



Bard MBA
IN SUSTAINABILITY

IN THE HEART OF NYC

Footprint Report

2020/2021

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Letter from the Director

Over the past year, the COVID-19 pandemic has created a global collapse in economic activity, and in greenhouse gas pollution. As the world recovers from the crisis, we must ensure that emissions do not rebound to trend. 2020 needs to be remembered as the peak year for global warming pollution, and the year that initiated a sharp decline.

What is the Bard MBA doing? For the third year in a row, MBA students have taken the lead in developing and refining a rigorous greenhouse gas footprint report. This year's report shows that the Bard MBA program footprint fell by more than 90% from the projected baseline, with the vast majority of that decline coming from air travel. How do we prevent a full rebound? In the near term, focus on incentivizing non-air travel to and from residencies for medium distance commuters, and minimizing staff air travel. In the medium term, we may need to restructure the program- taking advantage of webinar technology to host fewer (and perhaps longer) residencies. In the meantime, based on the data from this annual report, we fully offset our emissions through the purchase of high-quality offsets.

In the year 2020, the Bard MBA also committed to training our graduates to become effective anti-racist organizational leaders. To this end, in this report, the Footprint Committee has initiated a discussion of extending our footprint analysis to the "shared well-being" side of sustainability. We look forward to seeing that work expand over the next year.

Thank you to the Footprint Committee for this excellent report.



Dr. Eban Goodstein
Director, Bard MBA In Sustainability

Executive Summary

7.62 MT CO₂e

TOTAL 2020/2021 ONLINE-ONLY ESTIMATED FOOTPRINT

113.33 MT CO₂e

TOTAL 2020/2021 IN-PERSON PROJECTED FOOTPRINT

The Bard MBA in Sustainability, a globally leading program that integrates sustainability into a core business curriculum, has endeavored to measure the carbon footprint of its operations for the past three years. Past reports, while not made publicly available, have led to meaningful reduction strategies and allowed the Bard MBA program to offset estimated carbon emissions and [achieve carbon neutrality](#).

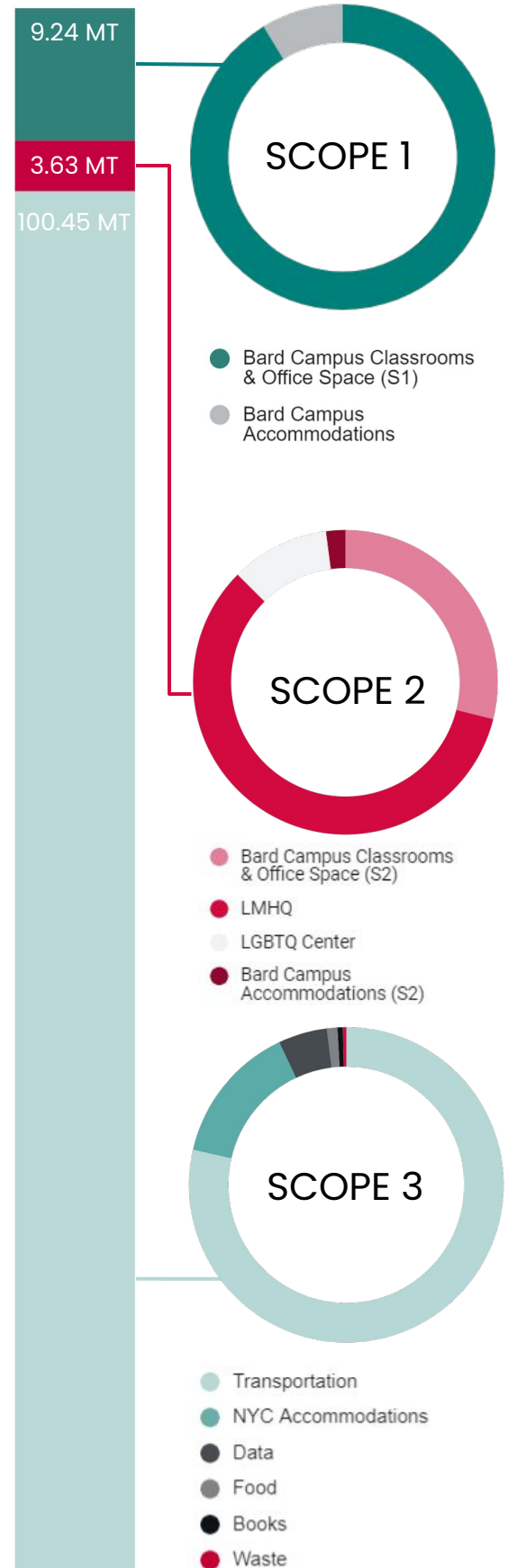
This past year, the COVID-19 pandemic dramatically altered the normal structure of the program. To maintain data for year-over-year comparisons, the student-led Footprint Committee collected data and projected emissions as if the year had run as usual. This report is based off of those figures.

In a typical year, the program operates as a hybrid online/in-person learning structure, with weekly online classes and ten long weekend, in-person residencies throughout the regular academic year where students, faculty, and administration gather in New York City.

While this structure makes the Bard MBA program accessible to students in varying geographies, it results in high travel-related emissions, including transportation and accommodations, that account for more than 80% of in-person projected emissions for the 2020/2021 academic year. Flights alone are responsible for 49% of total in-person projected emissions at 55.17 MT CO₂e. Transportation is consistently the largest impact category for the Bard MBA program and is expected to continue to be so in future.

Data usage intensity, including video calls and general internet use, was another large contributor and is the only impact category that would have seen an emission reduction (estimated 28% drop) had residencies been held in-person rather than online.

2020/2021 IN-PERSON PROJECTED EMISSIONS BY SCOPE



Executive Summary

Other impact categories measured this year include the built environment, food, books, and waste.

This report has been developed using the guidance provided in the GHG Protocol Corporate Standard and reports emissions by scope. With the intention of reporting in accordance with the GRI "Core" Standards in the future, a discussion regarding the measurement of the Bard MBA program's social footprint is introduced at the end of this report. Much like the majority of organizations, Scope 3 carries the largest impact with more than 88% of total emissions classified as indirect up- or downstream activities. The Footprint Committee intends to use the methodology and projected emission totals in this report as a baseline for future years.

The goal of the Footprint Committee is to provide students with a solid foundation for understanding, analyzing, and translating carbon footprint data. Committee members were responsible for every part of the process from survey design to methodology, to data analysis/visualization and interpretation. The skill-set acquired through participation is real-world experience that will be transferable to many of the sustainability roles that students will take on in their careers.

The Committee is grateful for the continued support and interest in this report and welcomes questions and discussion.

How To Read This Report:

A scope icon appears in the corner of each report page to easily identify the scope in which the impact category belongs. (Note: the Built Environment and Accommodations sections show multiple scope icons as emissions fall into more than one category.)



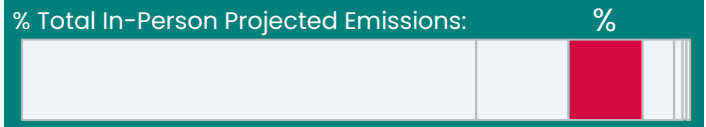
Throughout the report, emissions calculated as if residencies had been held in-person will be referred to as **"in-person projected emissions"** and emissions that were calculated to reflect the fully-online nature of the 2020/2021 academic year will be referred to as **"estimated emissions."**

Total 2020/2021 Estimated Emissions: **7.62 MT CO₂e**

Total In-Person Projected Emissions: **113.33 MT CO₂e**

Each impact category section with emissions data will begin with a summary page that illustrates number of estimated emissions, the number of in-person projected emissions, and the percent of total emissions attributable to the section.

Example:



113.33 MT CO₂e
Is the equivalent of
driving **283,991 miles**
In an average passenger
vehicle (epa.gov)

LARGEST IMPACT
CATEGORIES
(CO₂e)

#1



Transportation
79.8 MT

#2



Accommodations
14.4 MT

#3



Built Environment
12.0 MT

#4



Data
7.05 MT

About Bard

The Bard MBA in Sustainability is a globally leading program that integrates sustainability into a core business curriculum and cultivates leaders who break through existing systems and innovate solutions to critical social, environmental, and economic challenges. The program is collaborative and experiential, empowering students to lead the change on their first day of class through consulting engagements with real-world clients and timely projects developed by professors who work every day to change the way business is done.

Bard MBA students from across the globe attend synchronous online evening classes twice a week and spend one extended weekend a month in New York City for an intensive in-person residency experience held in an off-site shared workspace. Each semester, one of these residency weekends is held at the Bard College campus in Annandale-on-Hudson, New York. Students can complete the program in two or three years and earn an optional concentration in Circular Value Chain Management or Impact Finance.

