

Animal-Products Based Foods and Climate Change
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Eating for the **Green** **Apple**

A Comprehensive Approach to Reduce New York
City's Greenhouse Gas Emissions Through the
Increase of Cool Food Consumption

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Executive Summary

The Food and Agriculture Organization of the United Nations reports that livestock sector is responsible for 18% of total greenhouse gas emissions. However, the links between climate change and food production have not yet been adequately incorporated into environmental policy or effectively communicated to the public. In New York City, efforts have been made to limit greenhouse gas emissions and increase environmental awareness (including PlaNYC, Executive Order 109, and the GreenNYC campaign). However, while policies, such as the 2011 PlaNYC update, have acknowledged the important role food and food systems must play in reducing greenhouse gas emissions associated with New York City, there is no mention of the emissions contribution associated with animal products. Reducing consumption of animal products is an important step toward reducing greenhouse gas emissions and an invaluable tool in combating climate change.

This is a seminal moment to address the connection between climate change and animal-based foods in New York City. As the most populous and ethnically diverse city in the United States, New York City has the opportunity to be a leader in this still nascent movement of encouraging the reduction of animal-based foods as a point of entry for reducing the climate impact and greenhouse gas emissions associated with the city. The New York City government has already exhibited a commitment to addressing climate change and responsible growth and may contain indications towards the connection between sustainable food systems and climate change, but still lacking is the specific and dominant impact of animal-based foods.

Two working groups—the Policy Working Group and the Campaign and Toolkit Working Group—have collaborated to create a comprehensive plan for New York City to reduce its greenhouse gas emissions associated with animal product consumption and production. The Policy Working Group has developed a set of recommendations consistent with the goals of an aspirational client, the Mayor’s Initiative on Food and Climate Change, an interagency task force established under the auspices of the New

York City Mayor's office. Upon evaluating and assessing our endorsements for their capacity to reduce animal-product consumption in New York City, it is the responsibility of this task force to implement our recommendations. The second group created a campaign and toolkit that empowers New York City individuals and communities to take actions towards reducing their footprint associated with animal-products.

Within this report you will find a detailed discussion of the science of climate change, and the role of the livestock industry and animal-product consumption in accelerating the emission of greenhouse gasses. Also discussed are the specific efforts that New York City has taken to address climate change, as well as previous attempts that have been made to modify the City's food system. Finally, there is a set of recommendations for the Mayor's Initiative on Food and Climate Change task force, designed to affect a large expansion of cool foods consumption in New York City and an accompanying reduction in animal-product consumption. The obstacles that these recommendations may face in their implementation have also been thoroughly considered.

Our report is arranged as follows:

1. A discussion of the science of climate change, the role of livestock production in greatly enhancing global warming, New York City's role in addressing climate change and greenhouse gas emissions, and the importance of addressing the issue of animal-based foods in New York City, including precedents for changing the New York City food system and our role as a global leader of pragmatic change.
2. A detailed discussion of the policies that should be pursued by the Mayor's Initiative on Food and Climate Change task force. In addition to discussing various proposals, we have also included a discussion of the process that has led to the development of these proposals and the obstacles that may need to be overcome when implemented. The policies proposed are:
 - Establish the Cool Foods Systems Assessment (CFSA) task force.
 - Increase monetary and geographic access to cool foods in low-income communities by:
 - Reducing the size and number of Food Deserts in NYC.

- Modifying and expanding the Green Carts program.
- Launching the Farmers’ Market Cool Nutrition Pilot (FMCNP).
- Increase access of student to cool foods by:
 - Modifying public school food procurement policy.
 - Modifying afterschool program food procurement policy.
- Increase awareness and support for the initiative by:
 - Holding a Mayoral press event.
 - Revising the mandatory nutrition standards for municipal employees and visitors to promote cool foods consumption.
 - Revising the 2017 Mayoral Challenge.
 - Establishing the “Eating for the Green Apple 2030” campaign office.

