

2019-2028

# CLIMATE ACTION PLAN

MIDDLEBURY INSTITUTE OF INTERNATIONAL STUDIES



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The Middlebury Institute of International Studies Climate Action Plan 2019 was made possible by contributions from the Sustainability Council, and was co-authored by Erin Lannon (MAIEP '19), Abbey Brown (MAIEP '19), and Ella McDougall (MAIEP '19). *Special thanks to: Barbara Burke, Andrew Hernandez, Ann Flower, John Grunder, & Jeremy VondenBenken.*

## Letter from the Vice President

The Middlebury Institute of International Studies is accustomed to connecting the global to the local, both in our academics and our community. As we consider the challenges and opportunities posed by climate change, it is clear that our actions have an impact far beyond the Monterey campus. MIIS was an early adopter by signing the Tailloires Declaration (2002), the Presidents Climate Leadership Commitment (2007 — now renamed the Carbon Commitment), and Second Nature (2016). Our University has also signed the We Are Still In Declaration to show the world that we stand by the Paris Climate Agreement and are committed to meeting its goals. MIIS has committed to offsetting all carbon produced directly in Scope 1 and Scope 2 via annual Greenhouse Gas Audits for fiscal year 2018.

As such, we have proven that we take climate adaptation and mitigation seriously. This plan will explain how our campus plans to achieve operational carbon neutrality by 2028, by reducing scope 1 and 2 carbon emissions by 80 percent and offsetting the residual emissions to achieve net zero emissions.

This plan also addresses other sustainability issues such as energy, food, waste, and water. We know that our campus can achieve such goals with the support of faculty, staff, and students.

Our campus believed that sustainability was always a top priority. In 2007, the Institute established a Sustainability Council which has made a real impact on campus initiatives. Since then, MIIS has implemented progressive policies such as a 50-50 Plant Based Food Policy which reduces the environmental footprint of campus events.

By implementing this Climate Action Plan, the Institute is taking direct steps to identify where we can reduce our environmental footprint, educate the campus and surrounding community and take the lead in addressing complex climate mitigation strategies that can be implemented at a local level. MIIS has partnered with various regional organizations such as the Association of Monterey Bay Area Governments (AMBAG), the Monterey Bay Aquarium, the City of Monterey, and the Monterey Air Resources Board to create research to further the understanding of climate action.

This plan serves as a map for the future and how our campus can contribute to a better world one step at a time. We are facing wicked problems and we plan to address them by engaging in climate policy, identifying efficiencies, creating a campus price for carbon, and implementing a climate action plan to utilize a cross-sector approach to achieve our goals.

The Institute hopes to create a collaborative approach to contribute to our Climate Action Plan. We need each and every one of you to help make this a reality.

**Jeff Dayton-Johnson**

*Vice President of Academic Affairs and Dean of the Institute*  
Middlebury Institute of International Studies

## Executive Summary

The Middlebury Institute of International Studies (MIIS) provides international and professional education in areas of critical importance to a rapidly changing world. Climate change is spurring many of these changes, and MIIS plans to meet these changes within its own operations while it prepares students to do the same. In addition to this, MIIS is about to enter its sixty-fifth year: sixty-five years of enabling students to learn multi-disciplinary skills that prepare them to solve the world's most urgent challenges. Looking ahead, the Institute's internal practices must reflect its external actions in contributing to a healthier, safer, and more sustainable world. This Climate Action Plan is a summary of Institute efforts and plans to meet the goal of carbon neutrality by 2028 with the understanding that the report will be updated every two years by the Sustainability Council Graduate Assistants.

## Introduction and Background

The Monterey Institute of International Studies was founded in 1955 as the Monterey Institute of Foreign Studies. In 1979 the name was changed to the Monterey Institute of International Studies. Middlebury College acquired the Monterey Institute in 2010, and in 2014 the name was changed to the Middlebury Institute of International Studies, or MIIS. Throughout these iterations, MIIS has remained consistent in its mission: ***The Middlebury Institute of International Studies educates professionals to advance understanding, promote peace, and drive change in pursuit of a more just world.*** As MIIS prepares students to work to solve the world's most urgent problems, mitigating and adapting to the effects of climate change is integral to this mission.

In order to achieve carbon neutrality by 2028, MIIS must improve many of its operations, from energy in buildings to food waste. It is impossible to manage what has not been measured, so this plan includes goals for regular monitoring and evaluation of progress. By taking the actions outlined in this Plan, MIIS will align itself with local, state, and international climate policies and goals.

The international community of scientists and experts have affirmed that global climate change poses a significant threat, and have put in place measures to mitigate the causes of climate change while also adapting to the effects already being felt worldwide. Decades of scientific research provided the means for the signing of the Paris Climate Agreement at the United Nations Climate Change Conference in 2015, where 194 parties voluntarily committed to work to prevent a global temperature increase of more than 2°C from pre-industrial levels, and to attempt to limit temperatures from increased above 1.5°C<sup>1</sup>. Any increase over these limits is predicted to result in irreversible effects on the global systems on which we depend. The need for this Agreement was made all the more necessary by the IPCC Special Report<sup>2</sup>, which forecasts that dire effects from climate change will begin to impact society much sooner than anticipated—as soon as 2040—while some effects are already being felt. As a member of the global community, MIIS must do its part to reduce its emissions and prepare for these impacts.

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<sup>1</sup> "The Paris Agreement". 2019. United Nations Framework Convention On Climate Change. <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

<sup>2</sup> "Special Report: Global Warming Of 1.5 °C". 2018. *Intergovernmental Panel On Climate Change*. <https://www.ipcc.ch/sr15/>.



Greenhouse gasses generated by humans are already having global implications, but must be addressed on a local level. MIIS signed the Talloires Declaration in April of 2002, which is a declaration by university presidents all around the world, and consists of a 10-point action plan for incorporating sustainability and environmental literacy in teaching, research, operations, and outreach at colleges and universities. It has been signed by over 600 university presidents and chancellors in over 40 countries. The former President of MIIS, Clara Yu, signed the Presidents' Climate Leadership Commitment in May of 2007, which affirms that institutes of higher education have a responsibility to lead in finding solutions to the problems posed by climate change and outlines steps to work toward carbon neutrality through the creation of a climate action plan, submitting an annual evaluation of progress, and establishing a timeline to accomplish these goals.

In order to institutionalize sustainability throughout the campus, MIIS established the Sustainability Council which includes administrators, faculty, staff, and students. The Council was formed in 2007 and is in charge of publishing statistics on the campus-wide sustainability measures each year as well as overseeing the annual Greenhouse Gas (GHG) Audit. MIIS has completed an annual audit of GHG emissions since Fiscal Year 2008-2009, and includes the following sectors: gas, electricity, water, Institute related travel (with some exceptions, as explained below), as well as an average of daily 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.

The Climate Action Plan provides a set of goals and strategies to meet carbon neutrality by 2028. To meet this goal, MIIS will need to take ambitious action in the coming years, including academic research, campus and community engagement, as well as operational innovation. The Climate Action Plan details opportunities for growth and institutional efficiency, and will solidify MIIS as a leader in connecting global challenges with local solutions.



## Achieving Carbon Neutrality

### Greenhouse Gas Inventory and Metrics

MIIS aims to be a carbon neutral campus by 2028. A formal Carbon Neutrality Initiative policy was implemented through the following core components: annual Greenhouse Gas Audits, a program to overhaul lighting and energy systems, the diversion of waste from landfills, battery recycling, composting, and audits of water usage on campus.

In 2006, MIIS established an annual Greenhouse Gas Emissions Inventory, including an annual assessment that quantifies the total GHG emissions directly and indirectly related to MIIS activities, providing a clear and transparent snapshot of the carbon dioxide emissions from 2006 to the present. The Sustainability Council is charged with overseeing and collecting data for the annual GHG Audits. Each year, the Sustainability Council hires one to two graduate assistants who collaborate with faculty and staff to monitor emissions using guidelines published by the World Resources Institute and the United States Environmental Protection Agency (US EPA). MIIS accounts for and reports on their emissions, including Scope 1,2,3 (see definitions below) in order to track and measure our progress toward carbon neutrality, as well as to identify significant opportunities for improvement.

