37/ton, with over half believing it was higher. For comparison, figure 2 below shows prices adopted for existing carbon pricing plans. For these reasons, $40 per MTCDE, a round number that accounts for recent inflation, seems an appropriate place to start. The price per MTCDE will be reevaluated every five years by the committee described in section 3 below.

Figure 2 / Regional, national and subnational carbon pricing initiatives: share of global emissions covered



Note: Only the introduction or removal of an ETS or carbon tax is shown. Emissions are presented as a share of global GHG emissions in 2012 from (EDGAR) version 4.3.2 including biofuels emissions. Annual changes in GHG emissions are not shown in the graph. Due to the dynamic approach to continuously improve data quality using official government sources, the carbon tax only covering F-gases in Spain was added. The information on the China national ETS represents early unofficial estimates based on the announcement of China's National Development and Reform Commission on the launch of the national ETS of December 2017.

Figure 1: *Existing carbon pricing plans vs. their share of global emissions being priced. Taken from "State and Trends of Carbon Pricing, 2018" by the World Bank Group.* https://openknowledge.worldbank.org/bitstream/handle/10986/29687/9781464812927.pdf

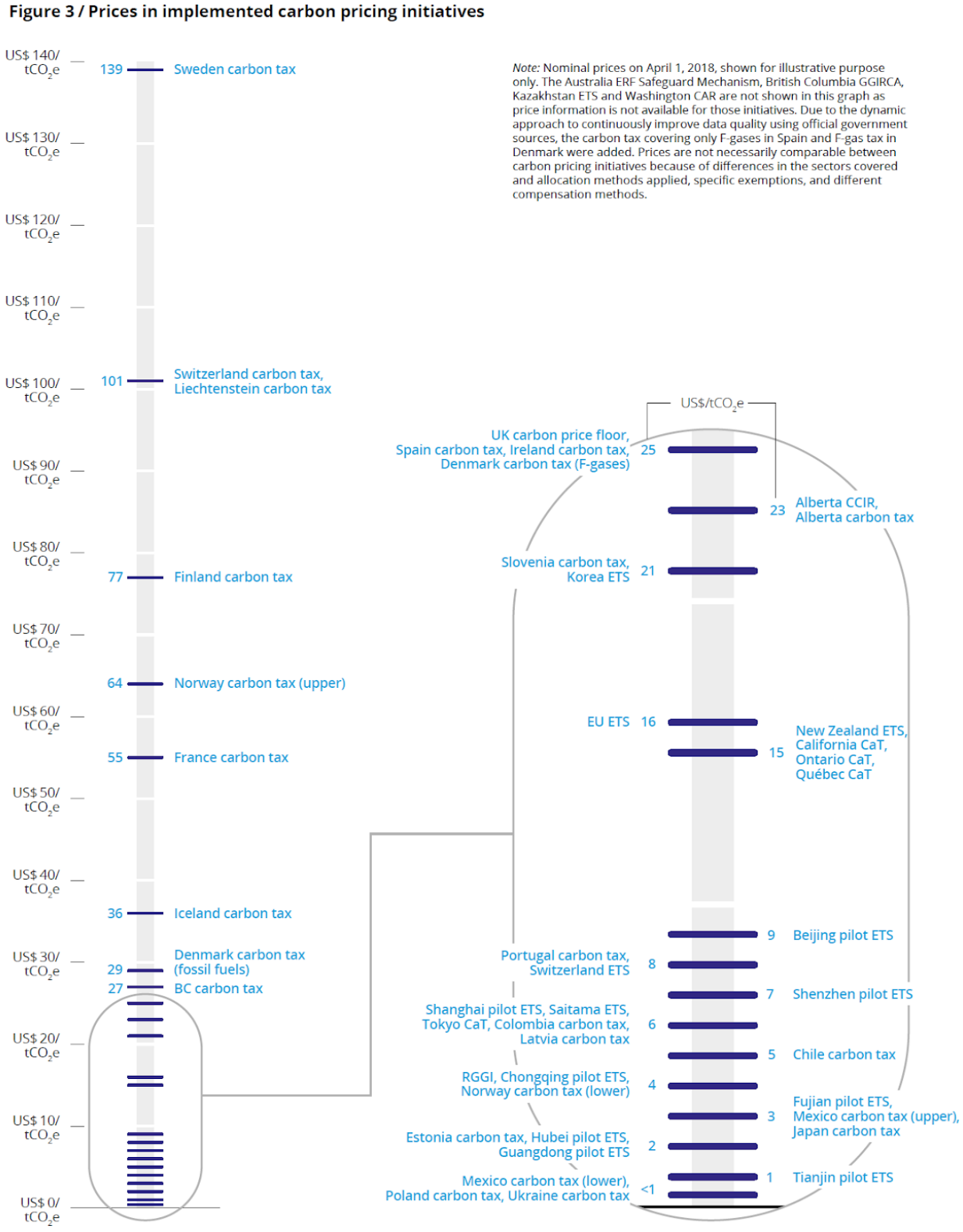


Figure 2: *Price per metric ton of carbon dioxide equivalent (MTCDE) used in existing carbon pricing plans across the globe. Taken from "State and Trends of Carbon Pricing, 2018" by the World Bank Group*.
https://openknowledge.worldbank.org/bitstream/handle/10986/29687/9781464812927.pdf

2.1 Campus energy consumption

Campus energy consumption denotes all energy consumed by the Middlebury Campus with the notable exception of transportation. Specifically, this denotes emissions from fuel oil or gas burned on campus, or indirect emissions from electricity purchases. Following the terminology laid out by the World Business Council for Sustainable Development and the World Resources Institute in *The Greenhouse Gas Protocol*, this would include both stationary 'scope 1' emissions and all 'scope 2' emissions. Emissions of CO_2 from burning of biomass will not be charged, recognizing this is considered a renewable source of carbon on human timescales. Using the price of $40 per MTCDE and an average annual emission of about 10,000 MTCDE from 2012-2016, we anticipate this sector would generate annual revenue of roughly $400,000 per year.

The exact sum to be levied would be assessed at the end of each academic year based on data included in the College's annual greenhouse gas inventory report. This report uses industry-accepted practices to convert both electrical consumption and direct combustion of fossil fuels into units of MTCDE. Questions regarding the accepted conversion practices could be adjudicated by the carbon committee as described in section 3.

2.2 Campus Waste

The campus waste sector denotes greenhouse gas emissions (primarily methane) that arise from the decay of organic waste generated on campus and transported to a landfill. Following the terminology laid out by the World Business Council for Sustainable Development and the World Resources Institute in *The Greenhouse Gas Protocol*, this includes the landfill portion of 'scope 3' emissions. As with other sectors, the MTCDE emitted from campus waste would be computed each year by the Office for Sustainability integration following accepted industry protocols and priced accordingly. Using a price of $40 per MTCDE and an average annual emission of about 145 MTCD from 2012-2016, we anticipate this sector would generate annual revenue of roughly $5,800 per year.

2.3 Campus transportation

Campus transportation will not be taxed directly but will instead be incentivized through a 'cap and reduce' system. An annual 'transportation emissions cap' will be defined for each of the College's 250 'budget units' based on the average MTCDE emitted by that budget unit's transportation for the five academic years prior to and including the 2018-2019 year. Each subsequent year for the next 10 years, the cap will be reduced by 2.5% of the original baseline value and budget units will be billed based on the number of MTCDE's above the cap. For example, if the baseline cap is 100 MTCDE, then the cap for the first year would be 97.5, the second year 95, the third year 92.5, and so on. Thus, by the year 2028, budget units would be

billed for all transportation-related emissions exceeding 25% below their 2014-2019 average level. The rationale is to align internal pricing incentives with the Energy 2028 Plan's goal to reduce energy consumption by that much over that timespan. This charge should incentivize budget units to decrease carbon outputs over time without crippling their ability to function or participate in important functions

Campus transportation denotes carbon emissions incurred during transportation undertaken on behalf of college business. This includes emissions generated when employees or students of the college travel on college-related business, or when employees or students pay travel costs to bring a visitor to campus. Importantly, campus transportation does not include emissions incurred from 'outsourced transportation', for example when a contractor is paid to provide a service to the college. Likewise, it does not include personal transportation not on behalf of the college, for example commuting to and from work. Following the terminology of college's greenhouse gas inventory, the campus transportation category includes the travel portion of 'scope 3' emissions and the mobile portion of 'scope 1' emissions.

Using the price of $40 per MTCDE and an average annual emission of about 3,500 MTCDE from 2012-2016, we anticipate the transportation sector would generate annual revenue of roughly $140,000 per year if all transportation were taxed directly. So, assuming budget units do not change transportation-related emissions the total revenues would rise linearly from zero to roughly $35,000 by 2028.

Table 1: Percent reduction in MTCDE baseline relative to the 2014-2018 average

Year	**Percent reduction below 2014-2018 baseline**
FY 2019-20	2.5%
FY 2020-21	5%
FY 2021-22	7.5%
FY 2022-23	10%
FY 2023-24	12.5%
FY 2024-25	15%
FY 2025-26	17.5%
FY 2026-27	20%
FY 2027-28	22.5%
FY 2028-29	25%

2.4 Flat rate on new construction

While the exact emissions of new buildings is difficult to calculate, it should be acknowledged that construction-related activities do release a significant amount of greenhouse gases. Instead of complex calculations or a shadow price, it has been agreed that a flat rate will be charged to new construction projects. 0.5% of all money spent on such projects will be added directly to the carbon fund. There is currently no estimate associated of total revenues in this category.