3. A detailed discussion of a public awareness campaign—Eating for the Green Apple—aimed at increasing New York City residents’ understanding of climate change and the effect that individual food choices have on the environment. The campaign consists of a poster series to be distributed throughout the city on subways, bus stands, and buses; partnerships with grocery stores in various boroughs to help raise awareness and gauge level of interaction with the campaign; and a website, including additional facts on animal-based foods, a recipe index, and a downloadable version of the toolkit. The toolkit will empower New Yorkers to increase their cool foods consumption and arm them with a set of eight, key actions New Yorkers can take with and without the support of the government. Here again included is the process that has led to the development of the campaign and toolkit, obstacles that these recommendations may face, and methods by which public awareness efforts can be maintained.

If adopted and pursued by the Food and Climate Change task force, this initiative has the potential to advance a large-scale increase in cool foods consumption in New York City and a parallel decrease in animal-product consumption; New York City will, in effect, secure its position as a global leader in the fight against climate change.

Glossary

Animal Based Products/Foods- any product derived from an animal, including meat, dairy, and eggs

Carbon Footprint- measure of greenhouse gases produced by a given activity

Climate Change- long term change in the earth's overall temperature

Community Supported Agriculture- cooperation between local farms and consumers that involves prepaying for fresh produce, helping the farmer with up-front costs and enabling the consumer to obtain fresh healthy produce

Cool Food- food that has low impact on climate change

Farmers' Markets- places where local farmers sell fresh produce to consumers

Food Deserts- areas where residents have limited or no access to fresh, healthy, and affordable food due to an absence of appropriate infrastructure; occur primarily in low income areas, presenting a social and climate justice issue

"Foodprint" Resolution- designed to reduce NYC's climate "foodprint," which acknowledges the connection between food and climate change

Geographic Systems Analysis- scientific process that uses software to analyze information on a geographic basis

Gray Literature- papers and reports issued by government agencies

Green Carts- mobile food carts that offer fresh produce

Greenhouse Gases- gases that trap heat in the atmosphere and contribute to global warming (e.g. Carbon dioxide, methane, and nitrous oxide)

GreenNYC- Mayor Bloomberg's plan to reduce greenhouse gas emissions by NYC by 30% by 2030

Mayoral Challenge- Mayor Bloomberg challenges universities to reduce their greenhouse gas emissions by 30% by 2017

PlaNYC- Mayor Bloomberg's plan, released in 2007 to improve NYC's infrastructure to handle growing population demands, while improving sustainability

Toolkit- set of actions and information that can be utilized to decrease contribution to climate change through consumption of animal products on an individual level

Abbreviations

CFSA	Cool Food Systems Assessment
DOE	New York City Department of Education
DOH	New York City Department of Health
FMCNP	Farmers' Market Cool Nutrition Program
GHG	Greenhouse Gases
NYC	New York City
NYS	New York State
SNAP	Supplemental Nutrition Assistance Program
WIC	Women, Infants, and Children Program
DOHMH	New York City Department of Health and Mental Hygiene
CACFP	Child and Adult Care Food Program
GIS	Geographic Information System
FAO	United Nations Food and Agricultural Organization
USDA	United States Department of Agriculture
FNS	Food and Nutrition Service
FRESH	Food Retail Expansion to Support Health
HFHC	Healthy Food and Healthy Communities Fund
CSA	Community Supported Agriculture
UCLA	University of California Los Angeles
EBT	Electronic Benefits Transfer
CFPCGP	Community Food Projects Competitive

PA

PTA

CCDBG

FSE

Grant Program

Parent Association

Parent Teacher Association

Child Care and Development Block Grant

Food Service Establishment

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Introduction

In the past decade, the global community has taken strides to better understand and act against the adverse implications of food production on climate change. The groundbreaking report by the United Nation's Food and Agriculture Organization (FAO), *Livestock's Long Shadow: Environmental Issues and Options*, has brought to the forefront the particularly detrimental effects of producing and consuming animal-based foods.¹

The livestock industry contributes more to global climate change than the global transportation sector and is alone responsible for 18 percent of global greenhouse gas (GHG) emissions.² In terms of anthropogenic GHG emissions, livestock production generates 9% of the CO₂, 65% of NO₂ (which is 296 times more potent a GHG than CO₂), 37% of methane (which is 23 times more potent a GHG than CO₂), and 64% of ammonia.³ Gasses such as CO₂, NO₂, and methane contribute to global warming by absorbing and radiating back to earth infrared energy that would otherwise escape into space.