The GHG audit data collection is based on the MIIS fiscal year: July 1, 2017 to June 30, 2018. The energy data is collected from Pacific Gas & Electric to record the kilowatt hours (kWh) and therms (Btu). Water usage data is collected from American Water, the water utility used by MIIS. Transportation data will be collected by the Office of the Vice President via a Transportation Survey as of 2019. Travel emission data is collected by the Accounting office which monitors and evaluates all Institute travel in order to purchase

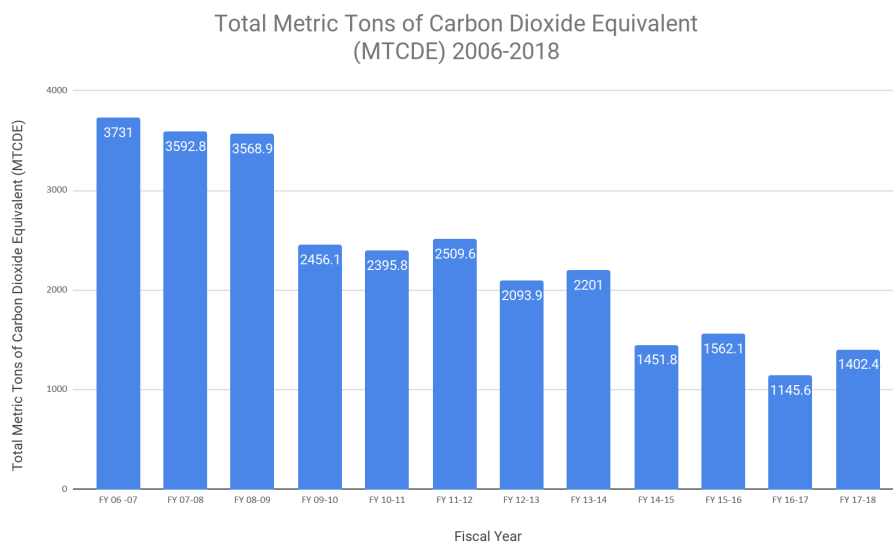
carbon offsets. All data is entered into the MIIS Greenhouse Gas Inventory excel spreadsheet which automatically populates and converts the units into Metric Tonnes of Carbon Dioxide Equivalent (MTCDE).

**Definitions:** Greenhouse gas emissions and scopes

- **Scope 1:** This refers to direct emissions coming 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.
- **Emissions Not Included:** Scope 3 emissions from travel by the Center for Nonproliferation Studies (CNS) have not been included due to the fact that CNS funding is sourced from grants separate from the MIIS budget and therefore is not required to comply with certain MIIS practices and policies. Likewise, purchased paper has not been included because data for paper purchasing on an Institute-wide basis is not available.

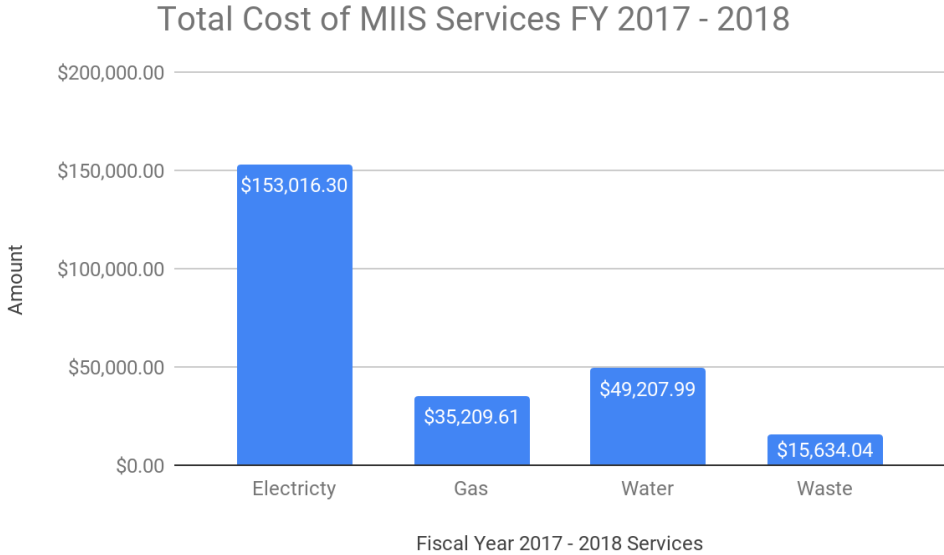
Currently, Scope 2 emissions represent the smallest portion of emissions at MIIS, with the majority of emissions being generated by Scope 1 and 3 activities. Of those, the largest contributor of emissions is Scope 3, or travel by MIIS faculty, staff, and students. This plan will set guidelines in place to reduce this segment of emissions.

**Baseline Emissions**



We have chosen to use 2015-2016 year as our baseline year. The greenhouse gas inventory uses data from a variety of sources; the energy, gas, and water usage is collected from Pacific Gas and Electric and American Water and landfill and travel data are collected through internal MIIS financial tracking systems. MIIS plans to purchase carbon offsets from the Middlebury College at a rate of \$10 per tonne. The use of offsets should endeavor to be phased out by 2028 and efforts on-campus should be concentrated on reducing direct Scope 1, 2, and 3 emissions. Offsets can be used as a bridge to future reduced emissions, and may be used to balance any variation in emissions year-to-year, but should not be relied on as a primary method of reaching carbon neutrality.

Sources of emissions on-campus also represent significant financial costs for MIIS. The chart below details the cost of services in Fiscal Year 2017-2018 for the primary drivers of Scope 1 and 2 emissions: Electricity, Gas, Water, and Waste. Electricity alone cost MIIS \$153,016 in one year, representing both the majority of MIIS’s expenses when it comes to services, as well as overall emissions.







## Energy

To mitigate the causes of climate change from the emission of greenhouse gases, MIIS must reduce the amount of energy it consumes. Energy production accounts for approximately two thirds of global greenhouse gas emissions, making energy a priority for any climate action<sup>3</sup>. Similar to many educational institutions, the majority of MIIS's energy use comes from electricity in buildings, and so the opportunity lies in reducing energy use and increasing energy efficiency in Institute-owned facilities. Middlebury College recently announced the *Energy2028* Plan, a 10-year commitment that will put the College on a path towards a complete shift to renewable energy by 2028, and has four primary components: a commitment to renewable energy, energy conservation, reduction in fossil fuel investments in the endowment, and a commitment to educational opportunities. Building on this foundation, MIIS must commit to increasing the use of renewable energy, such as solar energy, so that the energy used on campus comes from a clean source by 2028 to comply with the Middlebury campus-wide targets. This will not only reduce MIIS's emissions, but will provide financial savings and boost institutional efficiency.

Energy use can be separated into two categories: energy generation and energy consumption. In terms of energy generation, MIIS purchases gas and electricity from Pacific Gas and Electric (PG&E), and our PG&E representative affirmed that, for the 2017-2018 Fiscal Year, 51% of the electricity purchased by MIIS comes from renewable sources: 18% of our electricity came from hydropower and 33% came from solar energy. While this is a significant portion of the campus's purchased energy, there is room for improvement.

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<sup>3</sup> "Energy And Climate Change: World Energy Outlook Special Report". 2015. International Energy Agency. <https://www.iea.org/publications/freepublications/publication/WEO2015SpecialReportonEnergyandClimateChange.pdf>.



In terms of energy consumption, or the energy used on-campus, the issue becomes more complex. Over the last decades, MIIS has expanded its campus and purchased buildings across several blocks in Monterey. The building stock is varied in terms of age and condition, and many have been converted from commercial use into classrooms and offices, which has resulted in varying levels of energy efficiency across Institute facilities. To help improve efficiency, the Facility Management team has implemented the use of *Gridium* for McGowan (411 Pacific Street) and McCone (487 Pierce Street), the two facilities on campus that use the most energy (see chart below). Gridium provides smart meter data analysis to help improve operational energy efficiency and energy management using utility data to highlight opportunities for savings. MIIS is also a member of the *Association for Advancement of Sustainability in Higher Education* (AASHE), an association to promote sustainability in education institutes across the United States and Canada, and provides guidelines and resources for educational institutions working to improve their sustainability in a holistic, inclusive manner. In the future, MIIS aims to report to the AASHE Sustainability Tracking Assessment & Rating System (STARS), a self-reporting system by which colleges and universities measure their sustainability performance.

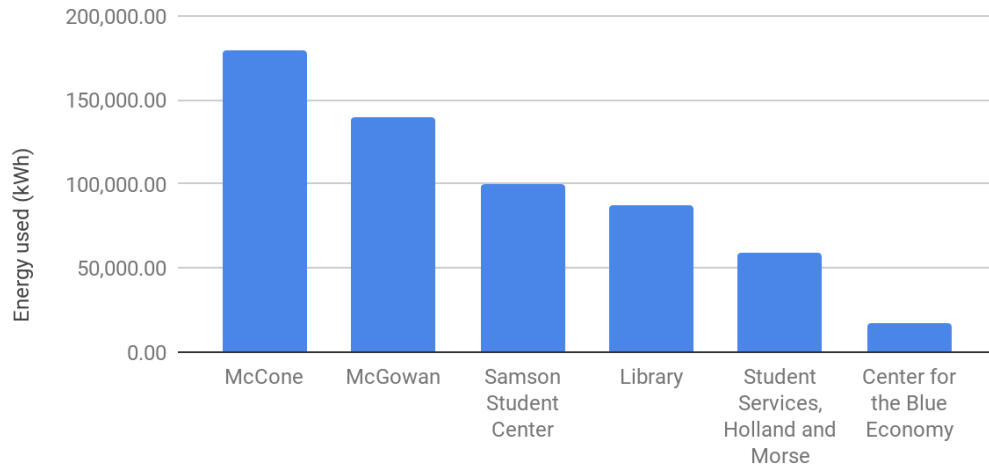
Energy metering and billing for Institute facilities requires manually collecting, uploading and processing all bills in the annual GHG audit, and this information is currently stored in individual Excel sheets per building. This system does not allow for our Facilities Manager to effectively view leaks, energy spikes, and meter issues as they occur. In order to analyze the data, the Facilities Manager must pull data from multiple spreadsheets, which is a time-intensive process and does not allow for real-time monitoring and evaluation.