3. Managing the Carbon Fund

The Carbon Fund will be an internal financial account to which revenues will be transferred at the end of each academic year. Funds will be used to finance efficiency, education, or similar projects that result in reduced energy consumption, emissions, or environmental impact, and that

are likely to save the College money over the long-term (e.g. 5 to 100 years). We anticipate that projects may originate from or support existing college initiatives such as the Environmental Council, Sustainability Solutions Lab, Sunday Night Environmental Group, and existing facilities renovation plans. Projects of various scales can be proposed by any member of the college community, although it is anticipated that students and facilities staff will be the two primary applicant pools. Proposals will be reviewed by the committee and funds awarded if the project meets the criteria defined in section 3.2

3.1 Composition of the Carbon Committee

The Carbon Committee will be tasked with managing and allocating the funds raised from Middlebury's internal carbon pricing. The seven-person committee will consist of two faculty, three students, a representative from facilities, and a staff member appointed by the administration with relevant financial expertise. During the initial year this committee will meet as a sub-committee of the Environmental Council with students and faculty appointed from the existing membership of the council. A primary goal of the first year will be to determine the structure and home of a more permanent committee and how said committee will be integrated into the Energy2028 implementation framework. Representatives from the administration and facilities will be appointed by the President's Office for a term of two years, presumably bringing relevant expertise in finance and project management. Students will be appointed for two-year terms through an application process administered by the Environmental Council, ideally with overlap between student terms.

The primary jobs of the Carbon Committee will be four-fold: 1) managing the carbon fund including ensuring that invoices are paid by the start of each academic year, 2) reviewing applications and awarding funds to meritorious projects, 3) evaluating progress of funded projects and return-on-investment over the long-term, 4) advertising funding opportunities and annually communicating project results within the college community.

3.2 Criteria for awarding funds

It is anticipated that annual carbon fund revenues could range from $300,000 to $600,000 per year, which will enable (and necessitate) funding of large-scale efficiency projects, which are best proposed and implemented by facilities staff. In addition, the fund will support smaller projects envisioned by students, faculty, or staff (hereafter referred to as the 'community'). We thus anticipate two categories of award size, with larger awards going to facilities for 'infrastructure' projects and smaller awards to Middlebury College community-driven projects. Project proposals will be initially submitted in writing to the carbon committee, following guidelines set forth by the committee. Potentially successful applicants will then be invited to a second round of consideration involving an in-person presentation and discussion of project details with the committee. In general, project proposals should meet the following criteria:

> *1) Include a detailed budget demonstrating that the project will save the college money in the long run. This includes a cost-benefit analysis of the project and addressing financial and environmental risks associated with the project.*

2) Include a detailed budget for how the funds will be used and define quantifiable measures of project success and/or deliverables that can be evaluated by the committee.

3) Proposals should support Middlebury's existing environmental and sustainability goals whenever possible. For example, funds could be allocated to projects that support renewable energy installations, energy efficiency upgrades, education, outreach, research, and projects that otherwise reduce the College's environmental impact.

4) Proposers should demonstrate capacity to complete projects within the timeframe proposed. If assistance is required for a project, the committee may connect proposers with relevant campus staff or resources for assistance.

4. Oversight and implementation

4.1 Calculation of MTCDE's and billing

Taxes will be levied once per year after the close of the academic year on June 30th. Four sectors of college activities (energy, waste, transportation, and new construction) will be assessed based on the metric tons of carbon dioxide equivalent (MTCDE) emitted each year. MTCDE is a common unit that allows carbon emissions from various sources to be directly compared. However, numerous assumptions must be made when converting energy usage or food waste into MTCDE. In the sectors of campus energy usage, waste, and transportation, taxation will be based on estimates of MTCDE for the fiscal year provided by the Office of Sustainability Integration (OSI) using internally sourced data and industry-accepted conversion factors. These MTCDE estimates will be forwarded to the Carbon Committee by late summer, who will then issue an invoice to the relevant College office with payment received early in the fall semester so that the funds are available for allocation during the fall funding cycle.

The campus transportation sector is more complicated because transportation-related emissions above the cap must be computed for each 'budget unit' every year. This will be done by subtracting the budget unit-specific emissions cap from the budget unit's emissions for that academic year. The budget unit-specific cap is discussed in section 2.3 above and is computed based on a 2.5% annual reduction in allowable emissions each year relative to a baseline average from 2014 to 2018. Travel-related carbon emissions will be computed quarterly and provided to each budget unit to help them monitor their annual emissions and potential tax burden. Budget unit-specific invoices will be computed via a five-step process:

Step 1) The total dollar amount spent on transportation will be summed for the academic year and binned into five categories: mileage, taxis, bus, airplane, and train following the approach currently used by the OSI.

Step 2) These dollar amounts will then be converted to MTCDE using formulas provided by the OSI to convert dollar expenditures into MTCDE for each category.

Step 3) If the computation in step 2 is for a quarterly report, it will include the cumulative % of MTCDE released relative to the annual cap and also the cumulative MTCDE released by transportation category

Step 4) If the computation in step 2 is for a year-end report, the budget unit-specific cap will be subtracted from their cumulative annual emissions and any surplus above the cap will be priced at a rate of 40$ per MTCDE. This invoice will be billed to the primary budget index (designation code) of each budget unit.

Step 5) A year-end list of individual charges will be provided to budget-unit managers so that funds can be recouped from individuals as deemed necessary. This list will be sorted by Oracle designation code and transactor name. Individual charges will be computed by multiplying the total annual charge to the budget unit by the percentage of the budget units annual MTCDE represented by a given charge. For example, if a budget unit emitted 10 MTCDE in a given year and a single flight accounted for 0.1 MTCDE, that flight would be 1% of the annual MTCDE. If the annual invoice for the budget-unit was $100 then the charge apportioned to the transaction purchasing the flight would be $1.

This process would be completed by the Accounts Payable Office at the prompting of the carbon committee. We anticipate this could be done relatively easily by filtering transactions based on date and activity code in Oracle. Final invoice would be submitted to budget units and copies provided to the Carbon Committee over the summer and presumably paid from the following year's budget (e.g. the 2020-2021 invoice would be paid from the 2021-2022 budget). The Carbon Committee would be responsible for ensuring that all invoices have been paid by the start of the academic year.

4.2 Is there a need for additional staffing?

As envisioned, we anticipate that the internal carbon pricing plan can be implemented without the need for additional staffing. However, we have identified four parts of the workforce where additional work is being asked of existing staff members. First, if the Carbon Fund is to be spent at the rate it accrues, facilities will need to implement new large-scale efficiency projects, or apply funds to existing projects. Facilities will also need to provide a summary of new construction costs incurred each year. Second, the Office of Sustainability Integration will be asked to continue producing reliable estimates of MTCDE emitted based on campus energy usage and waste. Importantly, these would need to be done as soon as possible after the end of the academic year on June 30th. Third, the Accounts Payable Office would be required to generate the reports outlined in section 4.1 and issue invoices at the end of the fiscal year. Finally, the chair and members of the carbon committee would be responsible for administering the duties of the Carbon Committee outlined in section 3.1, including tabulation and billing of charges for campus energy usage, waste, and new construction.

4.3 Auditing and financial oversight

It is expected that the Carbon Committee will manage relevant aspects of invoicing, payment, and financial awards from the carbon fund. Significant direct oversight is ensured by allowing

the administration to appoint a staff member to the committee who has financial expertise. Accounting of individual transactions, billing, balances, and payments will be executed by Accounts Payable as with any other financial account. The fund will be subject to audits at the discretion of Accounts Payable following the existing procedures used for other campus budget indexes. Ultimate governance of the carbon fund rests with the Vice President for Finance, their equivalent, or designee.

5. How carbon pricing supports Middlebury's 2028 energy plan

In addition to Middlebury's goal of deriving 100% of its energy from renewable sources in 2028, Middlebury Energy 2028 also sets the goal of reducing campus-wide energy use by 25% by 2028. In many ways, this is a more difficult challenge, and will require extensive energy efficiency and conservation efforts from all members of the Middlebury community including staff, students, and faculty. Achieving a 25% reduction in overall energy consumption can be done only if Middlebury is successful in building a culture of energy conservation at both the institutional and individual level. The implementation of an internal price for carbon will not only aid the building of such culture but is in fact necessary for Middlebury's 2028 energy goals to come to fruition.

In order to reduce campus-wide energy usage by 25%, there are three specific areas that offer the greatest opportunities for energy savings to be realized: building design and construction, education, and transportation and travel. Thankfully, an internal carbon price will facilitate these efforts.

5.1 Building design and construction

Middlebury's Energy 2028 plan strives to "optimize energy performance and to minimize greenhouse gas emissions" by considering "life-cycle cost analysis for new projects that include the use of renewable energy sources, energy efficiency, and thermal energy conservation in new building construction or major renovations," (pg. 8). This carbon pricing proposal specifically allocates 90% of the revenues made from carbon fees towards facilities for energy efficiency projects. Thus, through the collection and designations of funds, our carbon pricing proposal will encourage energy efficiency and conservation projects within facilities' new building constructions, renovations, and updates.

5.2 Education and Communication

In attempt to assist in lowering energy usage across campus, Middlebury's 2028 energy plan also hopes to "develop a process for designing, implementing and documenting interdisciplinary energy conservation engagement projects that bring together economics, technology, and art to motivate and incentivize energy savings on campus," (pg. 10). The creation of a Carbon Committee within this carbon pricing proposal exists as an excellent match to serve as the entity responsible for coordinating such interdisciplinary energy conservation engagement projects. With funding available, the Carbon Committee would encourage faculty, staff, and students to reduce energy consumption through the use of energy conservation efforts and projects that operate through engaging and educating the Middlebury community on energy efficiency and

conservation. This would take two forms. First, the Carbon Committee itself would be responsible for annually updating the college community on funded projects and emerging opportunities. Second, the committee would encourage proposals with a focus on education and campus outreach related to energy efficiency.