In 2006, 30% of the land surface of earth was occupied with livestock operations, and the livestock sector was reported to be the fastest growing agricultural sub-sector.⁴ The impact of the burgeoning livestock industry is not limited to an increase in GHG emissions. The livestock industry is responsible for depleting seventy-percent of the old-growth forests of the Amazon. In some poorly managed areas, overgrazing, soil compaction and erosion are advancing desertification. Additionally, toxic byproducts of livestock husbandry can result in the severe contamination of the earth's water supply.⁵

In order to more fully contextualize the animal-based foods and climate change connection, it is important to understand the historical and contemporary roots of food and agriculture policy in the U.S, particularly the Farm Bill, an omnibus legislation that governs federal food and farm policy and is renewed every five years⁶. The evolution this policy has taken in the past half century is the direct and indirect result of current and historical agricultural policies and subsidies.

The most current Farm Bill, “The Food, Conservation, and Energy Act of 2008”, finds its roots in federal farm legislation enacted during the New Deal, establishing safety nets for farmers against weather and price volatility⁷. In the process, mechanisms were developed to stabilize prices by managing the supply of commodity crops (e.g. corn, soybeans, wheat) and ensure that farmers received a higher price than the cost of production⁸. These programs were weakened during the Reagan Administration before being eliminated by the Freedom to Farm Bill of 1996⁹.

In the nine years following the passage of the 1996 Farm Bill, corn and soybean production rose 28% and 42%, respectively while prices fell by 32% and 21%. The bill ended most remaining federal programs to keep commodity production in check, resulting in increased production and plummeting prices¹⁰. In its place, Congress enacted the framework for the subsidy system that predominates our agricultural policies today.

Large livestock firms, not farmers, have been among the main beneficiaries of U.S. farm policies since 1996. With the current system, these companies are able to use commodity crops as an input: when the price of the input drops, they receive a discount on their production costs. While the cost advantages of industrial livestock operations are often attributed to efficiency gains from economies of scale, research suggests that federal farm policy has actually played a significant role in “subsidizing” these operations by ensuring low market prices for feed crops. Research demonstrates that industrial livestock firms collectively saved almost \$4 billion per year between 1997-2006, saving nearly \$35 billion in totality.¹¹ These findings indicate that U.S. agriculture policies (i.e. the Farm Bill) have made industrial livestock operations artificially more cost-efficient than they would if feed were properly valued in the marketplace, leading to saturation in the food choices available to consumers today.

As the most populous and ethnically diverse city in the United States, New York City has the opportunity to be a leader in this still nascent movement of encouraging the reduction of animal-based foods as a point of entry for reducing the climate impact and GHG emissions associated with the city. The NYC government has already exhibited commitment to addressing climate change and responsible growth, through the comprehensive policy program, PlaNYC. The PlaNYC infrastructure plan aims to prepare NYC for an additional one million residents while improving the City’s

sustainability and reducing GHG emissions affiliated with NYC by 30% by the year 2030.¹² Additionally, the GreeNYC campaign, under PlaNYC, looks to educate New Yorkers about the environmental impacts of their lifestyle choices, emphasizing the actions they can take to reduce their own carbon footprint.¹³ Even in the latest iteration of the PlaNYC report – released April 2011 – the GHG emissions associated animal-based foods are neglected, although a “Food” section was added, and thus the importance of including food in attempts to reduce GHG emissions was acknowledged.¹⁴ Also recently, there have been efforts by municipal leaders to emphasize in various ways that the food system is an essential component of meeting New York City’s ecological, public health, and economic goals. These include Manhattan Borough President Scott M. Stringer’s “FoodNYC” report in 2010,¹⁵ City Council Speaker Christine C. Quinn’s “FoodWorks” report also in 2010,¹⁶ and Public Advocate Bill de Blasio with his introduction of the “Foodprint” Resolution (Res. No. 2049) in 2009, which was not voted on by City Council.¹⁷ However, in spite of sustainability being a stated concern in each of these reports, the issue of animal-based products was either neglected, as in “FoodWorks”, or was addressed with recommendations that were not effectively implemented, as in “FoodNYC” and the “Foodprint” Resolution. Therefore, when addressing ecological concerns in reforming the New York City food system, the issue of animal-based products must be taken into further consideration.