### Data & Analysis

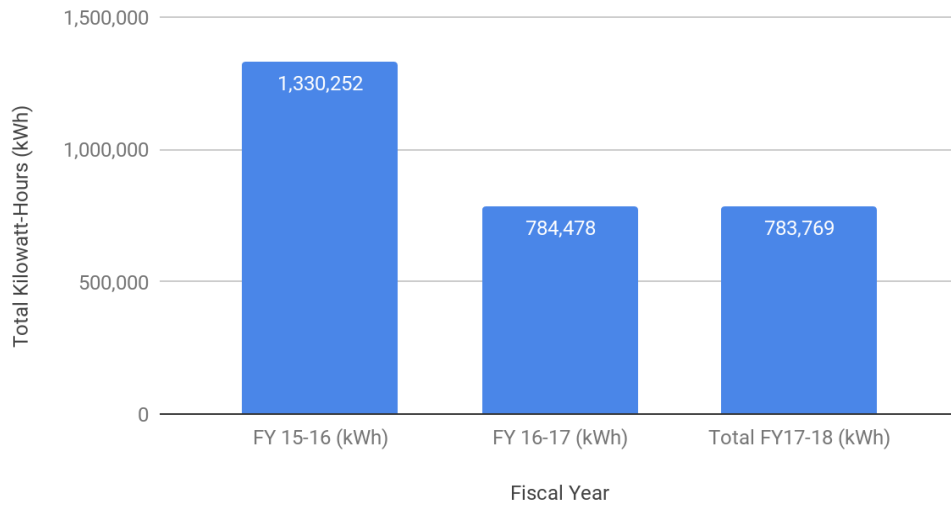
MIIS began collecting data on its energy usage for each building on campus in 2015. Between Fiscal Year 2015-2016 and Fiscal Year 2017-2018, MIIS reduced its energy usage by approximately 41%, as shown in the chart below. This is primarily due to the shift from incandescent light bulbs to LED light bulbs, and as such this energy reduction cannot be replicated in future years. Energy savings will have to come from other sources, potentially those identified in this study. Due to a lack of centralized data collection system, we are unable to effectively judge which buildings have increased their usage over time.

The largest energy users on campus, as seen in the chart below, are the McCone (487 Pierce Street) and McGowan (411 Pacific Street) buildings, followed closely by Samson Cafeteria (453 Van Buren), the Library (425 Van Buren), and the Morse building (440 Van Buren). In Fiscal Year 2017—2018, it cost MIIS over \$54,000 to purchase electricity for McCone and McGowan alone. As such, these buildings represent the greatest opportunities for energy and fiscal savings, both through energy efficiency improvements and the adoption of solar energy.

### Energy Usage in Campus Facilities (Top 6)



### Total Campus Energy Usage 2015-2018



MIIS solicited Requests for Proposals in late 2018 to procure bids for solar installations on five building sites on campus. The campus wide system size would include 309.72 kW solar photovoltaic system that would offset between 47% and 94% of the buildings' energy usage. Below is an executive summary of the current buildings MIIS is considering for renewable energy.

Building	System Capacity	Number of Panels	Solar Production (kWh)	Savings (total)	% Offset
McGowan	66.1 kW	152	103,373	<b>\$21,823</b>	64%
McCone	62.64 kW	150	96,355	<b>\$20,201</b>	59%
Casa Fuente	64.38 kW	235	86,149	<b>\$19,672</b>	94%
Samson	48.3 kW	111	64,524	<b>\$9,620</b>	47%
Library	68.3kW	157	88,059	<b>\$16,715</b>	47%
<b>TOTAL</b>	309.72 kW	712	438,460	<b>\$88,031</b>	68%



## Waste

Waste generated on the MIIS campus originates from sources such as domestic or residential waste, waste as a by-product of food production, packaging from materials, and any refuse discarded in or around campus buildings and trash receptacles. Current waste service for the MIIS campus is provided by Monterey City Disposal. Pick-up service is provided five times a week from two on-campus dumpsters. Waste is collected in a general single stream truck, destined for a landfill. This means it is not measured or characterized. Three 64 gallon containers of compost are also collected weekly from the on campus cafe vendor, AquaTerra.

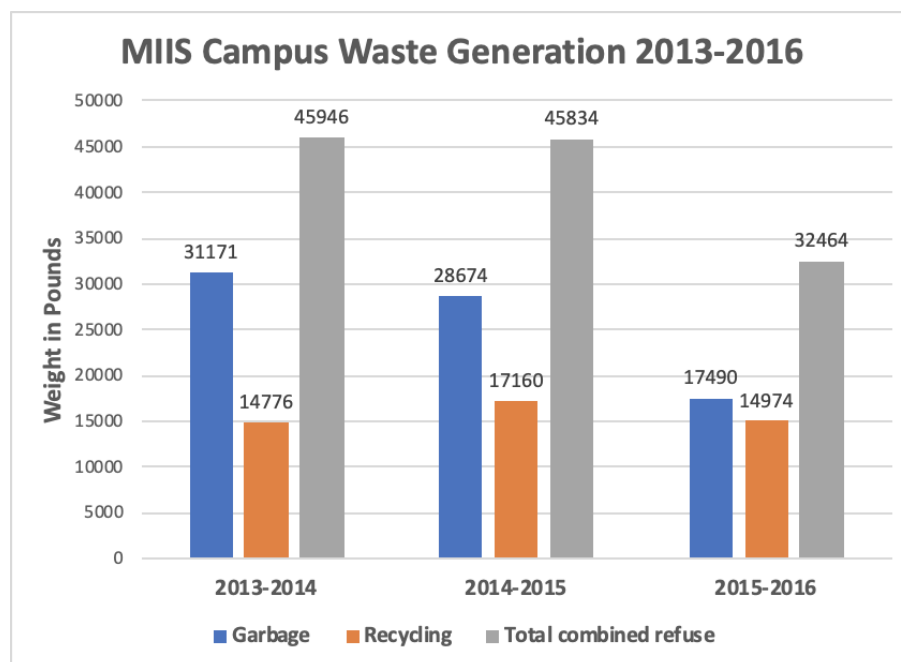
The Environmental Protection Agency (EPA) has estimated that 20.5% of landfill bound municipal solid waste is food scraps, the majority of which can easily be prevented through the use of less wasteful practices. There are a number of other simple changes in purchasing, usage, behavior and education that can lead to significant cut in waste generation.

In 2007, recycling began on the MIIS campus. The campus had recycling and trash bins in all offices, common areas and classrooms but wanted to streamline colors and sizes for large classrooms. In 2018, the City of Monterey donated tall boy recycling bins for large lecture halls at MIIS to achieve a one-to-one trash to recycling bin ratio (both size and color) on campus in offices, classrooms, and communal spaces. Monterey County Recycling performs single stream recycling, allowing all types of recycled material to be recycled in one bin at MIIS and then bundled and sorted at the recycling facility. In 2016, a generous grant from the Middlebury Environmental Council funded the placement of MIIS' first composting bins in the Samson Student Center. The installation of these bins allows students, staff, and faculty to divert their post-consumer food scraps as well as the compostable food-ware offered by café vendor AquaTerra. Thanks to funding from MIIS' Carbon Fund, three additional composting bins were installed in the Samson Student Center in March 2018. The bins are expected to compost 0.7 tonnes of food waste per month, preventing approximately 8 metric tonnes of carbon dioxide emissions. However this monitoring and analysis has not been verified against other data and research.

## Data Collection and Results

To date, the long-term total waste generated on the MIIS campus has undergone minimal to no monitoring. Twice a month, Sustainability Council members visually estimate at what percent capacity two campus dumpsters are filled. A volume is calculated by multiplying this estimated percentage with the total volume of each dumpster. This has been recorded for academic years 2012-2013 through 2015-2016. Academic year 2016-2017 was not monitored and therefore is not included in this document. However, for the purpose of submitting MIIS' Annual Greenhouse Gas Audit, 2016-2017 and 2017-2018 waste data is extrapolated based on the data presented below, with the consideration of waste diverted from new composting bins.

The figure below shows the total weight of waste, recycling, and combined weight for each year. This is taken as a sum of each observed dumpster volume, which was assessed for approximately 40 weeks for the three years. As can be seen below, the total refuse mass has decreased from the 2013-2014 academic year to the 2015-2016 academic year. Garbage has also reduced, but recycling has remained at about 15,000 pounds per academic year. Although we cannot verify the accuracy of the recorded waste and recycling weights, the trends in the chart below and totals for 2015-2016 will be used as a baseline for waste reduction goals.



As the figure above shows, the amount of total refuse MIIS produces annually has reduced from 45,946 pounds in 2013-2014 to 32,464 pounds in 2015-2016, a 30% reduction over two academic years. Amount of waste diverted from landfills (and recycled or composted instead) was 32% for 2013-2014, 37% for 2014-2015, and 46% for 2015-2016. Academic year 2015-2016 will be our baseline for future targets.



## Analysis

Due to rapid student turnover and the imprecise nature of the waste monitoring methodology, the data displayed above is only used in this Climate Action Plan as a very rough estimate for creating future goals and targets. However, they will be used as a very general guideline for goals and reduction targets for the future. They also guide us in determining what types of monitoring and data collection need to happen in order to accurately understand how waste reduction tools are succeeding or failing. It has come to the attention of the Sustainability Council that previous efforts to monitor waste are far from sufficient, and if MIIS hopes to leverage investing in waste reduction projects, having evidence as to their effectiveness will be critical.