5.3 Transportation and Travel

Energy consumption from on-campus transportation and off-campus travel make up important contributors to Middlebury's total energy usage, and thus efforts to reduce energy consumption from travel and transportation must be taken. Included within Middlebury's 2028 energy plan is the expansion of electric vehicles, with the goal of "replacing at least half the current inventory with electric vehicles by 2028," (pg. 11). The plan also outlines the establishment of a "carbon tracking and pricing system by which departments can manage their carbon and energy impacts from travel," (pg. 12). This proposal for an internal carbon pricing system is just in that - it will incentivize departments to reduce their energy usage from travel by opting to video conference rather than fly, and drive an electric vehicle or take public transport rather than driving an internal combustion engine alone. Carbon pricing will also open and potentially designate greater funding for the purchasing of electric vehicles and other more energy efficient vehicles.

6. National Carbon Pricing Endorsement

In addition to the above proposal, the Environmental Council's committee on carbon pricing recommends that the Middlebury College President sign on to Our Climate's Higher Education Carbon Pricing Endorsement Initiative to demonstrate the colleges support for federal carbon pricing legislation.

II. Middlebury College Sustainable Purchasing Policy

Respectfully submitted on May 3, 2019 by: Bayu Ahmad, Molly Anderson, Annie Benson, Alison Nurok, Ding Pang, Calla Rosenfeld, Talia Ruxin, Ethan Sherman, Charlotte Tate, Juliet Walsh,

Middlebury College Sustainable Purchasing Policy
May 2019

Executive summary

Middlebury College is committed to environmental stewardship and seeks to demonstrate sustainable business practices. Consistent with Middlebury College's goals of environmental stewardship, the purpose of the following purchasing policy is to support and facilitate the purchasing of products, services, and materials that minimize adverse environmental and social impacts resulting from their production, transportation, use, and disposal.
This committee recommends that all purchasing decisions prioritize reducing environmental impact, supporting the local economy, and supporting minority-owned and socially responsible businesses. The proposed purchasing policy is intended to apply to all general, business-related purchases.

This document includes specific recommendations for Middlebury in the categories of Appliances, Janitorial and Cleaning Products, Dining Services, Retail Stores, Food and Water; Paper and Office Supplies; Grounds and Landscaping, Paint, Furniture and Rugs, and Electronics. In most cases, the Environmental Council recommends adhering to reputable standards systems that certify products that comply with the standards. We note circumstances in which the College has already developed or implemented sustainability guidelines.

Our first priority moving forward is to create a sustainable purchasing group within the Green Mountain Higher Education Consortium and use the Middlebury College purchasing policy as a starting point for the GMHEC sustainable purchasing policy.

Environmental and Social Sustainability in Purchasing Statement[1]

Policy

Middlebury College has traditionally emphasized conducting College business with local firms. Reflecting the College's institutional commitment to comprehensive environmental stewardship, Middlebury similarly emphasizes sourcing from firms whose services and products:

- Further Middlebury's stewardship goals
- Demonstrate superior long-term sustainability, energy efficiency, and pollution minimization in product production and usage life cycles.

In addition, Middlebury has articulated a commitment to institutional diversity across lines of race, ethnic origin, religion, gender and sexual orientation. The College therefore encourages its business with firms and individuals to be representative, especially in terms of ownership or management, of these goals of institutional diversity.

Policy Rationale

Local Vendors

- Preferential use of local vendors recognizes the fundamental interdependence between the College and the larger Middlebury and Vermont communities. The potential advantages of local suppliers in terms of service, delivery, and dedication are clear.
- These advantages, however, must be weighed carefully against regional and national vendors' potential pricing advantages and supply source diversification. The overall balance between these variables (and others) should be considered in a context of long-term impact and advantage to the College.

Environmentally Committed Suppliers

- Purchasing decisions have a large role to play in fulfilling the College's commitment to environmental stewardship as a core value of the institution. Vendors selected to supply the College should demonstrate a strong commitment to environmental sustainability in their business practices as well as in their products and services.

Minority-Owned Vendors

- Where possible, given the nature of the College's rural location, Middlebury's commitment to institutional diversity should be reflected in the placing of College business so as to encourage the entrepreneurial efforts of minorities within Vermont specifically, and the region and nation more generally.

General Requirements

- Preferential sourcing from local suppliers for College needs should be driven by more than geographic proximity.
- Where local vendors are unable to offer the College superior pricing, local vendors should offer qualitative factors - product quality, delivery, service, after-sale support, and terms - that comprise a package which gives them equal or superior overall competitiveness to large chain and industrial vendors.
- College business, moreover, should be viewed by local vendors as something to be earned and not an entitlement. Personnel making purchasing decisions for the College should monitor local vendor relationships closely to assure that preferential, long-term relationships remain demonstrably competitive.

[1] This statement was developed based on Middlebury College's Purchasing Policy

- With respect to purchasing decisions where heavy emphasis is given to environmental impact factors over pure pricing, departments and individuals need to also keep in view their fiscal stewardship obligations to parents, alumni, and donors in making the Middlebury educational experience accessible and affordable.

Appliances

- All products should be approved by one of the following certifications:
    1. WaterSense: assesses water efficiency. Includes products such as residential toilets, showerheads, bathroom faucets, commercial toilets, urinals, pre-rinse spray valves, irrigation controllers, and spray sprinkler bodies
    2. Energy-Star: assesses energy usage
    3. SNAP: assesses substitutes for ozone-depleting substances. Includes products that emit greenhouse gases and other harmful gases such as refrigerators and air conditioners.
- In addition to the certifications, purchasing decisions should consider and prioritize the lifespan, functionality, and durability of a product (in addition to cost) in order to minimize waste and obsolescence of purchases when purchasing.

Janitorial and Cleaning Products

- All products should be approved by one of the following certifications:
    1. UL EcoLogo
    2. Green Seal
    3. U.S. EPA Safer Choice (formerly Design for the Environment)
    4. BioPreferred
- Equipment and methods should aim to enhance air quality, protect occupant and user health, and suit building function.
- Document the efficacy of equipment and perform cost-benefit analyses on replacing versus recycling old materials.
- All vacuums should be certified by the Carpet and Rug Institute to improve indoor air quality.

Dining Services

Certifications include:

1. Green Seal GS-35: environmental requirements for food-service packaging, including recycled content, unbleached fiber, compostability, and toxics in packaging and inks.
2. Biodegradable Products Institute (BPI): verifies a product is compostable.
3. ASTM D6400 standard: determine if plastics and products made from plastics will compost satisfactorily in commercial and municipal composting facilities.
4. ASTM D6868 standard: determines compostability of products containing a biodegradable plastic film or coating is in municipal and industrial aerobic composting facilities.

- Products composed of 100% paper, wood, bamboo or other plant-based material (uncoated) can be without certification.
- No polyethylene liners, highly hazardous additives, or any fluorinated chemicals.

- 40% post-consumer recycled content or 100% total recycled content (pre- or post-consumer), except for hot beverages.
- Napkins should be GreenSeal certified.
- Next steps involve collecting data from our current purchasing decision in our dining services.

Retail Stores

- Product options available in the retail stores on campus need to be evaluated, especially weighing in their recyclability and possible toxicity.
- For example, clothing sold in the bookstore might better be made of hemp, bamboo fiber, organic cotton and reclaimed fabric.
- Personal care and household cleaning products should be composed of fewer toxic chemicals and microbeads.
- The possibility of buying in bulk or with less packaging should also be considered.

Food

Applicable sites:

- Cafeterias
- Vending machines
- Retail stores (e.g. Midd Xpress)
- Cafes (Grille, Wilson, Mahaney)

Current status:

- Middlebury signed onto the Real Food Challenge, which encourages colleges and universities to source at least 20% of its food from local, humane, 'green' or fair sources. Various certifications and assurances are accepted to show that we comply with this (e.g., Fair Food certified, organic certified, humanely-raised livestock certification). We met the Challenge and should aim for continuous improvement in the percentage of food sourced in these ways.
- Currently, 32% of the Dining Service's annual food budget is spent locally at 50 year-long and seasonal vendors, including Middlebury's own student-run farm, The Knoll.
- Numerous other plan have been developed to guide sustainable purchasing by institutions. The most promising for Middlebury's progress is probably the Real Food Purchasing Guidelines, which have been adopted by several municipalities and MIT.

Policy recommendations:

- Document continuous improvement in percentages of food sourced by the College that are local, organic, Fair Trade and humanely-raised (for livestock products).
- In consultation with Dan Detora (and perhaps a revived Food Committee?), decide on additional improvements to explore (e.g., further reducing meat and switching to 100% grass-fed livestock products; eliminating sugar-sweetened soda beverages from vending machines and dispensers in cafeterias) to explore and articulate specific recommendations.

Rationale:

- Changing food choices has been identified in numerous scientific studies as the most important step that consumers can take to increase sustainability, due to the large amounts

of greenhouse gas emissions, freshwater withdrawals, and land degradation resulting from the food system that supplies most products to supermarkets and institutions.

- While there is strong consensus about the constituents of a sustainable diet, some choices are still under debate (e.g., how much milk and milk products or lean grass-fed meat are acceptable). In addition, the guideline of 'buying local' may conflict with the healthiest choice at times, given the preponderance of dairy in Vermont.
- In most cases, the most environmentally-sustainable food choices are also healthier. They usually fit within the Mediterranean diet pattern: olive oil used preferentially instead of other oils or butter, low salt and sugar, fish and limited meats, high amounts of fruits and vegetables, little if any processed food. We should be putting student health at the top of our list of priorities, and trying at all times to make healthy, tasty, nutritious food available rather than food that will contribute to diet-related diseases.
- By changing institutional purchases, Middlebury College can channel significant amounts of money away from the industrialized food system and toward supporting more sustainable choices, which will reduce their cost and make them more affordable to all consumers.