In the same way the Bard MBA curriculum empowers students to do business for the better, the program also strives to exist with minimal negative impact on the planet. In accordance with this mission, the Bard MBA Footprint Committee was established by students in Winter 2018 to measure program emissions and develop reduction strategies. Since then, the Committee has grown and refined its data collection and analysis processes, resulting in this, the first public Bard MBA Program Footprint Report. More on the Footprint Committee can be found on page 34 of this report.



Bard by the Numbers:



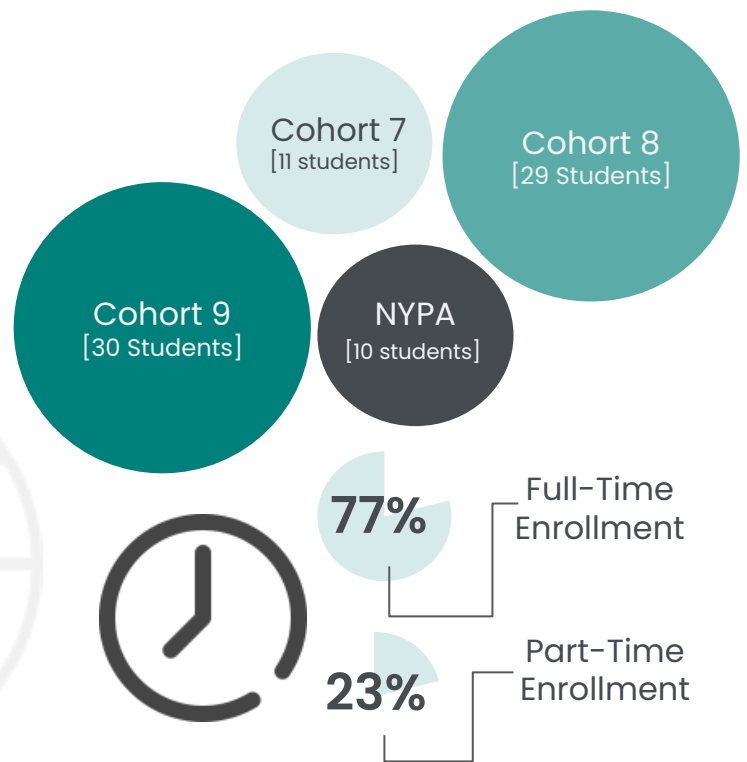
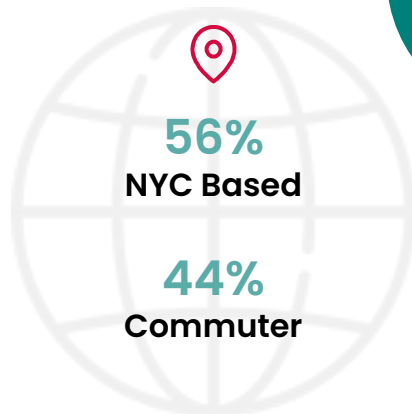
83
Students



21
Faculty



5
Administrative
Staff



About this Report

Purpose of Report

This report represents an inventory of the Bard MBA in Sustainability program's carbon footprint, developed using the guidance offered in the GHG Protocol Corporate Standard. It is only by measuring and understanding its impact that the program may begin to take accountability for and reduce emissions wherever possible, working toward carbon neutrality. By publishing the data collection and calculation methodologies used, the Committee hopes to inspire and educate other academic institutions to address their own footprints. In addition, the development of this report by the members of the Footprint Committee is a valuable real-world experience through which Bard MBA students become knowledgeable in carbon accounting and reporting principles.

Scope of Report

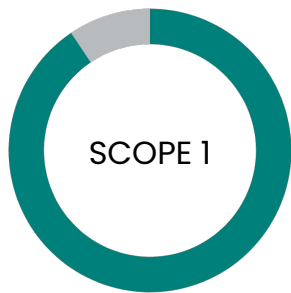
The scope of this report covers aspects of the Bard MBA in Sustainability program that are required of or provided for students, faculty, and administration to adequately participate in the program during the 2020/2021 academic year which began in June 2020 and ended in May 2021. Emissions related to the weekly online courses and ten residencies included in the regular academic year, the weekly online courses and two residencies held during a summer semester, and administrative office use throughout the entire calendar year are included. Courses taken at outside institutions and independent studies have been excluded.

Due to the COVID-19 pandemic, the residencies traditionally held in-person in New York City and at the Bard College campus in Annandale-on-Hudson were held online for the entirety of the 2020/2021 academic year. For consistency and year-over-year comparability of data, the Footprint Committee has estimated the emissions from the fully-online year as well as projected the emissions that would have been produced by the program during a normal, in-person year. Both the online-only and in-person projected emissions levels are included in this report to demonstrate the effects of the pandemic on the Bard MBA program emissions. Given the change in the program structure – and in consequence, emission levels and methodologies – a comparative analysis of year-over-year emissions has not been included in this report. Going forward, the in-person projected emissions from the 2020/2021 academic year may be used as the base year.

About this Report

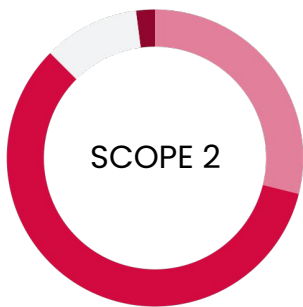
Scope of Emissions

As the Footprint Committee has grown and learned, changes in measurement boundaries have been implemented to develop a more comprehensive and accurate emissions total. Below, each impact category is organized by scope.



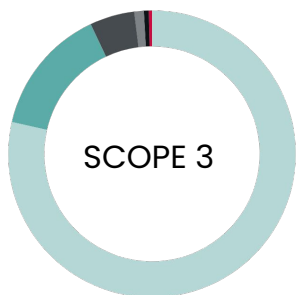
Built Environment: On-site fuel combustion for Bard MBA administrative offices used year-round & Bard College academic buildings used during Bard College campus residencies

Accommodations: On-site fuel combustion for Bard College dorms used during Bard College campus residencies



Built Environment: LMHQ & LGBT Center meeting spaces used during New York City residencies, and purchased electricity used for Bard MBA administrative offices and Bard College academic buildings

Accommodations: Purchased electricity for Bard College dorms used during Bard College campus residencies



Transportation: Commuting to, from, and during residencies

Accommodations: Accommodations used during New York City residencies

Data: Internet use and video calls related to Bard MBA program

Food: Bard-provided meals during New York City residencies

Books: Student acquisition of books

Waste: Food packaging-related waste during New York City residencies

In addition to the impact categories listed above that lead to emissions, this report also includes a statement of intention regarding the measurement of the social footprint of the Bard MBA program in an effort to advance toward a more comprehensive report.

About this Report

Stakeholder Engagement

Acquiring the data used in this report involved extensive stakeholder engagement. In October 2020, the Footprint Committee distributed a survey to all Bard MBA in Sustainability students, faculty, and administration to collect individualized behavioral data within each of the impact categories included in the scope of this report. The survey captured each participants' internet usage and book purchasing habits, as well as estimates regarding the transportation methods and accommodation preferences that would have been used if residencies had been held in-person rather than virtually. This survey also collected participants' input on which topics should be included in the social section of this report and crowd-sourced emission reduction strategy ideas for internal use. The survey was completed by 87% of the Bard MBA program as outlined in the table below. Where data was missing, Footprint Committee members reached out to program participants on an individual basis or made data-informed assumptions to complete their calculations.

	Students	Faculty	Administration	Total
# of Members	83	21	5	109
# of Respondents	74	16	5	95
Completion Rate	89%	76%	100%	87%

In addition to the survey, Footprint Committee members directly engaged employees in the Bard College Office of Sustainability and the staff of the LMHQ shared workspace used for New York City residencies to gather data for the built environment emissions calculations. Bard MBA program administration was also essential to the data collection for the food and waste calculations.

Built Environment

Impact Summary

Total 2020/2021 Estimated Emissions:

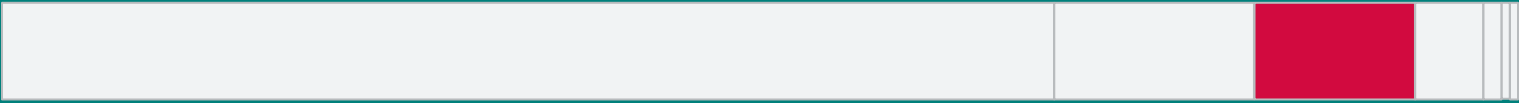
0 MT CO₂e

Total In-Person Projected Emissions:

12.0 MT CO₂e

% Total In-Person Projected Emissions:

10.6%



Built Environment

Impact

Nationwide, residential and commercial buildings account for about 29% of total emissions, according to the [Center for Climate and Energy Solutions](#). Given that the built environment is such a significant contributor to total US and global emissions, emissions from the built environment that the Bard MBA program uses are included within the scope of this report. The built environment would account for 10.6% of the total in-person projected emissions of the program, or 12.0 MT CO₂e, though the online-only nature of the 2020/2021 school year caused the built environment emissions from this year's footprint to be negligible.