During the next nine years, MIIS should aim to continue reducing overall waste production, increase recycling efforts, and increasing waste diversion. This means that greater efforts to recycle and compost should be promoted and executed.

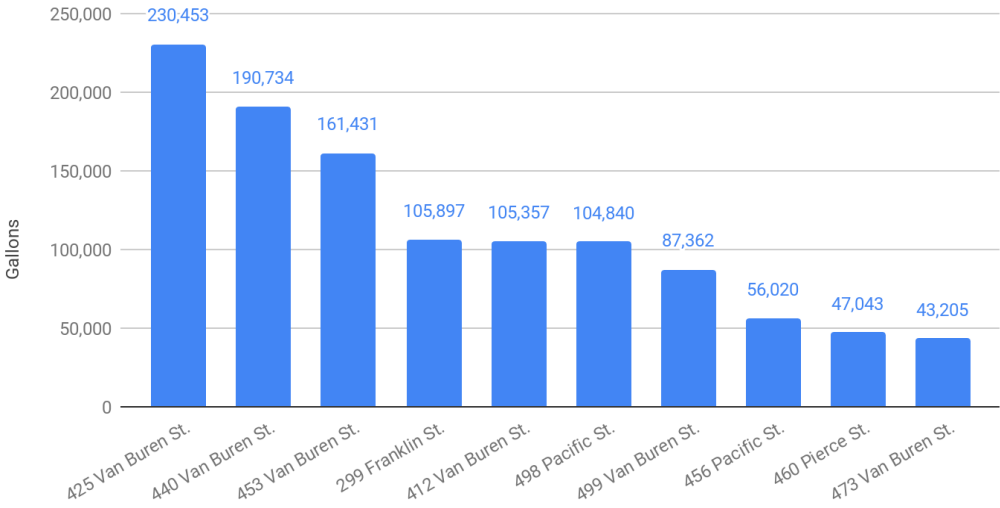


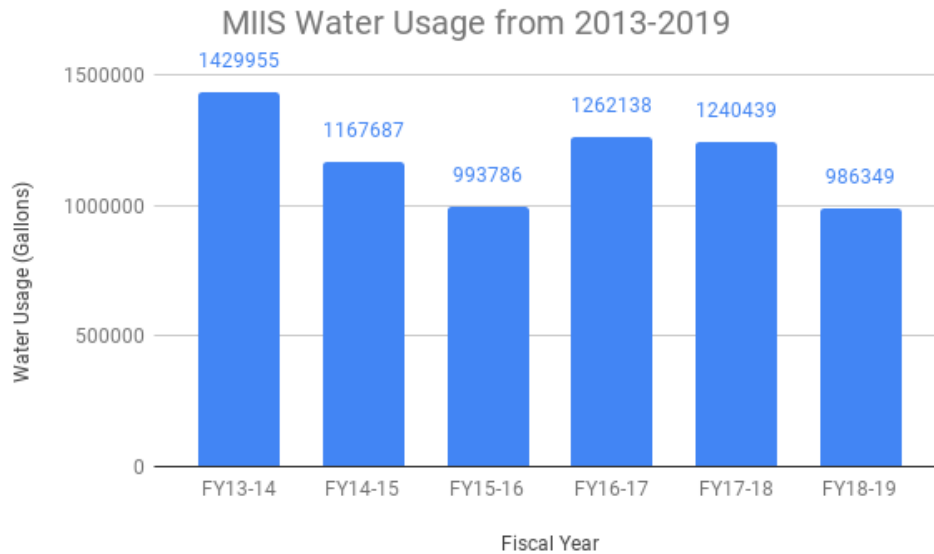
**Water**

MIIS and the entire Monterey community rely on two sources to supply potable water: the 36 mile long Carmel River and the Seaside Basin, an aquifer located under the city of Seaside. Both of these sources depend on rainfall for recharge, which is an unpredictable source in the arid climate of Monterey Peninsula. Water providers in Monterey and various agencies have concluded that both of these sources are severely over-pumped, engendering proactive policy changes and conservation efforts. MIIS is no exception to this movement, and should act in accordance with the local demands for reduction and conservation.

Each building on MIIS campus corresponds to its own water account with California American Water, the local water supplier. Therefore, the MIIS campus accounts for 10 separate water accounts. In general, the majority of the water used on the MIIS campus is from a few heavily used buildings (425 Van Buren Street: Coleman Library; 440 Van Buren Street: Morse Building; and 453 Van Buren Street: Samson Student Center, shown below).

Water Usage on Campus Facilities (Top 10)





Total water use by academic year can be seen in the graph below. In the academic year 2015-2016, total cost of water was \$35,919.69. In 2016-2017, total cost was \$44,695.92. In 2017-2018, the total cost was \$49,207.99, and most recently in 2017-2019 total cost was \$43,457.38.

Based on the rise in cost and plateau of usage in the 2016-2017 and 2017-2018 fiscal years (shown in the graph to the left), water use may not be increasing, but cost is. It is therefore in the best interest of the Institute to investigate water reduction strategies, especially in buildings of highest water usage. For example, in the academic year 2017-2018, water usage for three accounts/buildings - Morse Building, Coleman Library, and the Samson Student Center - cost over \$17,000. Perhaps targeting the buildings that use the most water will be the most efficient way to reduce total water usage.

#### 2021 Water Projects

- Identify where we have “water efficient appliances”
- Do a basic water use analysis
- Have a high level overview of where we need to retrofit for water efficiency.



### Food — Fair Trade Certified Institution

Over the past two years, MIIS has been working to improve the food systems on campus. In 2017 MIIS became the first graduate school to become Fair Trade Certified in the nation. The Institute works with a third-party provider, Aqua Terra, that runs the Samson dining center on the MIIS campus. Aqua Terra is creating sustainable and socially just dining and catering options for the campus and the community. Currently, Aqua Terra is reducing its waste by composting all food scraps during prep work, utilizing the on-campus composting bins, offering a discount to students who bring their own to-go containers, and employing fair trade coffee and chocolate purchasing guidelines. Furthermore, Aqua Terra uses 100% compostable foodware policy which was instituted in 2017. Aqua Terra currently offers Fair Trade coffee and tea products on campus. Food waste diversion data is currently unavailable.



## Transportation

Globally, transportation accounts for almost one third of greenhouse gas emissions, and is therefore an integral component in any emissions reduction plan<sup>4</sup>. And, as noted above, transportation of students and faculty is a primary cause of Scope 3 emissions, and MIIS will be working to collect data on transit-related emissions going forward in order to holistically address the school's emissions.

Commuting emissions in the Greenhouse Gas Inventory were estimated and based on faculty estimation of commuting 3.63 days per week and staff average commute of 4.58 days per week (see appendix A). Emissions from the one Institute-owned vehicle includes a Toyota Tacoma purchased in November 2014 which has 8,462 miles on the odometer. On average we can assume that the truck drives 1410 miles per year. In order to determine the Metric Tonnes of CO<sub>2</sub> equivalent, we used 21 miles per gallon divided by 1410 which came up to approximately 67.14 gallons. Using the EPA Greenhouse Gas Equivalencies Calculator<sup>5</sup>, we found that the campus fleet vehicle produces 0.595 Metric Tonnes of Carbon Dioxide Equivalent. Institute-funded travel was provided by the Office of the Vice President. Mileage was available when reported through the internal travel reimbursement sheets.

At MIIS, transportation is primarily concerned with daily commuting for faculty, staff, and students, and travel for conferences and events. MIIS is currently lacking data for this sector, but a **survey** has been circulated to collect data from students, faculty, and staff as to their current method of transportation as of Spring 2019 as well as their preferences for the future. The information collected through this survey will inform transportation policy at MIIS moving forward, identifying successes as well as opportunities for improvement, and facilitate emissions reduction from MIIS's transportation sector. MIIS will strive to identify alternative transportation options, including increasing the number of available bike racks on campus.

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<sup>4</sup>"Health And Sustainable Development: Climate Impacts". 2019. *World Health Organization*. <https://www.who.int/sustainable-development/transport/health-risks/climate-impacts/en/>.

<sup>5</sup> "Greenhouse Gas Equivalencies Calculator". 2019. *U.S. Environmental Protection Agency*. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.





## Procurement

MIIS is increasing its sustainable procurement practices through identifying areas for improvement in the campus supply chain. Currently, each campus department purchases their own office supplies separately. In order to address these issues going forward, MIIS will work with our current supply contractor, WB Mason to promote sustainability through increasing the recycled content of purchases, and reduce cardboard packing. Furthermore, the campus currently contracts a third-party cleaning service for campus which uses mostly Green Seal Cleaning products discussed in **Appendix G**. We have taken an inventory of the types of cleaning products the company uses and plan to move towards 100% Green Sealed Certification products by 2020.