Water

Policy recommendations:

- Ban the sale or distribution of bottled water by College or outside vendors on campus and at College-sponsored events.
- Exceptions include emergencies that prevent access to potable tap water (not events on campus where tap water can be provided in jugs or pitchers).

Rationale:

- The need to eliminate single-use plastics has become urgent, as scientists have seen the environmental damage caused by plastics and their degradation products to wildlife, oceans and humans.
- Businesses in the Town of Middlebury are already beginning to work on eliminating single-use plastic, such as grocery bags and straws. A resolution on banning single-use plastic products was passed at the most recent Town meeting.
- Given that Middlebury has high-quality tap water, there is no good justification for using single-use water bottles. The College uses them primarily for convenience, but the need to be a leader in demonstrating good environmental practice outweighs convenience.

Paper and Office Supplies

- Certifications:
    1. Green Seal
    2. Forest Stewardship Council
- Departments should purchase a minimum of 50% post-consumer recycled content office paper that is FSC-certified (Forest Stewardship Council certification ensures that products come from well managed forests that provide environmental, social, and economic benefits)
- Other paper products (paper towels, tissues, etc.) should meet Green Seal standards
- 30% reduction of total cost of paper by 2022
- Paper collection boxes should be available at all printers to encourage people to reuse paper if one side is used

Grounds and Landscaping

- Use **Energy Star** and **Federal Energy Management Program** certifications for judging energy efficiency and **ECOLOGO** and **Green Seal** for life-cycle cost analysis
- Materials should be sourced from self-sustaining closed-loops on campus. If sourced off-campus, materials (including stones, seeds, and plants) should be purchased locally
- Waste materials such as mulch, dirt, compost, sod and leaves should be redistributed on campus
- Groundskeeping should aim to purchase native, non-invasive species
- Vehicles and equipment purchased for maintenance, landscaping, etc. should maximize fuel efficiencies and have the lowest emissions possible for the desired function. The purchaser should take life-cycle costs into consideration. Utilize alternative fuel and/or alternative environmentally responsible energy methods, when feasible. (from Elon University)
- Rather than purchasing specialized equipment for one-time needs, Middlebury should explore tool sharing opportunities with nearby institutions

Paint, Furniture, Rugs

- Residential furniture and mattresses
- At the recommendation of Missy Beckwith contacted Wayne Hall, Mary Stanley, Thad Stowe, Peter Lackey re policies/guidelines they follow when purchasing paint, furniture, rugs for Middlebury. They responded with this link to Facilities Services Environmental Initiatives http://www.middlebury.edu/offices/business/facilities/enviro.
- Jack Byrne gave this site: There are some guidelines in the College's Sustainable Design and Construction Guidelines regarding indoor air quality that would apply to new construction and major renovations.
- From University of California – Policy on Sustainable Practices https://policy.ucop.edu/doc/3100155/SustainablePractices: Contracting with suppliers of products (e.g. electronics, furniture, lab consumables) that have established (preferably non-manufacturer specific) end-of-life reuse, recycling, and/or takeback programs at no extra cost to the University, and in compliance with applicable federal, state, and University regulations regarding waste disposal.
- Business and Institutional Furniture Manufacturers Association (BIFMA) is the trade association for business and institutional furniture manufacturers. BIFMA sponsors the development of safety and performance standards, including LCAs and PCRs, ANSI/BIFMA e3 Furniture Sustainability Standard and the level® sustainability certification for furniture. BIFMA was a member of the Council's forerunner organization, the Green Products Roundtable. BIFMA Sustainability Initiatives https://www.bifma.org/page/sustainability
- EcologicFurniture.com 5 Things You Should Expect from Your Dorm Room Furniture Manufacturer https://ecologicfurniture.com/2018/11/08/dorm-room-furniture-manufacturers/?gclid=EAIaIQobChMI2cXrk6_p4AIVE4TICh2IvArTEAAYASAAEgKDbPD_BwE
- EPA Identifying Greener Carpet https://www.epa.gov/greenerproducts/identifying-greener-carpet

Electronics

- Certifications include:

1. EPEAT: assesses electronics based on the devices' ability to meet certain required and optional criteria that address the full product lifecycle, from design and production to energy use and recycling. Bronze certification (meets all of the required criteria in their category) should be the minimum requirement. Silver-rated products meet all of the required criteria and at least 50% of the optional criteria, while Gold-rated products meet all of the required criteria and at least 75% of the optional criteria. This standard includes an online registry that can be used to check for a product's rating.
2. Energy-Star: assesses energy efficiency for appliances.

- In addition to the certifications, purchasing decisions should consider and prioritize the lifespan, functionality, and durability of a product (in addition to cost) in order to minimize waste and obsolescence of purchases when purchasing.

Next steps:
In our first year of working toward sustainability in purchasing, we have learned a great deal about the steps necessary for implementing a policy as well as the challenges involved in this process. To continue toward our goal, we plan to take the following steps:

7. Create a 'sustainable purchasing' group within the Green Mountain Higher Education Consortium, with the goal of making a more organized and powerful attempt to implement sustainability policy into purchasing on a larger scale. We will contact the appropriate people at St. Michael's College and Champlain College and present the current Middlebury College Purchasing Policy as a starting point for the GMHEC purchasing policy.

8. With the GMHEC group, select a 'first product' to focus on. This product should be one that is purchased on a large scale across all three GMHEC schools and have the potential to make a large impact if purchasing decisions incorporate sustainability policy.

9. Work with the GMHEC to reduce packaging waste associated with W.B. Mason deliveries.

10. Create a plan for raising awareness on campus about sustainable purchasing options. This will be the most effective way to make a large impact.

11. Collect data on current and past purchasing choices and trends at the College. Use these data as a baseline against which we can compare future purchasing trends that occur after sustainability in purchasing policy is implemented. Contact Corinna Noelke of GMHEC.

12. Develop guidelines for choosing business partners.

III. Committee on the UN Sustainable Development Goals Final Report Environmental Council 2019

Respectfully Submitted April 26, 2019 by:
Jonah Edelman, Eva Fillion, Maxwell Lucas, Diane Munroe, Sidra Pierson, and Xinyu Zhang

Section 1: The SDGs at Middlebury

Our first task as a committee was to compile a detailed inventory of how the Middlebury community - both on campus and beyond - is working towards the SDGs. We researched and collected information on student groups, academic departments, town organizations, and administrative initiatives. Below is a consolidated version of our findings.

Goal 1: No Poverty

On-campus anti-poverty efforts that serve students include the Student Employment Office and the Financial Aid Office, while the Privilege and Poverty academic cluster, the CCE, and the VT Education Alliance on Poverty aim to serve the broader local and state communities. Anti-poverty efforts in the town of Middlebury include the Charter House Coalition and the local Habitat for Humanity chapter, which alleviate poverty through housing, as does the John Graham Emergency Shelter in Vergennes. Academically, students of economics and political economy study development and other ways of fighting poverty at global, national, and local scales.

Goal 2: Zero Hunger

Off-campus, the Charter House serves low-income Vermonters, and the local chapter of the CROP Hunger Walk and the Addison County Hunger Council fight hunger in the local community. The Middlebury College Dining Services staff keep students well-fed on campus, while students organizations fighting hunger include Midd Foods and the Organic Farm. Academically, students in the Food Studies program, directed by Molly Andersen, learn about solving problems of food insecurity and more.

Goal 3: Good Health and Well-Being

Student organizations working toward good health and well-being include GlobeMed, EatReal, Nutrition Outreach and Mentoring (NOM), and various religious and spiritual groups focus on well-being in a spiritual sense. Health and Wellness Education and Parton Health Services offer various services to look out for students' health and well-being, while Middlebury First Responders and Porter Hospital tend to local health issues off-campus. Academically, students on the pre-med track study how to maintain good health through medicine.

Goal 4: Quality Education

The entire institution of Middlebury College (includings its Monterey campus and its schools abroad) are dedicated to a quality education, so this goal is being addressed at a broad level academically. When it comes to learning about learning, the Education Studies department is especially committed to teaching students how to be effective educators.

Goal 5: Gender Equality

Student organizations include fighting for gender equality include Feminist Action at Middlebury (FAM), and Women of Color, while the academic focus is in the Gender, Sexuality, and Feminist Studies (GSFS) program. The organizations MiddSafe (on campus) and WomenSafe (in town) work to ensure that women can be free from sexual assault.

Goal 6: Clean Water and Sanitation
Facilities Services and the custodial staff keep the campus's water and sanitation running, and dining hall staff do the same for our food and drinks.

Goal 7: Affordable and Clean Energy
On campus, the Office of Sustainability Integration (OSI) works with administrators and students to promote practices that will reduce the College's carbon emissions while keeping energy affordable. Student groups such as Sunday Night Environmental Group (SNEG) and Research & Investment in Sustainable Equity (RISE) work toward similar goals. We recently saw the fruition of such goals with the passage of the "Energy2028" initiative, led by administrators and students in the Environmental Council and the OSI. The Middlebury Energy Committee works to provide affordable and clean energy for the town, and the ACTR public transit system provides affordable transportation while reducing emissions. The Environmental Studies program teaches students about affordable and clean energy.

Goal 8: Decent Work and Economic Growth
On campus, the Student Employment Office and the Financial Aid Office help students find decent work and maintain financial stability, and the economics department studies these topics. In town, the Charter House helps Vermonters find work.