The built environment utilized by the Bard MBA program includes administrative offices, which are occupied all calendar year and are located in Hegeman Hall on the Bard College campus, and the classroom spaces in which weekend residencies are held throughout the year. Eight academic year residencies and two summer semester residencies are held in New York City, at LMHQ, a shared workspace located at 150 Broadway in downtown Manhattan, and at the LGBT Center, a multi-purpose event and performance space in the West Village neighborhood of Manhattan. Two academic year residency weekends take place in classrooms on the Bard College campus in Annandale-on-Hudson, located in the OLIN Humanities and OLIN Language Center buildings, the Campus Center and Albee Hall.

Building emissions were estimated by determining the type and volume of energy used by each building per year, converting to CO₂e, and apportioning this to the number of square feet and number of days occupied by the Bard MBA program. This energy includes purchased electricity, on-site fuel combustion, and district heating and cooling. The type and volume of energy used was determined from 2019-2020 electricity bills and New York City grid emissions for the LMHQ space, from the average energy use intensity for "mixed use" buildings in New York City for the LGBT center, and from the average annual kerosene and propane used and electricity purchased for the buildings on the Bard College campus during a three year period (2016-2019). CO₂e was estimated using the 2018 [eGRID Power Profiler](#) tool and the 2021 [EPA emission factors](#). While embodied emissions are an important component of total building emissions, these emissions are not associated with the Bard MBA program operations, and were not considered in-scope for this report. Additionally, any production of solar energy on the Bard College campus would impact emissions, but was not directly included in the calculations as it represents an avoided electricity purchase.

Built Environment

Impact

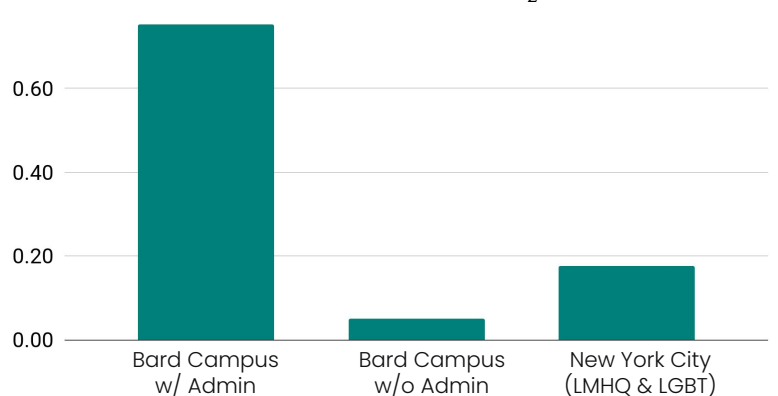
The largest contributor to the Bard MBA program’s building emissions during a normal, in-person year are the Bard College campus classroom and administrative offices emissions. These are high due to the year-round use of the administrative offices. When the building emissions from one square foot of Bard College campus classroom space (.05 kg CO₂e) are compared with the building emissions of one square foot of New York City classroom space (.18 kg CO₂e), the Bard College campus classroom emissions are less than 1/3 of the New York City classroom emissions.

Bard MBA Annual Building Emissions (MT CO₂e)



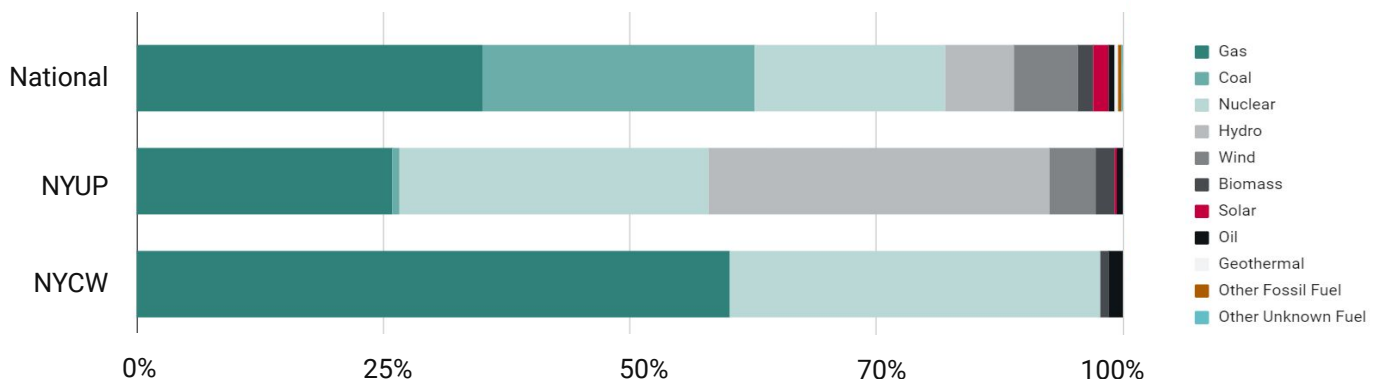
Source: EPA eGRID Power Profiler and emission factors and Bard College electricity bills

Bard MBA Building Emissions (kg CO₂e) per Square Foot



This difference in emissions is due to the energy mix used by New York City versus Annandale-on-Hudson. New York City is powered mostly from gas and nuclear sources, whereas Annandale-on-Hudson pulls almost 40% of its energy from hydroelectric, wind, and biomass sources, as shown in the chart below.

Fuel Mix by Grid
Based on 2018 Data



Source: EPA eGRID Power Profiler

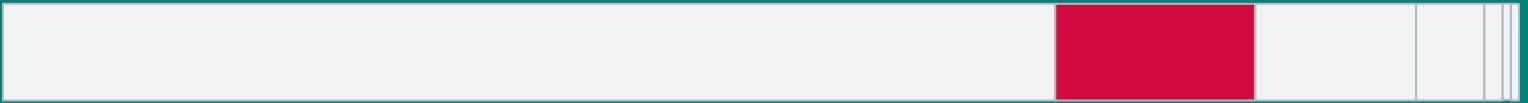
Accommodations

Impact Summary

Total 2020/2021 Estimated Emissions: **0 MT CO₂e**

Total In-Person Projected Emissions: **15.35 MT CO₂e**

% Total In-Person Projected Emissions: **13.5%**





Accommodations

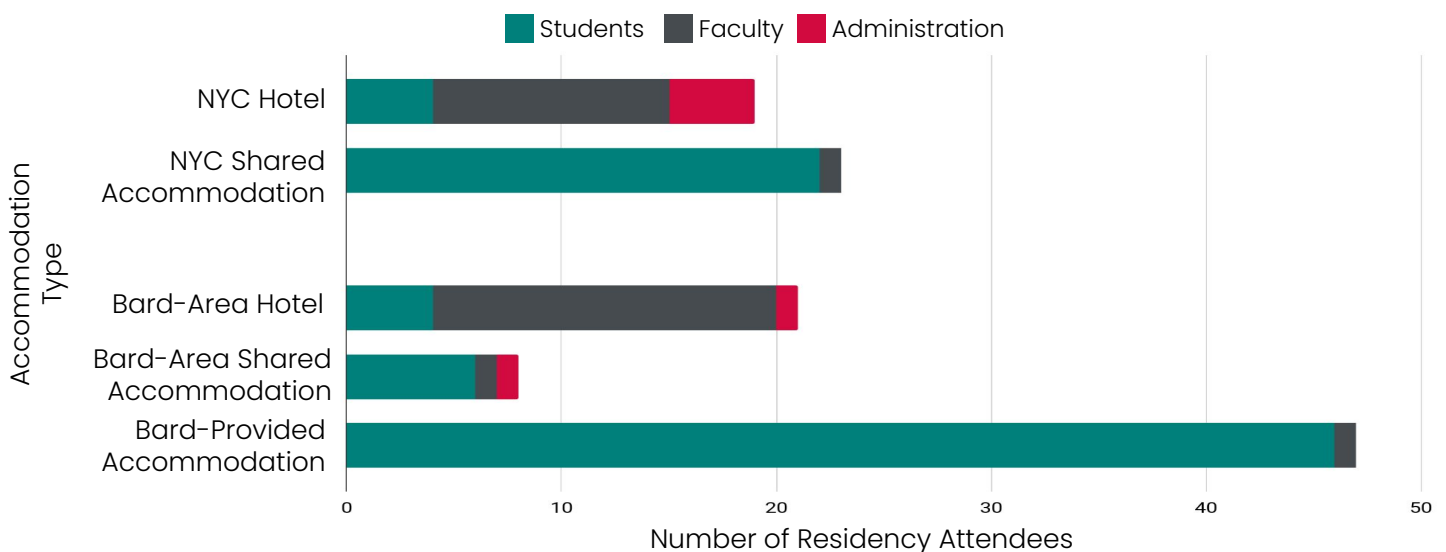
Impact

The Bard MBA in Sustainability program requires students and faculty to attend all residencies in-person, but leaves the accommodation location choice to each attendee. Accommodations would make up 13.5% of the total in-person projected emissions of the program, or 15.35 MT CO₂e. The online-only nature of the 2020/2021 school year completely eliminates accommodation emissions from this year’s footprint.