## Solutions & Recommendations

MIIS has undertaken tremendous efforts to reduce greenhouse gas emissions on campus and to create a more sustainable and inclusive space for students, faculty, and staff. However, there are many opportunities for further action as identified in this Plan. In order for MIIS to continue to lead as an institution with both local and global impact, we recommend the following fundamental measures:

### Hire a Sustainability Coordinator

The Facilities Manager at MIIS has made every effort to incorporate sustainability measures on campus while performing their own duties, but for MIIS to fully realize the actions outlined in this Plan, there must be a broader support system in place. Many colleges and universities worldwide have a Sustainability Manager or Coordinator position that focuses solely on achieving environmental goals on campus. We recommend that MIIS do the same. This Coordinator would also work to update this Action Plan every two years.

Given fiscal restraints, we recommend that the position be either part-time or a postgraduate fellowship for an Institute alum. Having a position within the administration to focus solely on accomplishing the actions outlined in this Plan will cement sustainability as a priority, both fiscally and in terms of Institute policy, and set MIIS on the path to success.

### Adopt a Data Management System

On-campus data is currently collected in an ad hoc, uncoordinated manner that makes tracking and analysis difficult. To ensure all data is collected, monitored, and easily accessible, we recommend MIIS invest in an online coordination platform. One example of such a platform is **Measurabl**<sup>6</sup>, which allows building managers to collect, track, and visualize information about buildings' energy and water use as well as carbon emissions.

To accomplish this, we recommend MIIS run a low-cost pilot project to test the platform in two buildings: the Samson Center Dining Room and a classroom building such as McCone or McGowan. This would allow MIIS to test if the platform suits campus needs, if the platform is beneficial to the management of campus data, and if the cost of investing in the full use of the platform is a worthwhile expense.

### Align Institute Goals with Local, International Environmental Goals

MIIS holds a unique position in its local and global influence. As such, MIIS should ensure that its policies align with other policies at the local level (the City of Monterey, the State of California), the national level (Middlebury College), and the international level (the We Are Still In pledge). MIIS already works to ensure its policies align with Middlebury College, particularly the *Energy2028* plan, as well as the emissions reductions goals of the University of California system, which have supported MIIS in adopting clear emissions reductions targets for 2028.

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<sup>6</sup> <https://www.measurabl.com/>

With these overarching recommendations in mind, we will now outline more specific goals for each sector of MIIS's operations, all of which contribute to campus-wide emissions reductions and a healthier, more sustainable campus.

### We Are Still In Pledge

MIIS has committed to this pledge, which aligns actions taken on-campus with the overall goals of the Paris Agreement, including committing to reducing the climate impact of transportation, committing to the use of renewable power, and more goals discussed in **Appendix B**.

### Carbon Commitment (previously Presidents Climate Leadership Commitment)

By signing the Carbon Commitment, previously called the Presidents Climate Leadership Commitment, MIIS has agreed to achieve carbon neutrality. The Carbon Commitment includes a greenhouse gas inventory, creating a climate action plan, and regular reporting on progress. The Climate Action Plan will develop phases in which Institute actions will lead to carbon neutrality. This goal will require significant effort to reduce Scope 1, 2, and 3 emissions.

## Achieving Scope 1 & 2 Net-Zero Carbon Emissions: Targets

**MIIS aims to be carbon neutral by 2028.**

### Energy

As part of the greenhouse gas audit, MIIS will continue to perform an energy audit of its properties in order to create an energy benchmark against which to measure future energy usage. To support this effort, MIIS will work with Middlebury College to bring an energy consultant to Monterey to address energy challenges and give input to the following recommendations. Based on the results of the audit and input from the Facilities manager, MIIS will perform the recommended retro-commissioning and retrofitting measures to improve efficiency and reduce emissions. This may include efficiency measures such as: lighting upgrades, upgrading or improving of heating and cooling (HVAC) systems, improving the building envelope to reduce loss of energy, and measures for improving water efficiency. MIIS will design and build all new buildings and major renovations to a LEED Silver Standard at a minimum, and provide training for Facilities staff to maintain facilities after the retro-commissioning or retrofit has been performed.

Targets for Energy Reduction
MIIS will continue to perform energy audits of all its properties by MIIS Sustainability GA.
Based on the results of the audit, MIIS will undertake recommended retrofitting and retro-commissioning measures to improve the energy efficiency of its buildings.
All newly constructed and existing buildings will meet LEED Silver Standards at minimum.
MIIS will adopt a data management system to track and manage energy information.
MIIS will opt-in to Monterey Community Power 100% zero-emission energy by 2019.
MIIS will install solar panels on two more buildings by 2022 and four by 2028.

These actions will only be effective if staff have the ability to view, track, and manage data. As mentioned previously, we recommend that MIIS adopt a data management tool, which would allow for real-time monitoring that allows for issues to be caught and addressed rapidly, and would provide consolidated storage for all utility bills to facilitate accessibility and payment.

While the energy strategy outlined in this plan focuses on the reduction of energy usage on-campus, MIIS must also strive to ensure that the energy is generated from renewable or zero-carbon sources. We recommend that MIIS opt-in to Monterey Bay Community Power to ensure that the power used on campus is generated from non-greenhouse gas emitting sources. Monterey Bay Community Power is a local community-choice energy program that works through PG&E, using matching PG&E's prices, using guaranteed zero-carbon energy<sup>7</sup>.

<sup>7</sup> <https://www.mbcommunitypower.org/about/faq/>

MIIS could incorporate this energy strategy into the curriculum, allowing students to participate in weekend workshops on energy management and utilize buildings on campus as case studies. This would both provide the Facilities staff with assistance from students, but also provide students with real-world experience to prepare them for careers in sustainability and energy management.

### Water

Historically, MIIS has never formulated water conservation goals. Simple goals based on the 2015-2016 academic year water usage levels will help to save water and money. In 2015-2016, MIIS used 993,786 gallons of water and paid \$35,919.69. Following this baseline and our target years of 2024 and 2028, the following are MIIS’ water conservation goals:

Targets for Water Use Reduction
Reduce water consumption by 5% by 2024 (944,097 gallons)
Reduce water consumption by 10% by 2028 (894,407 gallons)

In the Spring of 2019, Maria Lopez Godoy and Jeremy Ginsberg MIIS (MAIEP ‘20) students compiled a report that examines the financial feasibility of replacing the low flush toilets currently installed at MIIS with ultra-low flush toilets. This potential project would reduce the total gallons of water used by the campus in an effort to lower the environmental impact the Monterey campus has on the environment. Using data collected from the facilities department and the US EPA’s WaterSense program, they analyzed financial and environmental aspects of the project to determine its overall feasibility. Evidence indicates the proposed projects would save the school over 2.5 million gallons of water over a twenty-year period and pay for the project (see appendix H).

In addition to these conservation efforts, MIIS should begin taking administrative steps to curb water overuse. Education about conserving resources is an integral part of this conservation.

### Waste

The following targets for waste reduction and management are based on current estimates of waste production and landfill diversion. As described above, the estimates are imprecise and contain almost no level of certainty. However, we will use them as a baseline for reduction goals. In the academic year 2015-2016 there were 32,464 pounds of waste generated, 46% of which was diverted by recycling. In more recent years, compost has been added to the diversion efforts, but not monitored. Therefore, the diversion rate for 2019 is expected to be higher, thereby allowing the following targets to be achievable. In order to meet AB 341, a mandatory commercial recycling law and AB 1826 which mandates commercial organics recycling MIIS will need to implement educational and operational changes to comply.

Targets for Waste Reduction
Divert 65% of all general waste from the landfill by 2024



Divert 80% of all general waste from the landfill by 2028

Because of the lack of structured waste reduction efforts or monitoring efforts, the following recommendations for administration changes and improvements are necessary to ensure the previous targets are met.

- Sustainability GAs compile a waste audit once a semester by auditing all landfill bound waste, recycling, and compost to gain an accurate understanding of waste generation on campus (see appendix I).
- Create educational and outreach campaigns during Fall and Spring new student orientation
- Weekly classify waste by origin and material type to understand major sources
- Utilize best local recycling and waste services that are most efficient and utilize best practices
- Identify funding for compost and recycling bin procurement
- Continue to support the campus garden in compost and vermiculture program

## Food

MIIS will partner with Aqua Terra to identify areas that can target reduction in energy efficiency, operations costs, and waste sent to the landfill. Aqua Terra with the help of the MIIS Sustainability GA can begin to track and measure food waste in the following categories:

- Over-produced (unusable food that has already gone through production)
- Unused/out-of-date inventory (expired, spoiled, or overcooked)
- Baseline audit of all food items in order to meet procurement goals by 2022
- Outline steps needed to participate in Real Food Challenge by 2020

### Targets for Food Waste Reduction

Procure 10-20% of food purchases from sustainable sources by 2022

Decrease food waste by 10% by 2024

Adopt the **Monterey Bay Aquarium Seafood Watch Program**. MIIS and Aqua Terra can establish a purchasing policy that removes unsustainable wild and farmed seafood from the cafeteria menus as part of the contract agreement between the Institute and Aqua Terra.

**Support local farms and food systems.** In support of the campus-wide commitment to sustainability and wellness, Aqua Terra should adopt a policy that gives preference to local farmers and produce distributors, choosing whenever possible to procure food from local sources. MIIS defines “local” as any farm within 150 mile radius from campus. Furthermore, MIIS can promote native pollinators by planting native species and building adequate habitats for nesting, and foraging in the Green Thumb Community Garden.