Goal 9: Industry, Innovation, and Infrastructure
Campus initiatives include the Center for Creativity, Innovation, and Social Entrepreneurship; Habitat for Humanity; Old Stone Mill; Tech for Good (Monterey); and the Architecture department.

Goal 10: Reduced Inequalities
On campus offices include the Center for the Comparative Study of Race and Ethnicity and the Anderson Freeman Resource Center, both housed in Carr Hall. Academic programs include Privilege and Poverty, Sociology, GSFS, Economics, Political Science, Education Studies, and American Studies, among others. Student groups include FAM, Underrepresented in STEM, JusTalks, Refugee Outreach Club, Amnesty International, and Queers and Allies, to name a few.

Goal 11: Sustainable Cities and Communities
Students in the Geography and Environmental Studies programs study this, and the Middlebury Energy Committee works on sustainability in town. Members of SNEG and the Wild Middlebury Project also partner with local residents to work on making the town more sustainable.

Goal 12: Responsible Consumption and Production
On campus, the Office of Sustainability Integration (OSI), the Food Studies program, and Dining Services all work toward responsible consumption. The recent Energy2028 initiative directly addresses reducing consumption, and the recent SGA meat reduction bill promotes sustainable consumption (and thus production) of food by reducing emissions from meat. The Recycling Center helps ensure that our waste is disposed of appropriately and sustainably. Student groups working on this SDG include Juntos, EatReal, MCOF, Weybridge House, the SGA Environmental Affairs Committee, Research & Investment in Sustainable Equity, and SNEG.

Goal 13: Climate Action
SNEG organizes climate activism both on and off campus, and scholar-in-residence Bill McKibben is a prominent figure in the movement. The OSI provides students with opportunities to do work on campus that mitigates our contribution to climate change. Various academic programs feature classes that deal with climate action, notably in the Environmental Studies,

Geography, Economics, and Geology departments.

Goal 14: Life Below Water
Certain ES and Geology classes deal with oceanography and marine ecology (mostly on Lake Champlain, but there was also recently a J-term class in the Bahamas), as do certain schools abroad in locations closer to the ocean.

Goal 15: Life on Land
The Environmental Studies, Geology, and Biology departments teach ecology, such as how to protect biodiversity. The College Lands Committee conserves land near Middlebury, and the Middlebury Area Land Trust and Spirit in Nature organizations maintain trails in the area. The Otter Creek Audubon Society works on local wildlife protection.

Goal 16: Peace, Justice and Strong Institutions
The Judicial Affairs Committee upholds justice on campus, and Juntos works to ensure justice for Vermont migrant workers. The Amnesty International and Stop Traffick groups on campus raise awareness of and support for human rights on an international scale.

Goal 17: Partnerships for the Goals
In regards to this goal, all of the inventory-based research conducted on where Middlebury stands in its incorporation of the 16 previous goals is applicable.

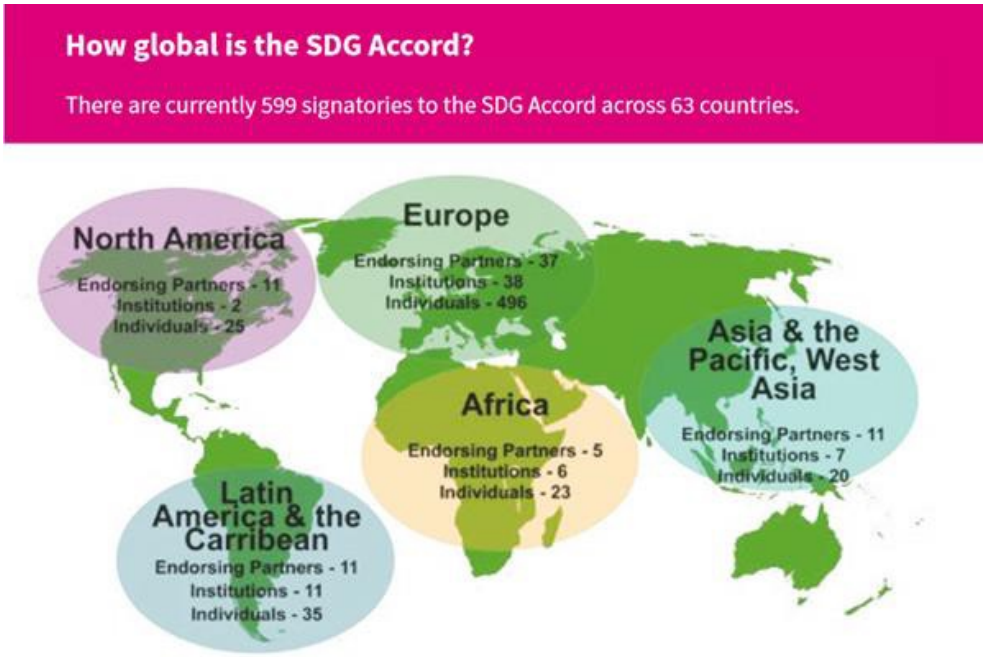
Section 2: Analysis of Compliance with the SDGs

Though there is always room for improvement and development, it seems that certain goals are already being addressed well by the College, while others could use more attention. Currently, we believe that goals 3 (good health and well-being), 4 (quality education), 7 (affordable and clean energy) and 13 (climate action) are well tied into the College's structure and mission. As it stands now, we believe that the following goals are underrepresented at Middlebury: 1 (no poverty), 5 (gender equality), 6 (clean water and sanitation), 8 (decent work and economic growth), 10 (reduced inequalities), 11 (sustainable cities and communities), and 12 (responsible consumption and production). We have chosen these goals in particular because we believe that they are relevant to the College's mission and a baseline to build upon these goals already exists, yet they allow significant room for progress. We intend for the College to begin with these selected goals and to expand the focus as we improve. The SDGs are inherently linked and connected, so we recognize that isolating the goals presents its own set of challenges. We also discussed to what extent each goal could be addressed at Middlebury. For example, are we as a College educating our students to go out into the world with the ability to tackle these issues or are we also committed to tackling them on our on campus as well as globally? We recommend that Middlebury attempts to address the goals at all levels of impact--from an individual to global community scale.

Section 3: Current Engagement with the SDGs

3.1 : Why is there Currently Limited North American Engagement with the SDGs?

While the UN SDG Accord has (as of August 2018) 599 signatories, the majority of these signatories are from European countries and other regions outside of North America as the below map depicts: [1,2]



To learn why this might be, we reached out to a variety of other institutions. A post to the Association for the Advancement of Sustainability in Higher Education (AASHE) community conversation forum inquiring as to whether other institutions have had conversations about signing on the Accord yielded no responses to date. We also reached out to the primary contacts of all the UN Regional Centers of Expertise (RCEs), all of which have college and university partners, and discovered that to their knowledge, none of their member campuses are Accord signatories despite their clear and direct engagement with the SDGs.[3] We also sent a query to the US Partnership for Education for Sustainable Development, which has a very large and diverse member and collaborator network, but we again received the response that there was no knowledge of member signatories.[4]

We then reached out to Julian Dautremont, Director of Programs for AASHE, and he was able to provide some very helpful insights for us. Below is his response:

[1] https://responsibility.global/sdg-accord-reaches-600-signatories-report-presented-at-un-high-level-politic al-forum-e2d0da0c9dbf
[2] https://www.sustainabilityexchange.ac.uk/files/the_sdg_accord_un_high_political_forum_doc_-_interacti ve.pdf
[3] http://www.rcenetwork.org/portal/rces-worldwide
[4] https://uspartnership.org/

"We haven't actually heard much directly from many members about the SDG Accord so my thoughts on your questions are based more on general feelings toward these kinds of initiatives. That said, I suspect there are several reasons why very few US institutions have signed on to the SDG Accord:

1. **Commitment fatigue** - Over the past few decades, higher education leaders have been asked to sign numerous declarations and commitments related to sustainability, including the Talloires Declaration, the American College & University Presidents' Climate Commitment (ACUPCC, now called the Second Nature Climate Leadership Commitments), American Campuses Act on Climate, the We Are Still In Declaration, the

Higher Education Sustainability Initiative (HESI), Put a Price on It, Break Free From Plastic Campus Pledge and many more. While all of these are well-intentioned and probably have galvanized action on some cases, I know many campus sustainability staff are starting to question how much of their time and effort should go into getting their institutions to sign on to new statements/commitments versus working to implement the ones they've already made. I think many folks are starting to feel that there are diminishing returns associated with signing each new declaration, especially when the content of the statement doesn't really say much new. I suspect many folks looked at the SDG Accord just didn't think it would do enough to move things forward on their campus to make it worth the time and political capital it would take to get their leadership to sign.

2. **Reporting fatigue** - Related to but somewhat separate from commitment fatigue, I know many sustainability staff worry about all of the time spend reporting what they are doing as opposed to actually doing things. In that context, any initiative that has a reporting requirement is going to be looked at skeptically. I'm sure some folks hesitated when they saw that the Accord included a somewhat open-ended annual reporting expectation.
3. **Disconnection from UN Initiatives** - In general, my sense is that the UN is less influential in the US than in many countries and I think decision-makers perceive less value of being associated with the SDGs than they might elsewhere. Indeed, association with UN initiatives can actually arose opposition from some quarters in the US. Witness the (ridiculous but still real) opposition to participation in ICLEI from Tea Party groups.[5] The SDGs are already receiving the same kind of criticism and, crazy as it is, it does raise the perceived costs of signing on to something like the SDG Accord.[6]
4. **No active recruitment effort** - While AASHE has endorsed the SDG Accord, we aren't actively engaged in any efforts to get institutions to sign on, in part because of the above and also due to capacity limitations.