Of would-be residency attendees, 61 people (56% of residency attendees) are New York City-based and therefore stay in their own homes during New York City residencies and 17 people (16% of residency attendees) are Annandale-on-Hudson- (or nearby) based and stay in their own homes during Bard College campus residencies. The emissions created from those homes are not included in the accommodations total because they are not directly caused by the Bard MBA program.

Therefore, accommodation emissions are solely from commuting students, faculty, and administration. During New York City residencies, 32 students (38% of student body) choose to stay in hotels or shared accommodations such as renting an Airbnb or staying with friends or family (categorized as Scope 3). During Bard College campus residencies, 63 students (59% of student body) stay in Bard-provided housing, historically a nearby retreat center (categorized as Scopes 1 and 2). Most faculty and program administrators stay in hotels, the reservations for which are facilitated by the program (categorized as Scope 3).

New York City and Bard College Campus Residency Accommodation Preferences



Source: 2020/2021 Bard Footprint Survey data



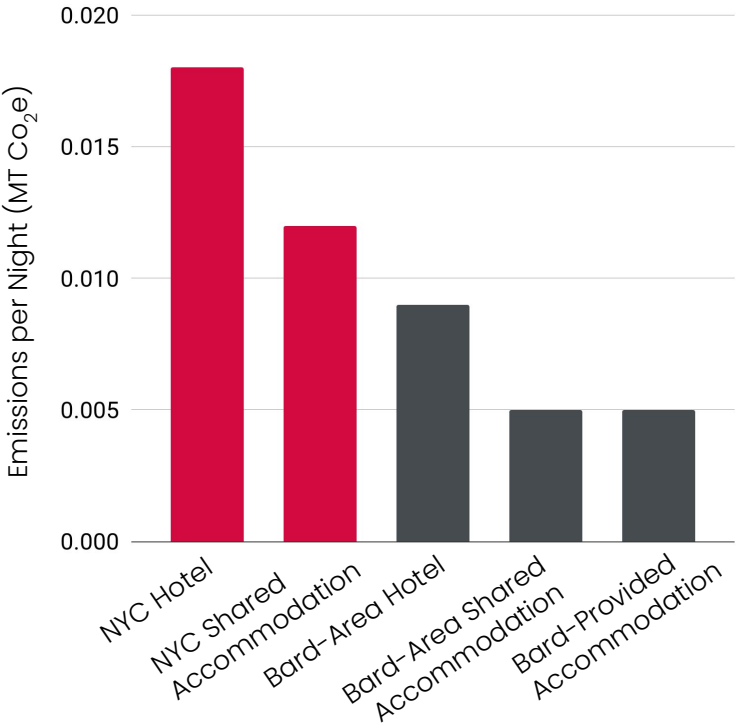
Accommodations

Impact

As measured by the [Cornell University Center for Hospitality Research benchmarking index](#) completed in 2019, the average New York City hotel emits 0.018 MT CO₂e per night per occupied room. This is 33% more emissions than the average multifamily housing unit which emits 0.012 MT CO₂e per night per room according to data collected by the [New York City Mayor's Office of Sustainability](#) under New York City Local Law 84.

The average emissions of hotels in the area around Annandale-on-Hudson, again according to the Cornell Center for Hospitality Research, is 0.009 MT CO₂e per night per occupied room. In the absence of emissions data for Annandale-on-Hudson housing and the building historically used to house Bard MBA students during Bard College campus residencies, Tewksbury Residence Hall on the Bard College campus has been used as a proxy to estimate average Annandale-on-Hudson-area accommodation emissions. Therefore, Bard College campus shared accommodations and Bard-provided accommodations emit 0.005 MT CO₂e per night per room, a bit more than half the nightly emissions of hotels.

Emissions per Night per Person by Accommodation Type



Source: 2019 Cornell University Center for Hospitality Research Benchmarking Index, NYC Mayor's Office of Sustainability, and EPA eGRID Power Profiler, EPA emission factors, and Bard College electricity bills

Each New York City Residency emits **1.66 MT CO₂e**

Each Bard College Residency emits **0.83 MT CO₂e**

Overall, New York City residencies cause twice the amount of emissions than Bard College campus residencies. This is mostly due to the different energy mix delivering power to each location's grid (as mentioned in the Built Environment section) which leads to higher per-room emission levels for New York City accommodations.

Transportation

Impact Summary

Total 2020/2021 Estimated Emissions: **0 MT CO₂e**

Total In-Person Projected Emissions: **78.9 MT CO₂e**

% Total In-Person Projected Emissions: 69.6%



Transportation

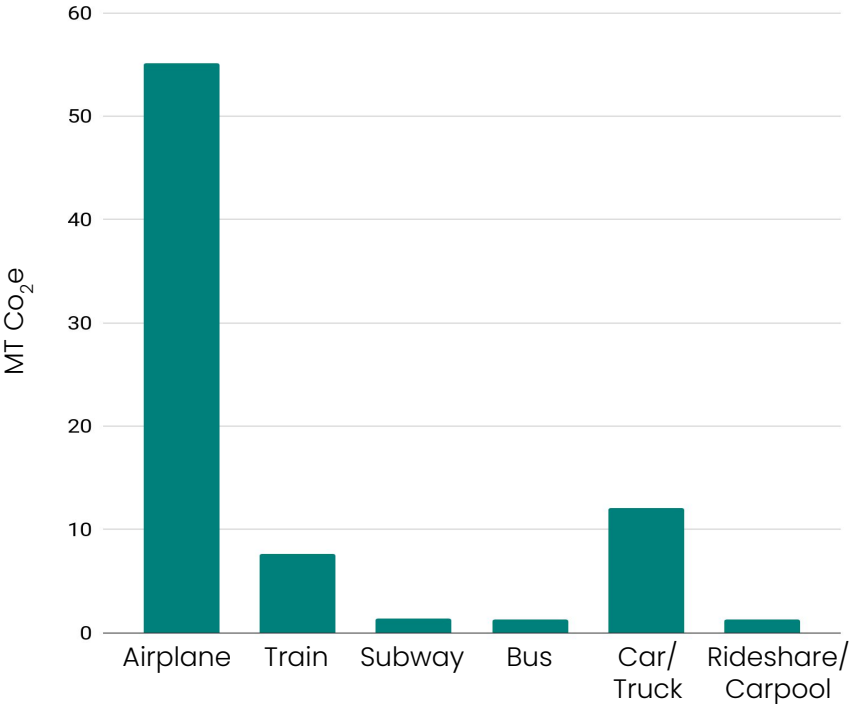
Impact

Though many of the students in the Bard MBA in Sustainability program live in the New York Metropolitan Area, a significant percentage of students (38%) and faculty (70%) must travel to New York on a monthly basis for the 10 long weekend residencies during the regular academic year. The estimated transportation emissions for the 2020/2021 academic year were 0 MT CO₂e, but if the Bard MBA program had met in-person during the 2020/2021 academic year, the total estimated emissions are projected to have been 78.9 MT CO₂e across all modes of transportation; 69.6% of the total Bard MBA program’s carbon footprint.

The [EPA Emission Factors for Greenhouse Gas Inventories](#) and program participants’ survey responses were used to determine all transportation emissions of the Bard MBA program. The boundaries used to measure transportation include any required travel to and from each residency, as well as the transportation during the entire residency weekend that resulted in CO₂e emissions including air travel, train, subway, car, and rideshare or carpool.

In total, 70% of all transportation emissions would have been attributed to air travel: 55.17 MT CO₂e. If residencies had been in-person during the 2020/2021 academic year, 13% of the student body would have used air travel to attend residency weekends, which accounted for approximately 80% of the total air travel GHG emissions. The remaining 20% of emissions related to air travel is attributed to the five faculty and administrative staff members who fly to New York City each residency. It was assumed that individuals did not purchase offsets for their own travel for these estimates.