In this initiative, we propose a set of policy measures and a public outreach campaign, accompanied by a set of tools for New Yorkers, as a way to help fulfill the goals for GHG emissions reductions that is intended by PlaNYC. Without factoring in animal-based foods, a significant portion of the city’s greenhouse gas emissions are being left unaccounted for. This initiative will be titled “Eating for the Green Apple” (EGA).

The Mayor’s Initiative on Food and Climate Change task force has a responsibility to inform its citizens about the environmental, social, and economic hazards of continuing to consume animal-based foods at the current rate in New York City, as it was specifically created to address such issues. New York City has an opportunity to set an example for the rest of the country—and the world—in addressing climate change through changing consumption patterns. New York has always been a global leader, and this initiative presents the opportunity to assert that leadership anew.

Reducing livestock-based foods consumption must be a citywide effort, in order to engage and influence as many stakeholders and citizens as possible. Leadership exhibited by the city government will empower organizations and individuals to get involved by way of having direction and guidance in order to reduce their consumption of animal-based foods. While there are many avenues through which city government policies can affect consumption patterns (including but not limited to regulating procurement, and mandating education), civic engagement will be a necessary component in this effort. New York City is not averse to public health campaigns, as evidenced by the Pouring on the Pounds campaign against sugar-laden drinks,¹⁸ and the NYC Quits! anti-smoking campaign and accompanying legislation.¹⁹ These initiatives aim to influence consumer behavior through education and awareness, but also through politics and legal action. Our initiative, though similar in its charge to influence consumer behavior, is not a public health campaign. Rather, using climate change as our point of entry, we aim to highlight the connection between the consumption of animal-based foods and the associated greenhouse gas emissions.

Policy Working Group

Summary

We aim to reduce GHGs associated with animal products by 30% by 2030, similar to the preexisting goals of PlaNYC. Originally released in 2007, PlaNYC is an ambitious effort undertaken by Mayor Bloomberg to prepare and refurbish the city's infrastructure. Within this undertaking, PlaNYC seeks to prepare the city for one million more residents, strengthen our economy, combat climate change, and enhance the quality of life for all New Yorkers. In order to reach this goal, we propose a series of both short and long-term policy initiatives, which fall into three categories:

- “Cool Foods System Assessment” that analyzes NYC’s current food system and provides a detailed assessment of food policy. This assessment will allow us to determine the most viable avenues for change in food policy to proportionally

increase the amount of plant-based foods consumed by New Yorkers while decreasing the amount of animal-based products consumed.

- Reduce the GHG emissions associated with animal products consumed in NYC, with a strong focus on low-income communities. Given structural and economic constraints, these communities will be among the most affected by the negative effects of climate change in New York City. Therefore, we propose reducing the occurrence of food deserts in low-income communities. As defined by the Centers for Disease Control and Prevention, a food desert is an area that lacks access to affordable fruits, vegetables, whole grains, low-fat milk, and other foods that make up the full range of a healthy diet. This will be accomplished by utilizing preexisting programs such as SNAP and WIC (food stamp programs) to incentivize the purchase of plant based products in place of animal-based products, which, owing to access, are consumed more heavily in food deserts than in non-food deserts. Given to preexisting socioeconomic conditions and current community infrastructure (e.g. zoning policies, lack of access to effective public transportation, and high-corner store density) supermarket development is made more difficult in food deserts. To combat this, we plan to work with existing initiatives and funds to incentivize development of supermarkets as well as increase the number of Green Carts and farmers' markets in low-income areas.
- In addition to our focus on low-income communities, we propose recommendations for educational institutions and programs to promote cool foods in place of animal products. In the public sector, we recommend the facilitation of advocacy for cool foods in schools by parents, teachers, administrators, and students, through the expansion of Wellness Committees and SchoolFood Partnerships, and through forming a network of alliances with organizations which will educate these parties on the connection between animal products and climate change. Also, the proposed Cool Foods Systems Assessment will help identify areas where food procurement policies may be modified to result in the greatest reduction in animal-based product consumption, while maintaining cost-effectiveness. Furthermore, we include several proposals for the afterschool sector, incorporating a more integrated

nutrition and climate change curriculum while simultaneously utilizing more elastic procurement policy to effectively teach more climate-friendly eating patterns.