An **Energy Efficient Kitchens Program** will encourage the Institute to replace all outdated and inefficient kitchen equipment (ovens, refrigerators, stoves, etc.) with Energy Star Equipment.

## Transportation

MIIS will create travel guidelines for faculty, staff, and students, through which preference will be given to hotels, airlines, and car rental companies with sustainable practices. Whenever possible, faculty, staff, and students should choose to fly using these airlines above others. Some recommended airlines, for example, include: Alaska Airlines, United Airlines, Delta Airlines, British Airways, Qantas, and Emirates Airlines. As part of the broader transportation policy, faculty and other speakers will be more frequently allowed to telecommute using Skype or Zoom to reduce Scope 3 transportation emissions. MIIS will collect the results of the **transportation survey** and adjust policy according to feedback from faculty, staff, and students. MIIS will install two dual EV charging stations within the next two fiscal years.

### Targets for Transportation

Complete transportation survey annually during Fall semester

Install two dual EV charging stations on campus by 2021

## Operations

MIIS can work with a contracted vendor to automatically direct orders for copy paper and other paper based office supplies to product codes with recycled content alternatives.

### Targets for Operations

100% of all office paper purchases will be made with 50% recycled content by 2020

100% of cleaning supplies will be Green Seal Certified by 2020

## Carbon Offsets

The Institute expects to purchase carbon credits until we have lowered our emissions to zero by 2028. With this in mind, the Sustainability Council made a decision to mitigate emissions remaining after on-campus reduction strategies have been implemented. Based on this decision, the MIIS Sustainability Council decided to partner with Middlebury's Vermont campus to purchase carbon credits in Spring 2019. Middlebury created Blue Source, a carbon accounting company that utilized 2,100 acres in order to create quantified carbon credits based on the amount of carbon dioxide sequestered by the Bread Loaf Forests. MIIS and Middlebury entered a contract in May of 2019 with a price of \$9 a tonne.

## Implementation of the Climate Action Plan

The next step will be to prioritize, attach timelines, and assign responsibility to the initiatives outlined in the Climate Action Plan. The Sustainability Committee and Vice President's Office, with support from the Vice President's Office which will maintain overall responsibility for implementing this plan, and will update the Climate Action Plan every two years (see Climate Action Plan Progress Report in appendix E). A breakdown of short-term and long-term goals as well as a relative ranking of their priority can be found in **Appendix A**.

## Conclusion

MIIS has long been a leader in addressing global challenges through the Institute's policy and language programs, and now must address local challenges in the same manner. There is significant work to be done, particularly in terms of data collection and management, but MIIS has much to gain in terms of institutional efficiency. A more sustainable MIIS will be a stronger, more resilient MIIS. Through addressing vulnerabilities, we find our strengths.

The targets and efforts outlined in this plan will set MIIS on the path to not only being an international leader, but a local leader, as well. MIIS will have the chance to take advantage of efficiencies across programs, protecting the Institute's budget and identifying opportunities for growth. By working to meet the goals in the Climate Action Plan, MIIS will not only align itself with the Middlebury College *Energy2028* plan, but climate policy in Monterey, the State of California, and the Paris Agreement. Though the challenges are significant, the opportunities hugely outweigh them: increased efficiency of the Institute, financial savings, and value earned by aligning with the Institute's mission to prepare students to solve the world's most urgent problems.

MIIS must take action to foster its students on-campus as it does for life after graduation: leading by example, MIIS affirms the importance of not only addressing challenges in the world at large, but at home. By taking the actions outlined in this plan, MIIS will strengthen not only the Institute, but the students who pass through its doors.

## Appendix A: Prioritization of Goals

### Short-Term Goals

The goals outlined below are short-term actions MIIS should take, their associated sector for further reading, and a ranking of their relative importance.

Recommendation	Sector	Priority
Analyze results of transportation survey	Transportation	Medium
Market MIIS as a sustainable campus to prospective students	Cross-sector	Medium
Communication of sustainability & climate action as a MIIS priority	Cross-sector	High
MIIS will opt-in to Monterey Community Power 100% zero-emission energy by 2019	Energy	High
Create rules for sustainably sourced products	Cross-sector	High
Monitor & measure waste output on campus	Waste	High
Install EV charging stations on campus	Transportation	High
Sustainable travel guidelines for faculty, staff, and students	Transportation	High
Hire a sustainability coordinator	Cross-sector	Very High

### Long-Term Goals

The goals outlined below are long action goals MIIS should take, their associated sector for further reading, and a ranking of their relative importance.

Recommendation	Sector	Priority
Monitoring & evaluation of supply sources	Cross-sector	Medium
Enforcement of adopted policies to ensure compliance	Cross-sector	Medium
Divert 65% of all general waste from the landfill by 2024 and 80% by 2028	Waste	High

Reduce water consumption by 10% by 2024 and 20% by 2028	Water	<b>High</b>
Train Facilities staff on energy efficiency measures	Energy	<b>High</b>
Install solar panels on top 5 energy intensive buildings	Energy	<b>High</b>
Achieve operational carbon neutrality by 2028, by reducing scope 1 and 2 carbon emissions by 80 percent and offsetting the residual emissions to achieve net zero emissions by 2028	Cross-sector	<b>Very High</b>
Update Climate Action Plan every two years	Cross-sector	<b>Very High</b>
Adopt an energy management system for buildings	Energy	<b>Very High</b>
Reduce direct Scope 1 and 2 greenhouse gas emissions to 1990 levels by 2028	Cross-sector	<b>Very High</b>



## Appendix B: We Are Still In Pledge

This table outlines the different components of the We Are Still In Pledge (WASI), whether or not MIIS is addressing that particular component, and, if so, which actions on-campus meet this pledge.

We Are Still In Pledge	Status	Actions
1. Commit to Responsible Engagement in Climate Policy	Yes	WASI, Presidents Climate Leadership, Second Nature
2. Commit to Reducing the Climate Impact of Your Transportation	Yes	Install two EV Charging Stations
3. Sign one of the Presidents' Climate Leadership Commitments (now called the Carbon Commitment)	Yes	Signed Presidents Climate Leadership in 2002, Second Nature in 2016, and WASI in 2019
4. Commit to Increase Your Use of Renewable Power	In progress	April 2019 Sustainability Council to present to ILG to commit
5. Commit to Creating a Green Revolving Fund on Campus or in Community	No	
6. Commit to Completing a Resilience Assessment in Partnership with your Community	No	
7. Commit to Creating a Campus Price for Carbon	In progress	Head of IEP Program, Jason Scorse, committed to creating a project in Fall of 2019.
8. Invest Endowment Funds in Clean Energy and Technology Solutions	No	
9. Commit to Designing and Hosting a Cross-Sectoral Forum at your Institution	Yes	Hayward Speaker Series
10. Commit to the Natural and Working Lands Challenge	No	
11. Commit to Reduce Short-lived Climate Pollutant Emissions	No	
12. Commit to Managing Campus Landholdings as a Carbon Sink	No	
13. Commit to an Aggregated Purchase with other Campuses to Procure Large Scale Renewable Energy	No	
14. Revise your Institution's Climate Action Plan to Align with Other Sectors' Climate Goals	In progress	Climate Action Plan 2019 - 2028 creation

## Appendix C: Align with Climate Action Plans

### City of Monterey

The City of Monterey Climate Action Plan (CAP) represents the local effort to address the City's contribution to a global environmental problem with community-level impacts. The CAP includes the following: 2005 Greenhouse Gas (GHG) emissions inventory; 2012 GHG emissions inventory; existing and planned GHG emissions reduction strategies for both the community (within the City geopolitical boundary) and government operations (associated with operations and management of City real properties and programs; also known as municipal), and recommendations to make further reductions to meet future goals. The CAP sets emission reduction goals for 2020, 2030, and 2050 according to California AB 32, the Urban Environmental Accords (UEA), and Executive Order S-3-05.

The CAP also outlines progress made toward the goals of the U.S. Mayors Climate Protection Agreement (MCPA) and the UEA, to which the City became a signatory in 2007. Finally, the CAP identifies existing activities that contribute to local climate adaptation and priority steps for adaptation planning. The City of Monterey CAP is a living document - community members, business owners, and public employees should continue to reference and provide input to the CAP to improve the plan and integrate its attributes into City planning.

### State of California

The state of California has passed numerous laws that address climate change and protect the environment. A few key laws are mentioned below:

- **AB32:** created statewide goal of reducing greenhouse gas emissions to the 1990 level by 2020. Governor Jerry Brown recently enhanced this bill by setting a new statewide goal of reducing greenhouse gases by 40 percent below the 1990 level by 2030.
- **Executive Order S-3-05:** former Governor Arnold Schwarzenegger signed this order calling for greenhouse gas emissions to be reduced to 80 percent below the 1990 level by 2050.
- **SB 1078:** established California's Renewable Portfolio Standard which requires all electric load serving entities to procure 33 percent of their total annual electric retail sales from renewable energy sources by 2020, 40 percent by 2024, 45 percent by 2027 and 50 percent by 2030.
- **SB 350:** mandates the development of statewide targets that would lead to doubling of energy efficiency savings in all retail electric and natural gas end uses by 2030. Furthermore, SB 350 mandates that the state's electric investor owned utilities engage in activities that increase electrified transportation.
- **SB 100:** requires that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045.
- **AB 341:** set the goal of 75 percent recycling, composting or point source reduction of waste by 2020

## Appendix D: MIIS Sustainability Council Members for AY 19/20

The MIIS Campus Sustainability Committee (CSC), a standing committee appointed by the Vice President, is responsible for making recommendations to guide campus sustainability policies, championing these sustainability initiatives, and communicating them to each member's respective constituencies to foster a more sustainable campus community. Below is the 2019/20 membership.