Transportation Emissions by Mode



Source: EPA Emission Factors for Greenhouse Inventories

Transportation

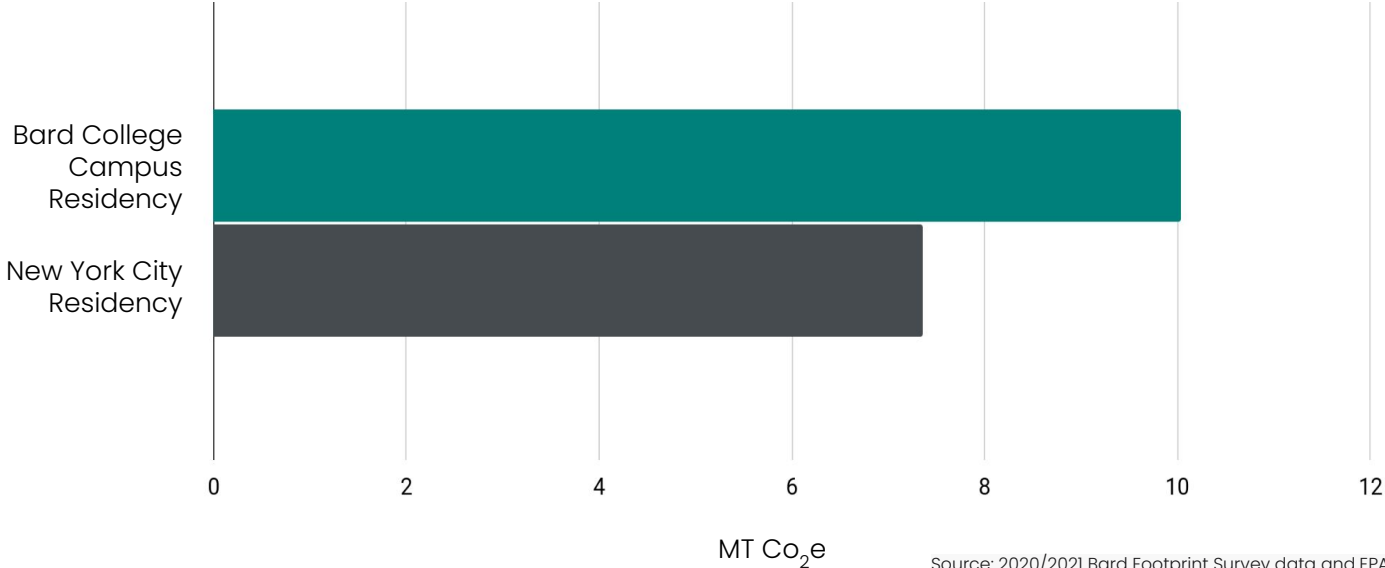
Impact

Transportation related to car travel would have accounted for 15.4% of all transportation emissions with 12.12 MT CO₂e. The third most emitting mode of transportation is train travel, accounting for 9.6% of all transportation emissions at 7.61 MT CO₂e. Emissions from rideshare/carpool was 1.32 MT CO₂e and subway travel accounted for 1.43 MT CO₂e. Subway travel is the primary mode of transportation during residencies occurring in New York City, while train and car travel are most often used for the two residencies held on the Bard College campus.

As mentioned earlier, the Bard MBA program normally has eight residencies in New York City and two residencies at the Bard College campus in Annandale-on-Hudson during the regular academic year. Analysis of the two residency locations shows that transportation to the Bard College campus is projected to be 10.04 MT CO₂e per residency while transportation to the New York City location results in emissions of 7.36 MT CO₂e per residency. As the majority of air travel remained constant, the primary reason for the higher emissions related to the Bard College campus residency is due to more students having to travel further via car or train as opposed to subway travel.

Student Council has spearheaded a carpooling sign-up sheet to encourage carpooling among students travelling to the Bard College campus. This effort further reduces emissions of individual travel to the residencies each semester.

Total Emissions per Residency Location



Source: 2020/2021 Bard Footprint Survey data and EPA Emission Factors for Greenhouse Inventories

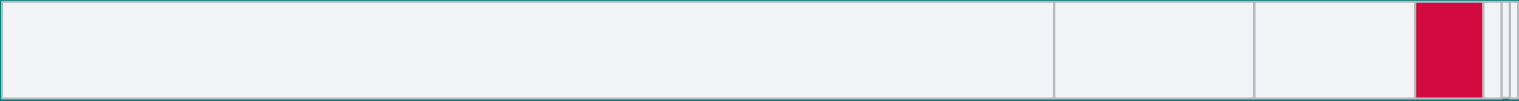
Data

Impact Summary

Total 2020/2021 Estimated Emissions: **7.05 MT CO₂e**

Total In-Person Projected Emissions: **5.06 MT CO₂e**

% Total In-Person Projected Emissions: **4.5%**

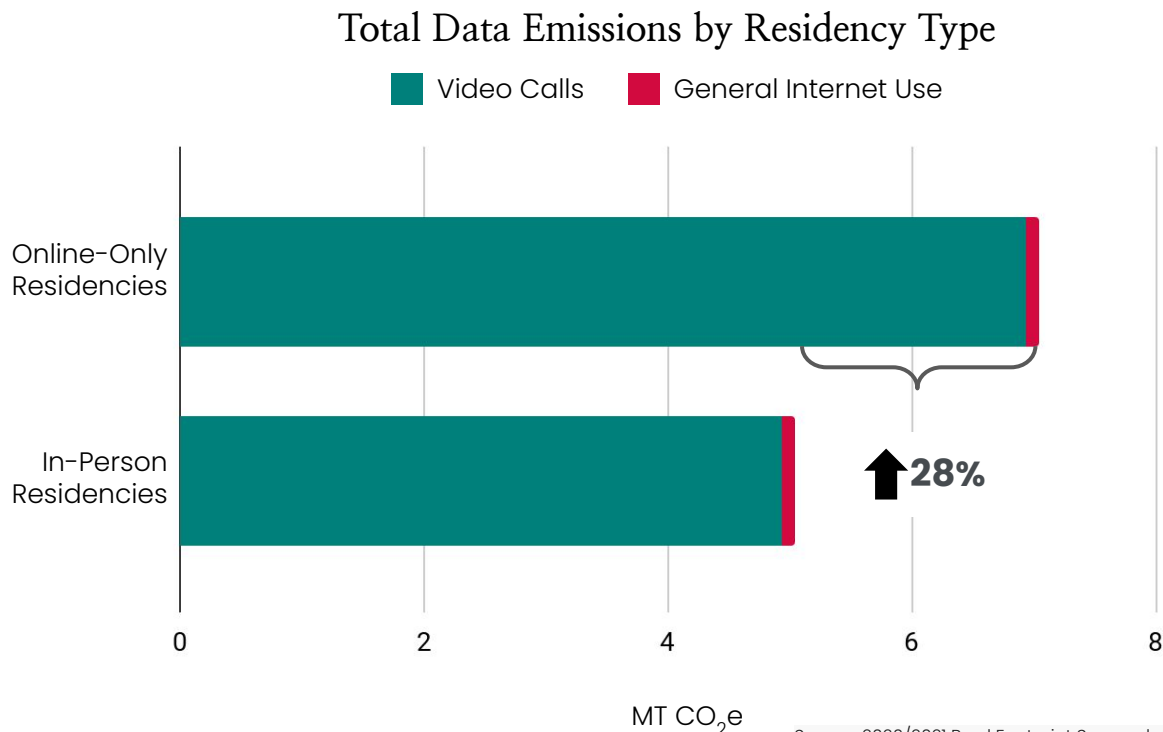


Data

Impact

Due to the low-residency format of the Bard MBA program, students and faculty spend a majority of their time in the program online, either in class or completing school work, resulting in energy usage and GHG emissions. In-person emissions were projected to be 5.06MT CO₂e or 4.5% of total projected emissions.

While the program has always been data-intensive given the format, COVID-19 drove classes entirely online during the 2020/2021 academic year, including the residencies that normally would have been held in-person. By including the increased time spent on video calls during residencies, the emissions for 2020/2021 were estimated to increase by 28% to 7.05 MT CO₂e, making this section unique as the only impact category that has a larger *estimated* emissions burden than *in-person projected*. The following chart compares the 2020/2021 academic year with online-only versus in-person residencies.