Methodology

In preparing our recommendations for the Mayor's Initiative on Food and Climate Change task force to reduce New York City's animal-product consumption and the associated greenhouse gas emissions, we undertook a close examination of a wide array of topics spanning from the science, politics and economics of climate change, to an examination of various initiatives established by cities around the world. We gave particular focus to information concerning the link between animal-product consumption and climate change, such as the Food and Agriculture Organization's "Livestock's Long Shadow" report and its critiques, initiatives aimed at augmenting the diets and habits of large and diverse communities, such as London's "Healthy and Sustainable Food for London" initiative and First Lady Michelle Obama's "Let's Move" campaign, and initiatives that highlighted the New York City's governmental structure and implementation process, such as the NYC Bed Bug Advisory Board's "Recommendations on the Management of Bed Bugs in New York City" report. Additionally, much time was spent investigating NYC's efforts to combat climate change, as outlined in the 2007 "PlaNYC 2030" report, and efforts to include an examination of food sourcing and waste management in NYC's calculus of its environmental impact, such as Manhattan Borough President Scott M. Stringer's "FoodNYC: A Blueprint for a Sustainable Food System" report and the revised "PlaNYC 2030" report, released in April 2011.

Research has not, however, been restricted to an assessment of the sciences and municipal politics. We have also examined the work and efforts of not-for-profit organizations working to reduce animal-product consumption and improve nutritional health and environmental awareness, such as the efforts of Bill McKibben's 350.org and the Brooklyn Food Coalition's initiatives within NYC. Further discussion was held on the legal powers of the NYC Mayor's Office, as well

as the City's political process, with municipal professionals. In the research and preparatory period, the group regularly conversed with one another and sought feedback on food, diet, the resistance that many express in response to changes in dietary habits, and the opportunities that exist in shifting to a more climate-friendly diet.

Over the course of our research, the policy working group has identified areas where animal-product consumption and the associated GHG emissions can be significantly reduced, and methods that will be successful in achieving this reduction. Our exploration has led us to develop a robust set of policies that would work to reduce NYC's animal-product consumption and the associated GHG emissions, while establishing NYC as a leader in the effort to combat climate-change through municipal policy. Furthermore, we have identified opportunities for municipal collaboration with non-governmental community organizations, as well as identified obstacles to the implementation of the recommended policies.

Our research has undergone several phases, from an initial assessment, or a scoping, to the "pitching" of our policies to concerned professionals, and finally to the product we present to the Mayor's Initiative on Food and Climate Change. Here you will find detailed explanations of the proposed policies, a rational justification for their pursuit, and a discussion of the obstacles and hardships the policies may face. These policies are rooted in previous efforts within NYC and elsewhere, but work to attain a unique goal: a drastic and municipally encouraged reduction of animal-product consumption and the associated GHG emissions.

Policies

Establish the Cool Foods Systems Assessment (CFSA) Task Force

The Cool Foods Systems Assessment is based, in part, on the 2005 San Francisco Collaborative Food System Assessment,²⁰ and a NYC Food System Assessment proposed by a New York University students participating in a Capstone Seminar.²¹ The goal of the CFSA will be to: (1) develop baseline measurements of New Yorkers' animal-product consumption and the associated GHG emissions, (2) identify and assess differences, if

they exist, in animal-product consumption amongst various cultural and socioeconomic demographics, (3) identify opportunities to reduce animal-product consumption and/or associated GHG emissions, educate New Yorkers on the connection between diet and GHG emissions, and propose efficient and cost-effective recommendations to reduce animal product consumption in NYC. The CFSA will serve as a tool for policy-makers, city-planners, and community organizers. One especially important goal of the CFSA will be to assess existing City programs with the goal of feeding New Yorkers and increasing access to healthful food. These programs should be assessed for their capacity to increase their focus on animal-product consumption reduction and educating New Yorkers on the importance of a largely plant-based diet.