Based on the above, and the fact that the SDG Accord is already over a year old, I would be surprised if many US campuses were to sign on in the near future. None of this is to say Middlebury shouldn't sign - it might be exactly the right thing to build on the momentum from Energy2028 - I'm just trying to be honest about the likelihood of many others joining you."

[5] "Activists Fight Green Projects, Seeing U.N. Plot" https://www.nytimes.com/2012/02/04/us/activists-fight-green-projects-seeing-un-plot.html

[6] "As UN pushes radical Sustainable Development Goals, scientists are trying to make sense of them" https://www.foxnews.com/world/as-un-pushes-radical-sustainable-development-goals-scientists-are-trying-to-make-sense-of-them

Some of these reasons may apply to Middlebury. For example, with regard to commitment fatigue, the College is already a signatory on the American College & University Presidents' Climate Commitment and just this February, Middlebury joined the "Call to Action for Accelerating Equitable and Just Climate Solutions," which was "written by higher education leaders calling for unprecedented action to avoid the worst impacts of climate change."[7]

3.2 : How Other Academic Institutions Have Engaged with the SDGs

In lieu of signing the Accord, many colleges and universities are actively engaging with the SDGs. Through our contact with Anna Mahalak, Youth Engagement Manager with the UNA-USA | UN Foundation, we learned of many examples of campuses engaging with the UN SDGs even though they are not formal signatories. Examples from UNA-USA campus chapters are detailed below. This article[8] for the Association for Advancement of Sustainability in Higher

Education is an additional resource on how higher education is advancing the Sustainable Development Goals.

- George Washington University's Sustainability Minor[9] uses the framework of the SDGs in their curriculum. UNA-USA students on campus participate in these courses.
- Arizona State University has identified faculty experts[10] connected to each of the 17 SDGs. The UNA-USA chapter on campus invite these faculty to speak at meetings.
- The UNA-Seton Hall chapter collaborated with the Seton Hall School of Diplomacy and International Relations to hold a teach-in to launch the UN Sustainable Development Goals.[11]
- Currently, UNA chapters at University of Idaho and California State University-Fullerton are managing a case competition on-campus[12]connected to SDG 6: Clean Water.
- UNA-UCLA hosted a case competition for students connected to the refugee crisis.[13]
- Students across the UNA-USA network are developing a service resume[14] using the network's new mobile platform to connect their service hours to the Sustainable Development Goals.
- Students at Utah Valley University have helped to plan a side event[15] at the United Nations in honor of International Mountain Day and SDG 15: Life on Land.
- For United Nations Day in October, UNA-USA chapters celebrated with a "Global Goals, Local Leaders" theme and honored members in the community, businesses, and faculty who had been local leaders for the Sustainable Development Goals.
- UNA chapters are encouraging their universities to sign the "We're Still In"[16] pledge to commit to the Paris Climate Accords.

[7] http://www.middlebury.edu/newsroom/archive/2019-news/node/614465
[8] "The Role of Higher Education in Advancing the UN's Global Goals" https://www.aashe.org/role-higher-ed-un-global-goals/
[9] https://sustainability.gwu.edu/sustainability-minor
[10] https://sustainability.asu.edu/sustainable-development-goals/
[11] https://unausa.org/sustainable-development-goals-teach-in-at-seton-hall-university/
[12] https://unausa.org/world-water-day-2019/
[13] https://unausa.org/una-ucla-genun-case-competition-2016/
[14] https://unausa.org/developing-a-global-goals-service-resume/
[15] https://unausa.org/international-mountain-day-2018/
[16] https://unausa.org/we-are-still-in-it/

- Southern Illinois University uses fun, hands-on activities to teach students about the SDGs.[17] Making planet Earth more sustainable is possible, as an interactive community event at Southern Illinois University Carbondale demonstrated. The 28 February event, "Exploring the United Nations Sustainable Development Goals," was a chance for people to learn more about the 17 Sustainable Development Goals through fun, hands-on activities.

Additional examples of higher education engagement with the SDGs that we came across through our research include:

- PA Environmental Resource Consortium (70 member campuses) Spring 2019 conference: Blueprint for the Future conference on the SDGs[18] and a conversation around starting a PA Sustainable Development Solutions Network.
- Closer to home, the Gund Institute at UVM recently released its new research themes: https://www.uvm.edu/gund/news/gund-institute-announces-new-research-themes.[19] By design, the new themes echo several Sustainable Development Goals agreed on by the United Nations. This will connect UVM and Gund scholars to a global set of priorities, increasing opportunities for research to impact policy. The University of Vermont-wide

institute will target environmental issues at the interface of four research themes: climate solutions, health and wellbeing, sustainable agriculture, and resilient communities.

- AASHE STARS Gold-rated George Mason University hosted a March 20, 2019 webinar as part of the Sustainability Curriculum Consortium entitled, "Teaching to the SDGs through Sustainability Action Research and Sustainable Business Curricula." The goal of the webinar was to provide a model for how curricula from general education through to graduate education address sustainability writ large, and the SDGs in particular.
- As a participant of the U.N. Global Compact, SUNY Geneseo has joined world leaders at the United Nations in adopting the 2030 Agenda for Sustainable Development to end poverty, protect the planet and ensure prosperity for all.[20]
- Villanova is developing their first sustainability plan around the SDGs. They have drafted their own metrics (similar to indicators) for the university based on the SDGs as well as some 2030 objectives (similar to targets). They will also be setting shorter term targets that they are calling key results for three-year periods (2019-2021, 2022-2024, 2025-2027, 2028-2030). They have sourced their metrics from the UN indicators, AASHE metrics, the Cities Index, and some internal metrics.

[17] https://sustainability.siu.edu/participate/united-nations-sustainable-development-goals.php
[18] https://www.pagreencolleges.org/event-3272744
[19] https://www.uvm.edu/gund/news/gund-institute-announces-new-research-themes
[20] https://www.geneseo.edu/news/storytelling-map-shares-how-geneseo-leads-sustainability-action-participant-un-effort

3.3 : Ideas for how Middlebury Could Engage with the SDGs

Lastly, there are many excellent and freely available resources for both faculty and students to engage with the SDGs, and these are detailed below. The ease and availability of these resources would help Middlebury honor its commitment to achieving the SDGs as an Accord signatory .

Resources for faculty:

An initiative of the UN Sustainable Development Solutions Network,[21] the SDG Academy[22] creates free open online courses on sustainable development featuring faculty from the world's leading academic and research institutions, NGOs, and the United Nations system. More details can be found in their course catalog.[23]

Advanced Call for Authors: "*Encyclopedia of the Sustainable Development Goals: Transforming the World We Want*"

- The "Encyclopedia of the Sustainable Development Goals: Transforming the World We Want", the largest editorial project on the SDGs ever undertaken, with 17 volumes--each one devoted to one of the 17 SDGs--and in excess of 1,000 authors.[24]

Ideas for Student Engagement around the SDGs:

- Students could research and create SDG exhibits that could be rotated around campus to build awareness. This might be a suitable project idea for summer interns in the

Sustainability Solutions lab.

- Celebrations / events around UN International Days.[25]
- Career connections and tracking hours in service to the SDGs.
- Human rights youth challenge on water and sanitation. [26]
- Inspiring sustainability action through virtual field trips.[27]

[21] http://unsdsn.org/
[22] https://sdgacademy.org/
[23] https://sdgacademy.org/courses
[24] https://www.springer.com/series/15893
[25] https://www.un.org/en/sections/observances/international-days/
[26] https://www.worldwaterday.org/human-rights-youth-challenge-on-water-sanitation/
[27] https://asunow.asu.edu/20190103-inspiring-sustainability-action-through-virtual-field-trips

Section 4: Our Recommendations

Based on our research on Middlebury's alignment with the SDGs and on the implications of becoming a signatory, ***we recommend*** that Middlebury College sign the Accord. In order to do this, President Patton would need to sign on behalf of the institution. We believe the President should sign the Accord for the following reasons:

1. Signing on would align with the portion of the college's mission statement that reads "commitment to integrating environmental stewardship into both our curriculum and our practices on campus. Yet the College also reaches far beyond the Green Mountains, offering a rich array of undergraduate and graduate programs that connect our community to other places, countries, and cultures." Signing on is a public statement that our institution is constantly standing by its commitment to creating a student body that is globally engaged in environmental and social justice issues.
2. The fact that not many peer institutions have signed on gives us the opportunity to continue to be an environmental leader.
3. Many of the goals of Energy2028 align with the SDGs, meaning we will already be working towards many of these objectives and will gain access to a set of standards and resources to assess our progress.
4. Our campus' beliefs and actions are already aligned with the Accord, so officially and publicly signing will simply encourage longevity and accountability.
5. SDG signatories are invited to join the SDG Accord Learning Network. This is a global network, which allows for SDG discussion and the sharing of best practices, would enrich the College's participation in the global community.
6. There are essentially no drawbacks, as we are not held to any standards but rather set our own objectives.

We recognize the importance of the President representing the opinion of the greater community through this action, and as such expect that a prerequisite to signing the Accord would be the clear demonstration of broad support for this initiative from the Middlebury community. This is the primary reason for our ***second recommendation***, which is that the EC has a recurring committee dedicated to the SDGs. We propose that next year's committee would first be tasked with tabling and collecting signatures to indicate support from the student body for signing the Accord. Additionally, having this committee every year would ensure that no extra administrative burden would be created via annual reporting to the UN. Much of our time and effort this year as a committee was spent collecting information and creating an inventory, and it would be inefficient for any group or individual charged with reporting to have to repeat any of these efforts. By creating a longstanding committee (even with annual membership turnover), we can facilitate steady progress and continuation of previous efforts.