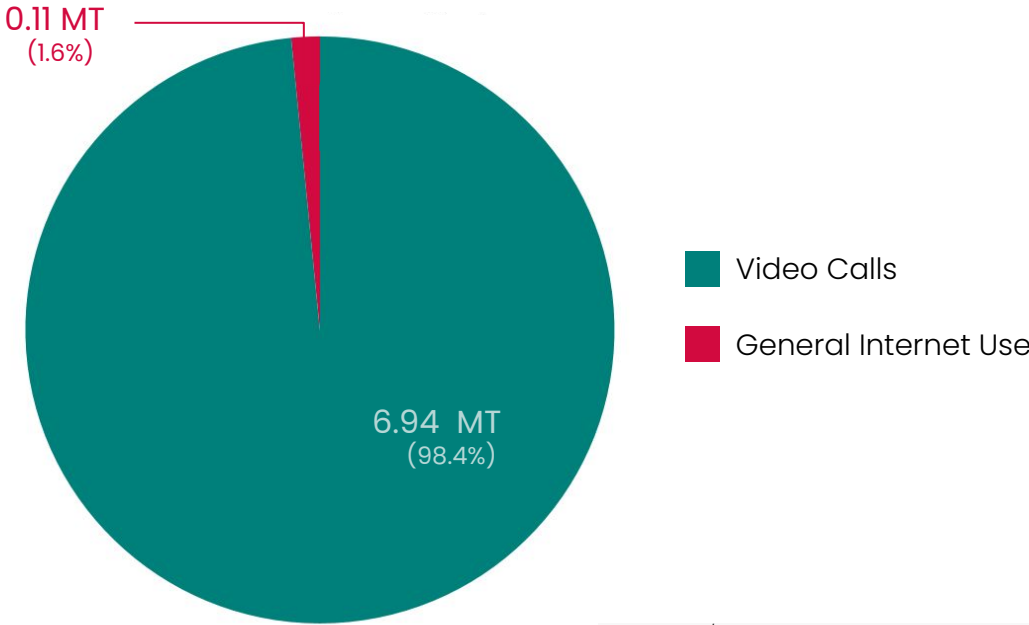
Source: 2020/2021 Bard Footprint Survey data, conversions from Enel X, EPA emission factors, and Purdue research

Data

Impact

Two categories of data usage account for the emissions total: video calls and general internet usage. Students and faculty use video calls to conduct class online in between residencies, and often meet using video calls to conduct group work outside of class. Given the digital nature of the world now, most work is conducted online and data stored on internet platforms. Bard MBA program participants' data usage was estimated using survey response data and a sample dataset created by Footprint Committee members tracking their data usage. From there, [conversions provided by Enel X](#), an energy management company, and by the [EPA](#) were utilized to estimate general internet usage, and research from [Purdue University](#) was used to estimate the total CO₂e for video calls. Overall, a majority of the Bard MBA program's data emissions were generated during video calls. The chart below shows the breakdown of the two categories.

Estimated 2020/2021 Online-Only Data Emissions by Category (MT CO₂e)



Source: 2020/2021 Bard Footprint Survey data, conversions from Enel X, EPA emission factors, and Purdue research

The vast majority of data emissions are generated through video calls. Currently data usage accounts for each student having video capabilities turned on at all times.

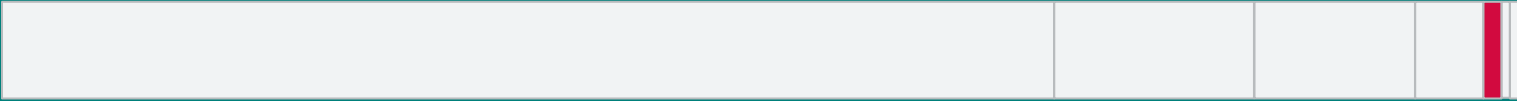
Food

Impact Summary

Total 2020/2021 Estimated Emissions: **0 MT CO₂e**

Total In-Person Projected Emissions: **1.1 MT CO₂e**

% Total In-Person Projected Emissions: **0.9%**



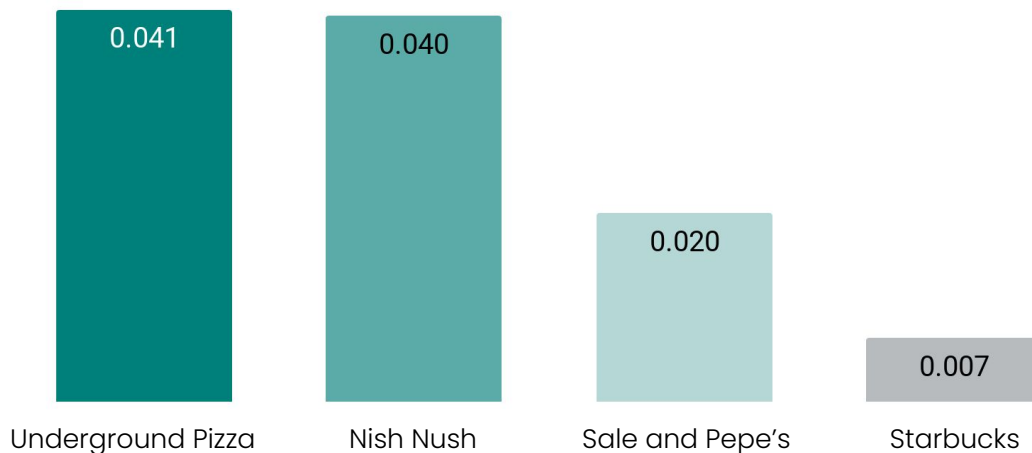
Food

Impact

As students and faculty spend so much time on-site during residencies, the Bard MBA program typically provides students and faculty with one to two meals per day (three meals total per residency) from local restaurants. Total in-person projected food emissions were 1.1 MT CO₂e, accounting for 0.9% of overall emissions. To calculate the in-person projected food emissions for the 2020/2021 school year, the receipts for the 2019/2020 food orders were used to model the orders that would have been placed during the 2020/2021 school year had it been held in-person. Each menu item's footprint was calculated using the [DataFIELD](#) database from the University of Michigan Center for Sustainable Systems, and it was assumed that each order served 60 people per meal. While the two residencies held in Annandale-on-Hudson have unique food consumption behaviors it is assumed that all ten residencies operated under the same meal schedule. The two residencies held during the summer semester were excluded from these calculations because, historically, meals have not been provided for those residencies.

Each Residency emits:
0.108 MT CO₂e

Total Emissions per Restaurant (MT CO₂e)



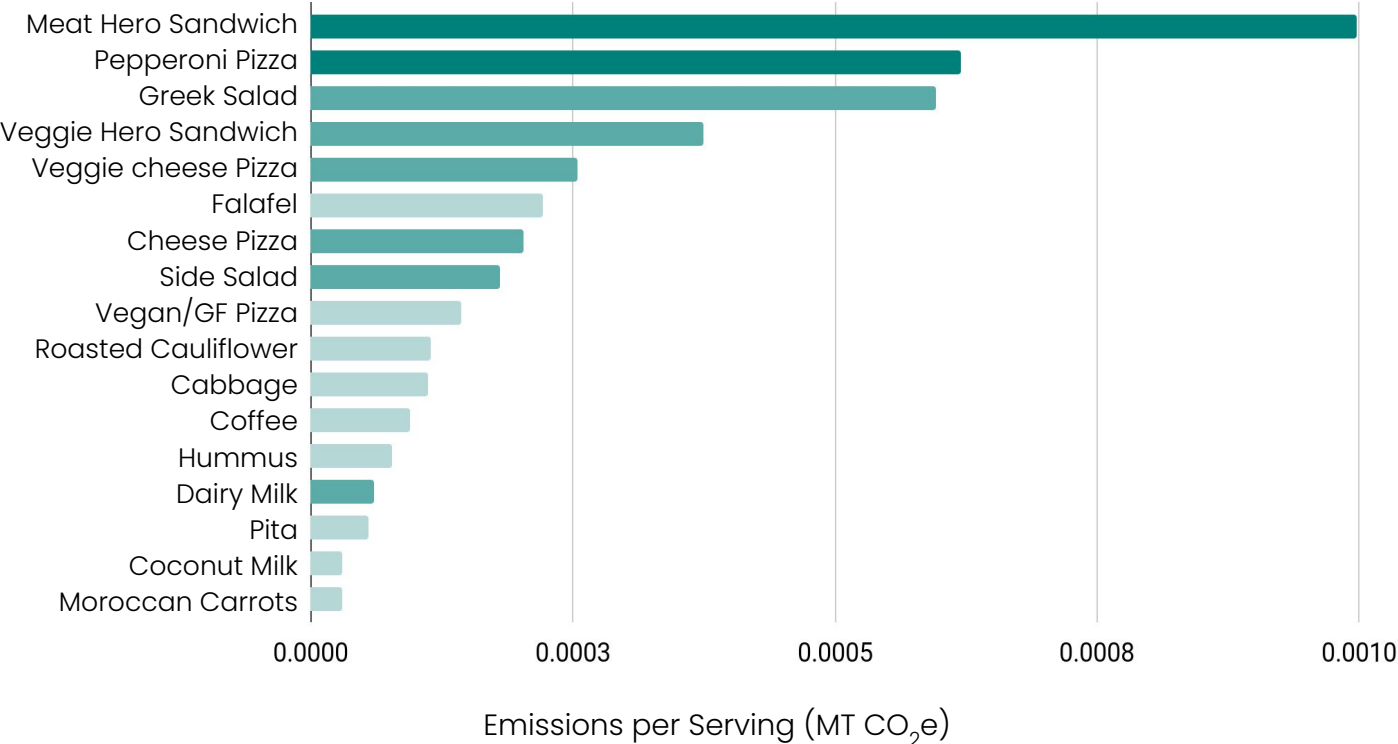
- = Underground Pizza: Cheese Pizza, Pepperoni Pizza, Veggie Pizza, Vegan/GF Pizza, Side Salad
- = Nish Nush: Hummus, Falafel, Pita, Cabbage, Greek Salad, Moroccan Carrots, Roasted Cauliflower
- = Sale and Pepe's: Veggie Hero Sandwich, Meat Hero Sandwich, Side Salad
- = Starbucks: Coffee, Dairy Milk, Coconut Milk