<b>Name:</b>	<b>Role:</b>
Barbara Burke	Executive Assistant to the Vice President
Ann Flower	Assistant Director, Library
John Grunder	Director ITS
Andrew Hernandez	Director of Facilities
Lisa Leopold	Associate Professor, Program Coordinator English Language Studies
Edy Rhodes	Career and Academic Advisor
Jeremy VondenBenken	Event Logistics
Farid Kayali	Sustainability Graduate Assistant
Jeremy Ginsburg	Garden Manager
Zoe Gapayao	Garden Manager Assistant Manager

## Appendix E: Climate Action Plan Progress Report

The MIIS Campus Sustainability Council, in collaboration with the Facilities Department, Parking and Transportation, Human Resources, and the Middlebury Sustainability Committee, will develop a CAP update every two years. With a goal of full transparency, the CAP Update was shared publicly during a 30-day open comment period (March 1, 2020 – April 1, 2020).

The CAP Update will be available on Sustainable MIIS website, it will also send an email to the following organizations and entities during the request for comment period.

### Newsletter/Email Outreach

- MIIS Alumni/Students specifically IEP students
- News at MIIS
- Student Council
- MIIS Faculty and Staff
- MIIS Social Media Accounts
- Sustainability Coordinator City of Monterey
- Local environmental organizations: Big Sur Land Trust, Nature Conservancy, Monterey Bay Air Resources Board, Association of Monterey Bay Regional Governments, Ventana Wildlife Society, Save the Whales, Natural Audubon Society, Monterey Bay Community Power, and Carmel River Watershed Conservancy

Aside from the outreach outlined above, the Sustainability Council, and Facilities Management Department will host presentations and meetings for in-person commenting. This outreach will lead to the active participation of the MIIS community and external community members, to generate public comments. All comments received from individuals will be analyzed, summarized and presented to the MIIS Sustainability Council in addition to being responded to in the Response to Comments document and the Climate Action Plan.

## Appendix F: MIIS Environmental Sustainability Statement

### MIIS 2019 Environmental Policy Statement

We shall strive to incorporate sustainability into core Institute operations through internal and external efforts. Specifically, we shall adopt the following policies and practices:

- Reduce, reuse, and recycle.
- Commit to only purchasing environmentally friendly products.
- Conserve energy, water, and natural resources.
- Promote environmental education, outreach, and awareness.

### Reduce, Reuse and Recycle

- Reduce the waste stream by increasing recycling, and composting capacity to 80% by 2028.
- Strive to increase waste diversion by recycling all paper, cardboard, wood, metals, bottles, plastics, packaging, e-waste, batteries, lightbulbs, and cans.
- Offer bi-annual freecycle events to reduce the waste generated by donating reusable office items (appliances, electronic equipment, furniture) to the MIIS campus community.
- Increase educational awareness about composting bins in the Samson Student Center.
- All third-party service providers compost food prep scraps for meals sold in the cafeteria.
- Implement a vermiculture system in the Our Green Thumb Community Garden.
- All landscape waste goes to Monterey County green waste bin.
- Reuse envelopes, packaging, and purchase reusable products.
- Promote the use of LED lighting and solar energy.
- Implement an educational Institute policy to turn off lighting and appliances in unoccupied spaces/rooms.
- Conserve water with the conversion of low flow toilets (1.4-1.6 gallons per flush), waterless urinals, low flow urinals (1 gallon per flush), planting native drought tolerant plants, and using a drip irrigation system.
- Recycle all toner cartridges.

### Toxics Reduction

- Choose green sealed janitorial cleaning products.
- Purchase recycled content products, materials, and supplies whenever possible.
- Purchase low VOC paints and low odor non toxic markers.
- Promote storm water and source control compliance.

### Environmentally Preferable Purchasing

- Purchase paper supplies with 30% recycled content.
- Purchase toilet paper with core-less toilet paper rolls.
- Purchase office furniture and supplies with recycled content when possible.
- Promote the use of refillable bottles, canvas bags, and reusable to-go containers.
- Purchase Energy Star rated appliances and office equipment.



- Install water efficient toilets, showerheads, and faucet aerators.

### Conservation

- Encourage the use of public transit.
- Promote biking to campus.
- Offer remote meeting options through Zoom.
- Participate in energy saving campaigns.
- Strive to remodel using LEED Green building standards.
- Promote low to zero waste events.
- Host educational speaking engagements to educate campus about environmental policies and resource conservation.
- Inform employees of environmental issues through campus-wide communications and interdepartmental meetings.

### Employee Education

- Hold environmental events and speakers to educate faculty, staff, and students about recent environmental issues.
- Create an environmental awareness training course for employees.
- Organize an annual meeting with MIIS and Middlebury to discuss sustainability related projects
- Provide employees with Environmental Awareness training. This training will help employees support the MIIS Climate Action Plan, as well as inform their decisions about how to use and conserve resources and environments.

## Appendix G: MIIS Procurement Products

<b>Cleaning Product Name</b>	<b>Green Seal Certified</b>
Bathroom Cleaner & Scale Remover by Sealed Air	Yes
General Purpose Cleaner by Sealed Air	Yes
General Purpose Cleaner by PERdiem	Yes
Glass & Multi-Purpose Cleaner Non-Ammoniate by Diversey	Yes
Heavy Duty Floor Cleaner by Sealed Air	Yes
One Step Disinfectant Cleaner by Diversey	No

<b>Paper Product Name</b>	<b>Percent Recycled Post Consumer Content</b>
Paper Supplies - Office	30%
Paper Towels	At least 30%
Toilet Paper	At least 30%

## Appendix H: MIIS Toilet Data

Mens/ Womens	Fixture		Type	Model	Make	Gallons/Flush
#1 Restroom	1	Toilet	Power Assist	503	Kohler	1.6
#2 Restroom	1	Toilet	Power Assist	504	Kohler	1
Mens Restroom	3	Urinal	Flushometer	186	Sloan Royal	1
Mens Restroom	2	Toilet	Flushometer	110/111	Sloan Royal	1.6
Women's Restroom	5	Toilet	Flushometer	110/111	Sloan Royal	1.6
Mens Restroom	2	Urinal	Waterless		American STD	0
Mens Restroom	2	Toilet	Power Assist	504	Kohler	1
Womens Restroom	3	Toilet	Power Assist	504	Kohler	1
Restroom	1	Toilet	Power Assist	503	Kohler	1.6
1st Floor Restroom	1	Toilet	Power Assist	504	Kohler	1
2nd Floor Restroom	1	Toilet	Power Assist	503	Kohler	1.6
#1 Restroom	1	Toilet	Power Assist	503	Kohler	1.6
#2 Restroom	1	Toilet	Power Assist	503	Kohler	1.6
1st Floor Mens	1	Urinal	Flushometer	186	Sloan Royal	1
1st Floor Mens	1	Toilet	Power Assist	503	Kohler	1.6
1st Floor Womens	1	Toilet	Power Assist	503	Kohler	1.6
1st Floor Womens	1	Toilet	Power Assist	504	Kohler	1
1st Floor Womens	2	Toilet	Power Assist	503	Kohler	1.6
2nd Floor Mens	2	Urinal	Flushometer	186	Sloan Royal	1
2nd Floor Mens	1	Toilet	Power Assist	503	American STD	1.6
2nd Floor Mens	1	Toilet	Power Assist	504	Kohler	1
2nd Floor Womens	1	Toilet	Power Assist	503	American STD	1.6
2nd Floor Womens	1	Toilet	Power Assist	503	Kohler	1
2nd Floor Womens	1	Toilet	Power Assist	504	Kohler	1
2nd Floor Mens	1	Urinal	Flushometer	186	Sloan Royal	1
2nd Floor Mens	1	Toilet	Power Assist	504	Kohler	1
Mens	2	Urinal	Waterless		kalahari	0

Mens	1	Toilet	Auto Flush	111 ESS	Sloan Royal	1.6
Womens	3	Toilet	Auto Flush	111ESS	Sloan Royal	1.6
Mens/Women	1	Toilet	Power Assist	503	Kohler	1.6
Mens	2	Toilet	Power Assist	504	Kohler	1
Womens	1	Toilet	Power Assist	504	Kohler	1
Mens	1	Urinal	Flushometer	186	Sloan	1
Mens	1	Toilet	Power Assist	504	Kohler	1
Womens	2	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens	3	Urinal	Flushometer	186	Sloan	1
Mens	1	Toilet	Power Assist	504	Kohler	1
Mens	1	Toilet	Power Assist	503	Kohler	1.6
Mens	1	Toilet	Power Assist	503	Kohler	1.6
Womens	1	Toilet	Power Assist	504	Kohler	1
Womens	1	Toilet	Power Assist	503	Kohler	1.6
Womens	1	Toilet	Power Assist	503	Kohler	1.6
Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens	3	Urinal	Flushometer	186	Sloan	1
Mens	3	Toilet	Power Assist	503	Kohler	1.6
Womens	1	Toilet	Power Assist	504	Kohler	1
Womens	1	Toilet	Power Assist	503	Kohler	1.6
Womens	1	Toilet	Power Assist	503	Kohler	1.6
Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6

Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Urinal	Flushometer	186	Sloan	1
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens/Womens	1	Toilet	Flushometer	110/111	Sloan Royal	1.6
Mens/Womens	1	Toilet	Power Assist	504	Kohler	1
Mens	1	Urinal	Flushometer	186	Sloan Royal	1
Mens	2	Toilet	Flushometer	110/111	Sloan Royal	1.6
Womens	4	Toilet	Flushometer	110/111	Sloan Royal	1.6
Mens	1	Urinal	Flushometer	186	Sloan Royal	1
Mens	1	Toilet	Power Assist	503	Kohler	1.6
Womens	2	Toilet	Power Assist	503	Kohler	1.6
Mens	1	Urinal	Flushometer	186	Sloan Royal	1
Mens	1	Toilet	Power Assist	503	Kohler	1.6
Womens	2	Toilet	Power Assist	503	Kohler	1.6
Mens/Womens	1	Toilet	Power Assist	503	Kohler	1.6



## Appendix I: Waste Audit Practices

A waste audit is the process of analyzing an organization's waste stream. Conducting a waste audit entails physically going through waste to determine the sources and kinds of waste produced, discover recycling opportunities, help improve waste management systems, and mitigate the impact of waste on the environment.

The first step is a “waste audit,” a systematic procedure to review operations and subsequently, waste generation. Performing this exercise will define the composition of MIIS discards by examining how materials enter and exit our facility. This will be completed by the Sustainability GA’s over the first week of school.

### The Waste Audit

Wearing protective clothing, the audit team will meet at the end of a workday to physically sort through waste generated during that day. (If the amount or type of trash varies substantially from day to day, the team might want to conduct this inspection on random days over the course of one week and then compute an average profile of one day’s waste.)

Since this exercise will require the team to physically sort through the trash, puncture-resistant gloves and old clothes are a must. To conduct the inspection, spread out a large plastic sheet and dump the day’s waste on it. Do not sort recyclables in an area where they might come in contact with food and become contaminated. Use a scale, if possible, to estimate the percentage of each category in the waste stream. Since MIIS produces a large amount of waste on a daily basis, use a representative sample of MIIS trash containers.

Once a visual audit has been complete then you can utilize the California conversion via [CalCycle](#) to determine the volume to weight ratios if MIIS decides that a visual estimation is a more viable option than utilizing a scale to weigh all of the Institute's trash.

The Waste Audit is intended to help you identify lost recycling opportunities.

## AUDIT CODE CHEAT SHEET

### GARBAGE

BLKP BLACK PLASTIC  
 BW BATHROOM WASTE  
 C&D CONSTRUCTION AND DEMOLITION  
 (CONCRETE, PVC PIPES, WIRING,  
 INSULATION, DRYWALL, ETC)  
 CER CERAMICS/PORCELAIN  
 DPR DIAPERS  
 FFW FAST FOOD WASTE (NON-  
 COMPOSTABLE, SUCH AS FOIL-  
 LINED PAPER, OR STYROFOAM)  
 FURN FURNITURE  
 GLVS DISPOSABLE GLOVES  
 MATT MATTRESS (INCLUDES BOX SPRING)  
 MED MEDICAL OFFICE WASTE (MEDICAL  
 SUPPLIES— TUBING/SALINE IV  
 BAGS, & PACKAGING)  
 PB PLASTIC BAGS (ALL COLORS)  
 PF PLASTIC FILM (PACKAGING, SHRINK  
 WRAP, AIR PILLOWS, ETC)  
 PNTS STYROFOAM PEANUTS  
 SNCK SNACK WRAPPERS (SUCH AS FOIL-  
 LINED CHIP BAGS, CANDY  
 WRAPPERS, GRANOLA BARS,  
 ENERGY BARS)  
 STY STYROFOAM  
 TTRA TETRAPAK (SOYMILK BOXES, JUICE  
 BOXES, ALMOND MILK, ETC)  
 TW TREATED/PAINTED WOOD  
 TXT TEXTILES, CLOTHES, SHOES  
 WG WINDOW GLASS (NON-RECYCLABLE  
 GLASS INCLUDING, TEMPERED  
 GLASS, AUTO GLASS, DRINKING  
 GLASSES)

### RECYCLING

BC BOTTLES AND CANS, JARS (GLASS,  
 PLASTIC, OR ALUMINUM OR STEEL)  
 CRTN PAPER CARTONS (EGG CARTONS,  
 OR POLY-COATED PAPER, SUCH  
 AS MILK CARTONS)  
 FOIL ALUMINUM FOIL  
 MXP MIXED PAPER (OFFICE/COLORED  
 PAPER, CARDSTOCK, &  
 PAPERBOARD)  
 NP NEWSPAPER  
 OCC CARDBOARD

RIG RIGID PLASTICS (PLASTICS THAT  
 ARE RECYCLABLE BUT ARE NOT  
 BOTTLES OR CANS)  
 SCR P SCRAP METAL

### COMPOST

CG COFFEE GROUNDS  
 FFC FAST FOOD CONTAINER  
 (COMPOSTABLE—PAPER OR PLA  
 PLASTIC BASED)  
 FW FOOD WASTE  
 PAL PALLETS  
 PIZ PIZZA BOXES  
 PLA POLYLACTIC ACID PLASTIC  
 (CORN/POTATO-BASED PLASTIC  
 THAT MEET BPI COMPOST  
 STANDARDS, SUCH AS CUPS,  
 UTENSILS OR BAGS)  
 PT PAPER TOWELS  
 WAX WAXED CARDBOARD OR PAPER  
 WD WOOD (CLEAN, UNTREATED)  
 YW YARD WASTE

*SPP SOILED PAPER PRODUCTS*

### PROHIBITED/HAZARDOUS ITEMS

BAT BATTERIES  
 CFL COMPACT FLUORESCENT TUBE  
 EW E-WASTE (TVs, COMPUTERS)  
 FT FLUORESCENT TUBES  
 HAZ HAZARDOUS WASTE (SUCH AS  
 CHEMICALS, PAINT, SOLVENTS,  
 CLEANERS, ETC)  
 TIRE TIRES  
 UV UNIVERSAL WASTE (MICROWAVES,  
 REFRIDGERATORS)

\*\* FOR ITEMS NOT LISTED ABOVE, THAT  
 WARRANT BEING REFERENCED ON THE  
 AUDIT, PLEASE TYPE OUT THE MATERIAL  
 INLINE WITH THE MOST APPROPRIATE  
 COMMODITY, OR PLACE IN THE NOTES  
 SECTION. FOR EXAMPLE, "GARDEN HOSE"  
 COULD BE ENTERED AS "HOSE" ON THE  
 GARBAGE LINE OR "HELIUM TANK" IN THE  
 NOTES SECTION.

VISIT DATE \_\_\_\_\_

**SITE INFORMATION**

CUSTOMER NAME \_\_\_\_\_ PHONE \_\_\_\_\_

NAME OF BUSINESS / MFD COMPLEX \_\_\_\_\_

SERVICE ADDRESS \_\_\_\_\_ CITY / ZIP \_\_\_\_\_

CONTACT PERSON \_\_\_\_\_ PHONE \_\_\_\_\_

EMAIL ADDRESS \_\_\_\_\_

SIC CODE / TYPE OF BUSINESS (Office, Retail, Restaurant, etc.) \_\_\_\_\_

**SERVICE INFORMATION**

TOTAL MSW VOLUME PER WEEK \_\_\_\_\_ GALLONS or YARDS (circle one)

MSW SERVICE					MSW SERVICE RECOMMENDED				
CONTAINER	QTY	SIZE	SERVICE DAYS	RTE	CONTAINER	QTY	SIZE	SERVICE DAYS	RTE
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
RECYCLABLES SERVICE					RECYCLABLES SERVICE RECOMMENDED				
CONTAINER	QTY	SIZE	SERVICE DAYS	RTE	CONTAINER	QTY	SIZE	SERVICE DAYS	RTE
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
ORGANICS SERVICE					ORGANICS SERVICE RECOMMENDED				
CONTAINER	QTY	SIZE	SERVICE DAYS	RTE	CONTAINER	QTY	SIZE	SERVICE DAYS	RTE
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	
			M T W T F S S					M T W T F S S	

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION



**SITE ASSESSMENT FORM  
WASTE AUDIT RESULTS**

Garbage		OBSERVATIONS					
Volume	%	Bin # & Color:		Bin Description:		# Cart & Size:	
Garbage	%						
Recycling	%						
Organics	%						
Notes							
Recycling		OBSERVATIONS					
Volume	%	Bin # & Color:		Bin Description:		# Cart & Size:	
Garbage	%						
Recycling	%						
Organics	%						
Notes							
Compost		OBSERVATIONS					
Volume	%	Bin # & Color:		Bin Description:		# Cart & Size:	
Garbage	%						
Recycling	%						
Organics	%						
Notes							

**RECOMMENDATIONS**

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Entered	
Contacted Customer	