Section 5: Proposed Reporting Structure

Formal external and internal reports are recommended by the SDG Accord.[28] We recommend that both reports shall be completed annually by the UN SDG committee of EC. An important question our committee discussed was the integration of STARS (which Middlebury's Office of Sustainability Integration already completes) and SDG reporting structures. Another recent post to the AASHE community discussion forum related to mapping the SDGs to campus operational units yielded a response from Bard College Graduate student Holly Kistner. She indicated that she is writing her thesis about aligning STARS and the SDGs. She is also partnering with AASHE to publish a guide with the alignment matrices and more information about how to use STARS to report on the SDGs, which will tentatively be released in early summer 2019.[29] Middlebury should track this as it develops as it could help streamline reporting. Until then, we provide a summary below of external and internal reporting requirements as they are currently

designed.

External reporting:
The 2019 reporting document can be accessed through this link:
https://www.sdgaccord.org/files/survey_2019.pdf

The UN appears to update their reporting surveys from year to year and the following guideline is based on the 2019 report. Future SDG committees should refer to the SDG website for the most updated report https://www.sdgaccord.org/reporting.

Important information:

- 2019 report format: general survey questions, some rating and multiple-choice questions, a 300-word broad summary on the work of the year, and short answers.
    - The UN report asks for URL links on specific contributions (not mandatory)
- Primary report elements:
    - the evaluation of the institutional contribution to SDGs this year
    - future plans, priorities, and challenges
- The report is to be filled by a person representing the institution. Presumably, every member of SDG committee should participate in the completion process, but one person (probably the chair) should nominally report on behalf of Middlebury College and put their contact information in the SDG report.
- 2 strikes system: a signatory will be removed from the SDG Accord the second time it does not report to the UN.
- In 2019, the report is open to submission from February 25th to April 1st. The future SDG committees could begin researching and drafting responses according to the report of the previous year before this starting date.

[28] https://www.sdgaccord.org/reporting
[29] Holly Kistner, Bard College, hk8174@bard.edu, (716) 392-6151

Internal reporting:
The external report to the UN provides a good framework to follow but does not ask for much detailed information. The internal report can elaborate on the following questions in the external report:

Question 12: Does your institution currently map (formally cross-reference) its activities to the SDGs?

- Include all relevant URL links and a brief summary.

Question 13: Does your institution report publicly on its SDG work?

- The internal report can be published by the SDG committee on the EC website.
- The committee can publish relevant updates/journal/report/opinion on the campus newspaper or other relevant SDG publications.
- Include all relevant URL links.

Question 15: Are the SDGs a strategic priority for your institution over the next 12 months? If yes, please provide a URL to the strategy.

- The committee could negotiate the integration of the SDGs as an institutional strategy and make sure the strategy is published on the website.

Questions 17 asks for an example for each SDG goal that the college has contributed towards.

- Includes all relevant contributions (probably by drafting an inventory) and all URL links.

Question 18-22 are multiple choice questions.

- The internal report could include a brief account of the choices selected for each question.

The internal report could include the following components (not an exhaustive list):

- An evaluation of the institutional contribution to the SDG this year
- A description of future plans, priorities, institutional strategies and challenges
- Formal recommendations of the SDG committee

Section 6: Potential Collaborations

As a continuation of our inventory, we looked into potential future collaborations with campus and local programs, groups, and organizations as part of our committee's efforts to further our institution's commitment to the SDGs.

On-Campus Connections and Collaborations
Signing the SDG Accord means that it will be fundamentally important for the Environmental Council to create different kinds of collaborations with programs and organizations on the Middlebury College campus as well as with those in this local community. As the UN Sustainable Development Goals are a multi-faceted and connected group of 17 global objectives, incorporating them into campus life will require cooperation from all sectors, ranging from student-led groups to academic departments, in order to develop meaningful programs and policies that enact change. Many student groups, for example, are already working to solve systemic issues, raise important questions, and combat injustices that are highlighted in the SDGs. With this in mind, organizing many of these existing projects under the umbrella of the SDG Accord could not only be useful in making sure the goals of the student groups are achieved or worked upon in line with the annual Accord reporting but also be helpful in identifying what proponents of the SDGs are most unaccounted for on Middlebury's campus and the greater community. These collaborations between the Environmental Council SDG

committee and campus-based/local organizations and programs could also become incorporated into the recent Energy2028 plan, allowing the SDG Accord to become fully integrated into Middlebury's future.

Below, listings of various student groups and organizations with great potential for working with the SDG committee on carrying out the Accord are provided. Additionally, brief ideas regarding what some of these resulting programs would look like are incorporated beneath their associated groups.

Environmental Student Groups

- Sunday Night Environmental Group (SNEG)
- The Wild Middlebury Project
- Middlebury Mountain Club
- Research & Investment in Sustainable Equity
- Environmental Affairs Committee - SGA

- Earth Day Event to showcase SDGs
- Campus Clean-Up initiatives
- Eco-Friendly Living Workshops

Cultural Organizations

- International Students' Organization (ISO)
- Black Student Union (BSU)
- Alianza Latinoamericana y Caribeña
- South Asian Students Association (SASA)
- Mixed Kids of Middlebury (MKM)
- Asian Students in Action (ASIA)
- Others in the Middlebury Intercultural Leaders Coalition

- Environmental justice history workshops
- Events highlighting cultural ties to natural spaces
- Panels and Discussion groups bringing together students from all areas to share personal experiences with the environment and ideas for holistic and equally accessible SDG incorporation

Activist Groups

- Feminist Action at Middlebury (FAM)
- Queers and Allies
- Stop Traffick
- Decolonizing Middlebury's Curricula Project

- Projects to better incorporate all SDGs in Middlebury's Curricula
- Initiatives to garner student support for all SDGs in light of administrative blockage
- Teams to inform students and administration about current SDG related threats in the global community and create statements about what Middlebury can do, even if the institution is not directly associated with said issues

<u>Off-Campus Connections and Collaborations</u>

At this point in the process of SDG incorporation, it would be most impactful to first collaborate with existing Middlebury College organizations that engage with the local community on matters pertaining to education quality, poverty issues, decent work and economic growth, and others relating to the SDGs. With this increased interaction between the Environmental Council SDG committee and such groups, we will be exposed to more programs based in the local community and will certainly have the chance to engage with them directly, thus expanding upon the impact

signing the Accord will have on Middlebury.

Down below, listings of various student groups and organizations with great potential for working with the SGA committee on carrying out the Accord in a off-campus context are provided.

Groups Connected with Local Community

- Community Friends
- Brother-to-Brother
- Friends of John Graham Emergency Shelter
- Habitat for Humanity: Middlebury Chapter
- Middlebury College Organic Farm
- Middlebury Refugee Outreach Club
- MiddVolunteers
- Juntos
- Charter House Coalition
- College Access Mentors (MiddCAM)
- DREAM
- Friends of John Graham
- Middlebury First Responders
- Nutrition Outreach and Mentoring (NOM)
- Page 1 Literacy Project

Section 7: Concluding Comments

As the EC SDG committee, our main goal is to make sure Middlebury students fully understand and are ready to take on current environmental challenges so that they may create a cleaner, safer, and more productive global community; we firmly believe that signing the SDG Accord will be imperative in achieving this goal.

IV. Middlebury Institute of International Studies Sustainability Council Projects

Middlebury Institute of International Studies Sustainability Council Members 2018-19

Barbara Burke, Executive Assistant to the Vice President

Ann Flower, Assistant Director, Library

John Grunder, Director of Information Technology Services

Andrew Hernandez, Director of Facilities Services

Lisa Leopold, GSTILE faculty member

Edy Rhodes, Career and Academic Advisor, International Environmental Policy program

Jeremy VondenBenken, Event Logistics Manager and Garden Oversight

Farid Kayali, Student and Sustainability Grad Assistant

Erin Lannon, Student and Sustainability Grad Assistant

Jeremy Ginsberg, Student and Garden Grad Assistant

Zoe Gapayao, Student and Garden Grad Assistant

Middlebury Institute of International Studies
Sustainability Council Projects

A. Climate Action Plan:
The Middlebury Institute's Climate Action Plan aligns with the Middlebury Energy 2028 Plan

- Outline goals in relation to:
- GHG Annual Audit
- Energy
- Waste
- Food
- Transportation
- Operations/Procurement

B. Annual GHG Audit (see figure 1 and 2)
MIIS started its first annual GHG Audit in fiscal year 2008-2009. The annual GHG Audit includes these sectors gas, electricity, water, Institute related travel, and commutes of faculty and staff.
MIIS has used a consistent reporting process over the past decade to ensure that we have a meaningful comparison of emissions overtime.

- Scope 1: This refers to direct emissions from Institute owned or controlled sources.
  On Campus Stationary Sources Scope 1A (e.g. heating energy fuel consumption)
  Direct Transportation Scope 1B Mobile (e.g. university vehicles)
- Scope 2: Refers to any indirect emissions that are a consequence of activities that take place within the organizational boundaries of the institution, but occur at sources owned or controlled by another entity. (e.g. electricity purchased from PG&E)
- Scope 3: This refers to all indirect emissions (not including Scope 2) that occur in the value chain including both upstream and downstream emissions. This includes faculty & staff commuting, and MIIS-financed travel to conferences and events, as well as water usage and waste sent to a landfill.