Source: 2019-2020 food purchase data and dataFIELD emission factors

Food

Impact

Emissions per Item Serving



- = Omnivore (contains meat & dairy products)
- = Vegetarian (contains dairy products)
- = Vegan (does not contain meat or dairy products)

Source: [dataFIELD](#)

The items containing meat and cheese (pizza and sandwiches) were the highest emitters. Salami emits eight times more carbon at 0.16 kg CO₂e/oz versus a vegetable at 0.02 kg CO₂e/oz. The second highest emitters were vegan-based items that contained a high amount of oil (roasted cauliflower and falafel). Despite the high footprint of oil, if all meals had been entirely vegetarian for the full academic year, the footprint from food would have been lower by 22%.

Books

Impact Summary

Total 2020/2021 Estimated Emissions: **0.57 MT CO₂e**

Total In-Person Projected Emissions: **0.57 MT CO₂e**

% Total In-Person Projected Emissions: 0.5%

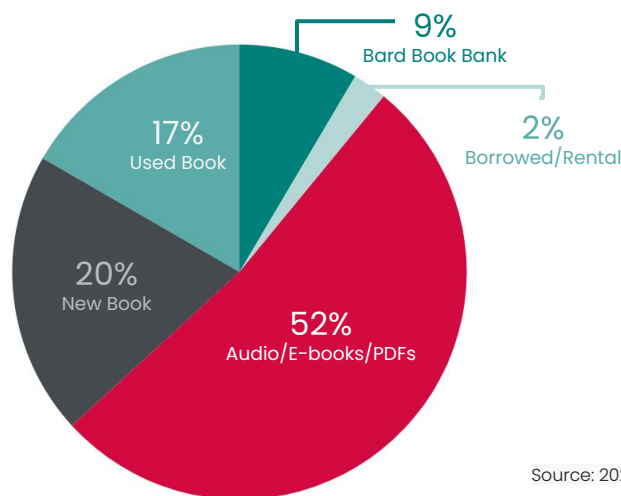


Books

Impact

The Bard MBA program requires students to acquire certain books for each of their classes, though students are able to decide in which format to acquire each book. The average student will purchase 16 books each school year. While embodied emissions caused during book production constitutes the majority of a physical book's carbon footprint, these emissions have been considered out-of-scope for this report. This report includes only the transportation-related emissions caused by shipping books from the store to the purchaser, which is the second most substantial contributor to a book's total carbon footprint. Using location data collected from students via survey and [EPA Emission Factors for Greenhouse Gas Inventories](#), the transportation-related emissions from the acquisition of new books, used books, and books from the Bard Book Bank (a Bard MBA student-run book swap) during the 2020/2021 academic year are estimated to be 0.57 MT of CO₂e.

Format of Books Acquired by Students



Source: 2020/2021 Bard Footprint Survey data

Book acquisition emissions make up 0.5% of total Bard MBA program emissions, with an average emission per book being 0.004 MT CO₂e. New books, which caused 0.114 MT CO₂e and made up 20% of all books purchased, were primarily purchased from Amazon and were assumed to be individually shipped from the nearest fulfillment or distribution center to the purchaser. Used books, which caused 0.095 MT CO₂e and made up 17% of all books purchased, were individually shipped from small independent bookstores across the country, as reported by purchasers through the survey.

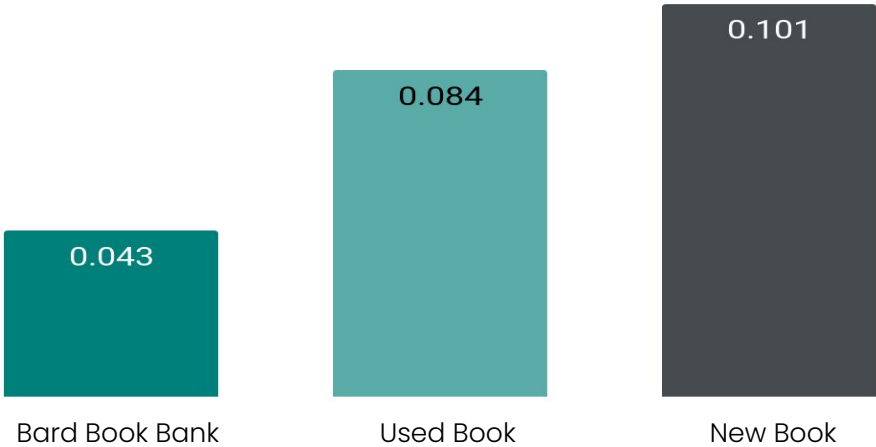
Books

Impact

Books acquired from the Bard Book Bank accounted for 0.048 MT CO₂e while representing only 9% of the total books acquired by the Bard MBA program student body. Whereas these books might typically be exchanged between students in-person, the online-only nature of the 2020/2021 school year resulted in all of the Bard Book Bank books being shipped from student to student, sometimes across long distances.

52% of the books acquired by Bard MBA students were of a digital format. The [Environmental Studies Department of Boston College](#) notes that “if a user accesses more than 33 E-books on a device, they will have offset the total carbon footprint of their device, thus being more environmentally efficient than reading the book’s print counterpart.” A majority of students use multiple devices such as iPads, Nooks, Kindles, and personal computers to access their digital books. For books acquired by Bard MBA students in a digital format, transportation emissions were considered zero. Emissions caused by charging electronic reading devices were not included in estimates. Further data is required to understand if, over the course of the program, a student’s digital book acquisitions offset their individual device’s carbon footprint.

Emissions per Book Format (MT CO₂e)



Source: EPA Emission Factors for Greenhouse Inventories

While the transportation emissions of shipped books are only a small fraction of the overall emissions created by book production and usage, this baseline inventory and student purchasing and usage data enables the Bard MBA students to reduce emissions in the future through adapting their purchasing habits.

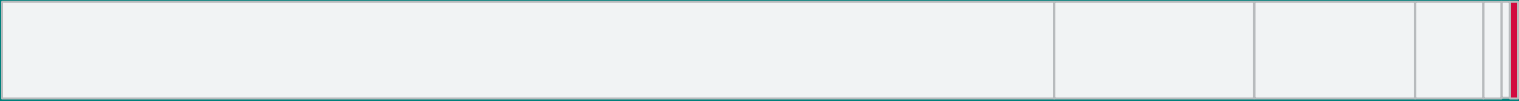
Waste

Impact Summary

Total 2020/2021 Estimated Emissions: **0 MT CO₂e**

Total In-Person Projected Emissions: **0.35 MT CO₂e**

% Total In-Person Projected Emissions: **0.3%**



Waste

Impact

Waste generation from the Bard MBA program operations is minimal due to the temporary occupation of buildings and limited in-person residencies. Direct accumulation of waste occurs across only 30 days of the year. The waste included in this section is confined to packaging waste resulting from Bard-provided meals outlined in the Food section.

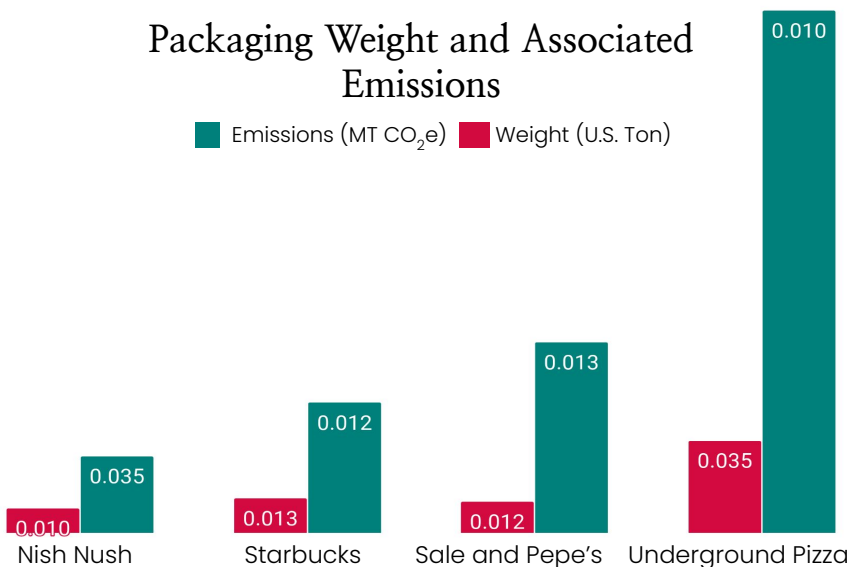
Projected waste emissions for the 2020/2021 school year are 0.35 MT CO₂e, or 0.006 MT CO₂e per person (per person in this section, as in the food section, is based off of 60 individuals and all ten residencies assume the same consumption behaviors). These numbers were calculated using the [EPA's WARM Tool](#) which takes a life cycle assessment (LCA) approach inclusive of emissions from virgin material acquisition to end-of-life management (EOL) practices.

EOL destination can have a significant impact on related emissions. While the majority of emissions arise from the production of the material, the disposal method (recycling aluminum, for example) can offset those emissions to such a degree that the material becomes carbon positive. Single-use food packaging waste, however, primarily ends up in landfills.

Even if the materials are easily recyclable like cardboard or aluminum, the contamination from food residue often makes it impossible to recycle. According to the [New York Department of Sanitation \(DSNY\) 2017 Waste Characterization Study](#), only about 15% of residential aluminum is recycled properly, and food and food-soiled paper accounts for more than half of recycling contamination. For the purpose of these calculations, aluminum is the only material attributed with a recycling benefit, and the DSNY's 15% rate was applied.

While the waste category is a tiny portion of overall emissions, only 0.3% of the total projected, monitoring has led to meaningful reduction strategies. After the inaugural Footprint Committee's insights in Spring 2019, the program made the decision to provide students with insulated beverage tumblers, a reusable food container, and reusable Silvr™ fork. This resulted in a greater than 40% usage reduction across all waste categories in the 2019/2020 school year.

Packaging Weight and Associated Emissions



Source: 2019-2020 food packaging data and EPA WARM emission factors

Social

Impact Summary

The Footprint Committee and Bard MBA Community recognize the need for more objective analysis of the program's social impact on all stakeholders. This section is intended to be a statement of intention to include metrics reflecting the Bard MBA program's social footprint in reports going forward. Several potential frameworks to guide this thought process were evaluated to assess which guidelines best reflect the nature of the Bard MBA program structure.



Social

Impact

The Bard MBA program's social footprint includes the impact of policies, procedures, and practices on individuals and groups within the community. In the wake of calls for justice, unity, and systemic change across the nation, a social footprint measurement has never been more vital.

The Sustainability Accounting Standards Board ([SASB](#)), Global Reporting Initiative ([GRI](#)), Task Force on Climate-related Financial Disclosures ([TCFD](#)), United Nations' Sustainable Development Goals ([SDGs](#)), and the [STARS](#) Framework from the Association for the Advancement of Sustainability in Higher Education (ASSHE) each provide some guidance on quantitative metrics related to measuring social footprint: demographic information, physical health and safety measures, and accessibility. However, these accounting institutes have not yet formalized a methodology for collecting and analyzing qualitative data that this Committee feels should be at the center of measuring a social footprint.

A robust qualitative analysis would include metrics around:

- Satisfaction
- Safety
- Appreciation
- Encouragement
- Inspiration
- Empowerment

In lieu of reporting on the program's current social footprint, the committee instead makes a commitment to expand future reports into the social sector. Suggested activities for this expansion include:

- Establishing a diverse social footprint subcommittee across all stakeholder groups;
- Identifying the most relevant metrics of existing social sustainability reports;
- Defining a set of unique, scalable sustainability metrics that capture both quantitative and qualitative data points;
- Releasing all results, research, and processes for public feedback and assessment.

The goals of an inaugural social footprint section within the annual Bard MBA Footprint Report would be to establish the program's social baseline, address the intersectional nature of sustainability, and empower the community to make real, actionable change.

Spotlight on DEI Committee

Founded in 2018, the Bard MBA Diversity, Equity, and Inclusion Committee seeks to engage and activate the Bard MBA community through training, workshops, dialogue, and events which promote diversity and support belonging, equity, and inclusion in and outside the classroom – while also equipping students and professors with the tools to translate DEI experience to the business world.

The DEI Committee envisions a program that transcends the distinction of diversity, seeks to practice equity and inclusion, and allows students, alumni, and faculty members of all abilities, backgrounds, races/ethnicities, socioeconomic backgrounds, sexual orientations, and gender expressions to feel welcome and have access to the tools necessary for success.

During the 2020/2021 academic year, the DEI Committee held weekly Anti-Racism Check-in calls during the summer, conducted a complete review of the curriculum for all courses in order to deepen the Bard MBA program's engagement with systemic racism, racial equity, and anti-racism, and facilitated a discussion exercise for the Personal Leadership Development class around white supremacy culture.

In addition, the Bard Administration team hosted three DEI trainings for faculty and staff that was facilitated by an outside consulting firm.



DEI Committee

Curriculum Review

To identify areas where the curriculum could benefit from encompassing themes of systemic racism, racial equity, and anti-racism, seventeen student and alumni DEI Committee volunteers collaborated to review each course of the Bard MBA program. This review included an assessment of current curriculum, opportunities for inclusion, and potential areas of inter-curricular collaboration between courses. All faculty were engaged in this process and DEI Committee volunteers were available for individual follow-up conversations with faculty to discuss individual course recommendations.

The Committee devised a unique rating system in order to benchmark courses and provide actionable recommendations. Topics covered all aspects from readings to guest speakers in order to ensure students were exposed to a diverse range of voices and perspectives.

As the Bard MBA Community strives to continue to learn and deepen its understanding of inclusivity, it is anticipated that these metrics will change. The intention of this exercise was to provide a snapshot of where the Bard MBA program is currently and underscore opportunities for improvement.

Syllabus Integration	5
Module Integration	4
Anecdotal Integration	3
Aperiodic Integration	2
Prompted Integration	1

Curriculum review completed for all 18 MBA courses

with recommendations to engage more deeply with systemic racism, racial equity, and anti-racism

46 individuals

from the Bard community joined at least one weekly Anti-racism Check-in Call

Curated a list of **over 50 recommended DEI-relevant media resources**

Anti-Racist Themes

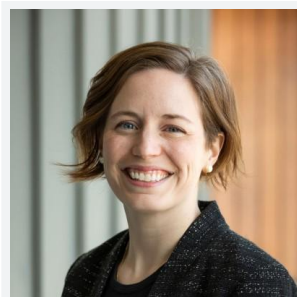
		Current Content					
		Group Discussions	Guest Speakers	Readings	Assignments	Toolkit Concepts	Lecture
Anti-Racist Themes	Intersectionality	How subject matter intersects with systemic racism/racial equity.					
	Historical context / white complicity	How the course acknowledges the history that led to the current landscape and how players in the subject area have been complicit in systemic racism.					
	Diversity	Inclusion of the perspectives and voices of Black, Indigenous, and People of Color, LGBTQ+ and other diversity of identity, gender, experiences and ability in the course. (Reference link: Diversity Wheel)					

Footprint Committee Members

In addition to developing the Footprint Report, committee members coordinate the Bard Book Swap, present monthly eco-tips at Student Council meetings, and conduct open meetings for any students who wish to learn more about the carbon accounting process.



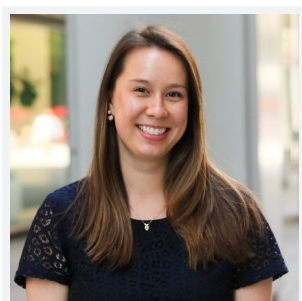
Amy John



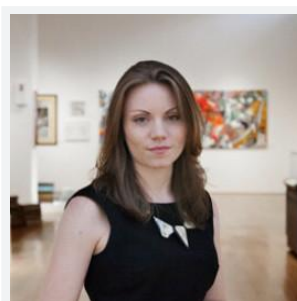
Molly Kiick



Sam Loeb



Kat Malek-Hood



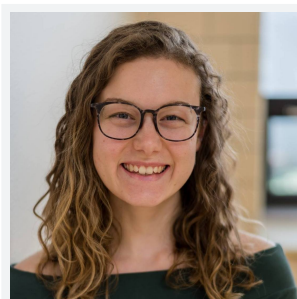
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Perrottey



Giuliana
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Tessa Rainbolt
Co-Chair



Jordan Sabine
Co-Chair



Leigh Anne Statuto

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Nicole Pamani, Stephanie Erwin, Diana Farmer, Jordan Sabine, Tessa Rainbolt

2018/2019 Footprint Committee Members:

LJ DeLuca, Stephanie Erwin, Michelle Aboodi, Sam Monkarsh, Nicole Pamani, Reed Shapiro

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The Bard MBA DEI Committee for their inspirational work and contribution to this year's Social Footprint section.

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