C. Solar Panel Request for Proposal:
Cash Purchase: Scudder Solar

Building	Size (kW)	Cost	Usage	Solar Production	Savings	% Offset	Payback Period
Library	68.3	$214,715	159,179	103,373	$21,823	64%	10.5 years

Samson	48.3	$159,503	171,707	96,355	$20,201	59%	14.2 years
McGowan	66.1	209,447	86,919	86,149	$19,672	94%	8.8 years
McCone	62.64	$196,068	64,524	64,524	$9,620	47%	8.9 years
Casa Fuente	64.38	$197,641	88,059	88,059	$16,715	47%	9.5 years
Total	**309.72**	**$977,374**	**438,460**	**438,460**	**$88,031**	**68%**	

Power Purchase Agreement: Staten Solar

Building	Size (kW)	# Panels	Financed Cost
Library	56.7	162	$143,846
Samson	29.4	83	$74,585
McGowan	53.9	154	$136,745
McCone	42.7	122	$108,237
Casa Fuente	66.85	191	$168,586
Total	**249.55**	**713**	**$632,000**

20 year PPA at 15.3 cents per kWh produced by each system, increasing 2% each year for 20 years.

D. Electric Vehicle Charging Station

- Supporting the infrastructure of EV's is key to reducing vehicle GHG emissions in California
- Demand: Fall 2018 Parking Lot Survey indicates that there are currently 30 EV/PHEV/BEV/HEV vehicles on campus
- EV sales are projected to increase

Total Cost Summary	**Cost**
Total Equipment Cost (1 dual port)	$8,060.20
Total Electrical Equipment Cost	$15,819.40
Grand Total	$23,879.61

Fee Scenario Weekends Only	**Smart Charger (1)Dual Port**
$1/hr.(Avg.10 two hour charges per weekend)	$960 per year

E. California Green Business Network (CGBN) Certification:

- The CGBN certification provides a set of sustainable practices to conserve resources and prevent pollution mostly conserve energy, water, and natural resources, prevent pollution, and reduce solid waste and wastewater waste.
- Our goal is to pilot the program with the MIIS Library during Spring 2019 and to get all MIIS buildings Green certified by the end of this summer 2019.

F. Earth Month:
Each year, MIIS hosts a weeklong celebration of sustainable living in honor of Earth Day. This year we extended this MIIS celebration to Earth Month in order to celebrate our planet all month long.
Those event goals included raising awareness about sustainability issues and to actively educate our campus to cultivate environmental leadership, innovation, and cultural change. Different activities throughout the month focused on the following issues:

- Consumption & food waste
- Waste Reduction
- Energy and Cyber Security
- Alternative Transportation

Events featured students, faculty, and staff, as well as MIIS alumni.
Events ranged from an Earth Festival (see figure 3), Trivia Night (see figure 4), Hackathon (see figure 5), movie screening, Whole Foods tour, Speakers Series, and BBQ (see figure 6).

G. Our Green Thumb Garden:
This year, Our Green Thumb Garden has instituted several sustainability projects. We purchased 2,300 worms and restarted the vermiculture plot to create compost, using dried garden vegetation and coffee grounds from the Institute's food service vendor, Aqua-Terra. In an effort to naturally deal with the harmful insects that are common in our garden, 1500 ladybugs and approximately 150 praying mantises were released onto the grounds and seem to be effectively reducing aphid populations. During Earth Month, we started a culinary mushroom garden using a previously unusable plot. We are striving to be an educational sustainable garden, so signage in the garden has been updated to inform students and visitors of ongoing projects and the benefits of our efforts. Two insect houses have also been added to the garden, hoping to get local bees to establish their habitat there.

H. Energy, Food/Waste, and Earth Month Committees:

The Sustainability Council established three committees this semester:

- Energy Committee: Current and future projects
    - The Sustainability Tracking, Assessment & Rating System (STARS) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance.
    - HOBO Data Loggers - we began energy audits on specific classrooms to track temperature, lighting occupancy sensors, and relative humidity by taking readings every 15/20 minutes in order to optimize energy systems in buildings and save energy.
    - Climate Action Plan 2019-2028.
- Food/Waste Committee: Current and future projects:
    - Developing a new method to calculate the trash portion of the GHG audit on campus.
    - Develop waste conscious guidelines for events.

    - Update "How to Green Your Event".
- Earth Month Committee: This committee helped to organize and plan the Earth Month activities.

Appendices

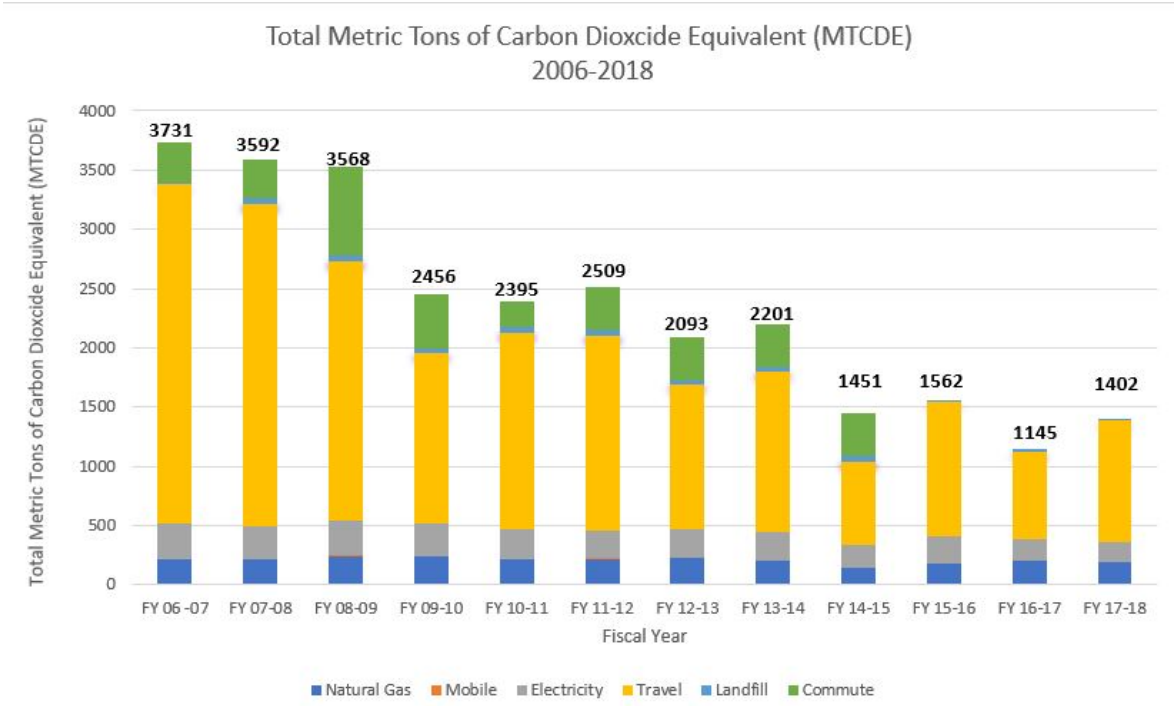


Figure. 1 Annual GHG emission 2006-2007 fiscal year to 2017-2018 fiscal year

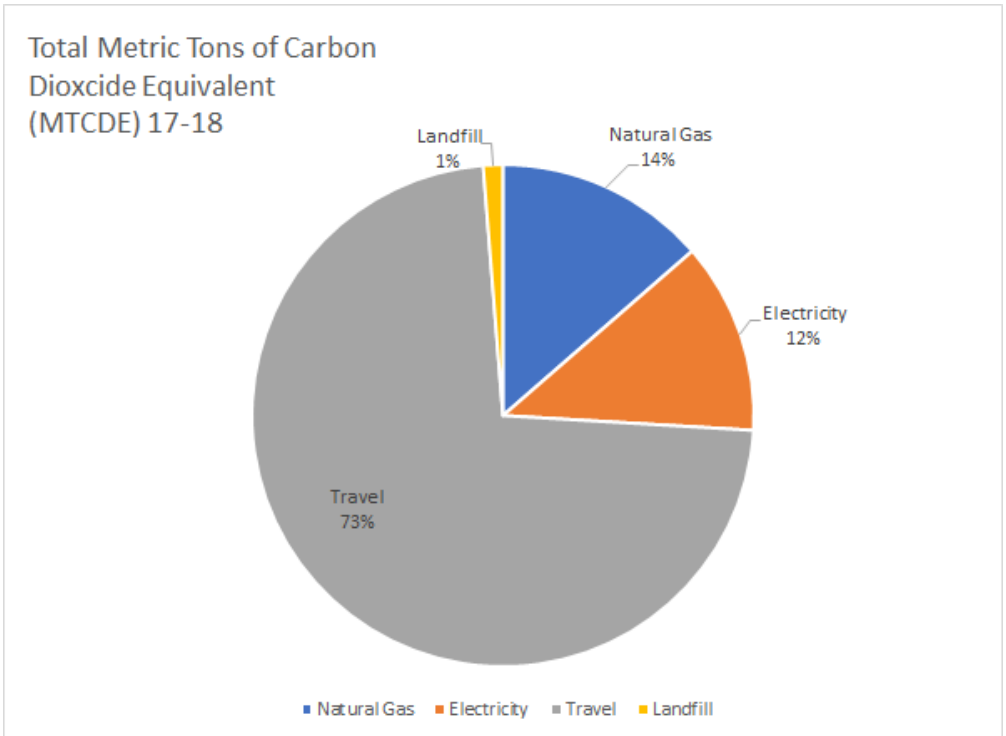


Figure. 2 Percentage of GHG emission sources for the fiscal year 2017-2018

Figure 3. Students interacting with local environmental organizations at the Earth Festival


Figure 4. IEP students along with Edy Rhodes, Career and Academic Advisor at the MIIS Trivia night

Figure 5. The winning team presenting in front of the judges at Hackathon event

Figure 6. MIIS students at the Earth Month BBQ