The CFSA will compile data and information collected from various federal, state, mayoral, and non-profit organizations concerned with the NYC food system (ex: USDA, NYS Office of Temporary Disability Assistance, NYC Human Resources Administration, and Food Systems Network NYC), advocates and experts in the fields of climate change, food politics and nutrition, managers of large food distributors (e.g. Hunt's Point), professionals (grocery store owners, restaurateurs, and chefs) and officials from various government agencies (Department of Education "DOE", Department of Health and Mental Hygiene "DOHMH", Department of Consumer Affairs, Department of City Planning, the Department for Long-Term Planning and Sustainability, and the Child and Adult Care Food Program "CACFP"). The task force will work closely with the aforementioned parties to collect data on the GHG emissions associated with the consumption patterns of New Yorkers. Furthermore, the task force will work closely with statisticians and experts in Geographic Information System (GIS) to analyze and compile the data and assemble it such that will be useful to policy makers and advocates. This information should be released in an initial report, and will be continuously maintained in subsequent reports assessing the progress of the Mayoral initiative to reduce animal-product consumption in NYC; reports should be released no less often than every five years.

The CFSA Task Force will require staffing and a working budget. Previous food systems assessments have required 17-30 committed personnel and have cost from \$70,000-\$2 million, though much of the staff have been volunteers and the budgets have

been drawn largely from grant money.²² As New York City is the largest in the nation and the *Cool* Food Systems Assessment may prove to be more complicated than previous assessments, it is reasonable to assume that cost and staffing demands of the NYC CFSA may be higher than previous assessments. The CFSA Task Force should seek funding from the USDA Community Food Projects Competitive Grants, which are awarded in amounts up to \$300,000, but should also seek out funding from private grants and municipal budget, if necessary.

Increase Monetary and Geographic Access to Cool Foods in Low-Income Communities

In line with the Mayor's initiative to reduce animal-product consumption and the associated GHG emissions, we recommend that the Initiative on Food and Climate Change work to decrease the consumption of animal-based products in low-income communities, while increasing monetary and geographic access to healthful plant-based foods. We have decided to focus on low-income communities for five reasons:

1. SNAP beneficiaries represent a large percentage of New Yorkers: SNAP beneficiaries represent approximately 17.2% of the NYC population (November 2010), a 42.2% increase in participation since 2007.²³ Furthermore, a large number of New Yorkers are eligible for SNAP benefits, but do not yet receive them.²⁴ Thus, the low-income population represents a large portion of New Yorkers; reduction of animal-product consumption among this population would represent a significant change in the overall animal-product consumption in NYC.
2. Historically, low-income communities have been the victims of poor access to healthful, plant-based foods and consume a diet that generally includes fewer plant-based foods. According to the New York City Department of City Planning, approximately three million New York City residents lack regular access to nutritious and non-processed food, including plant-based foods. Additionally, low-income citizens often fall prey to preventable diet-related illnesses (primarily diabetes and heart-disease). Helping this population shift from high-fat diets containing a large proportion of animal-based products to a more healthful, and less GHG-emitting, plant-based diet, will also result in long-term savings in health-care costs, while improving the individual health of low-income community members.²⁵ Last year

New York State spent \$6.1 billion on obesity related health issues, the second highest expenditure of any state in the nation.²⁶ In concert, diabetes rates in the United States have doubled in the last 10 years. A recent DOHMH report stated that 700,000, or approximately 8%, of NYC residents suffer from diabetes²⁷. More alarmingly, residents of East and Central Harlem, areas chronically plagued by lack of access to fresh and healthful foods, suffer from diabetes rates of 13% and 12% respectively.²⁸ Additionally, unbalanced diets, or those with micronutrient deficiencies, can result in poor cognitive functioning and increased risk of disease.²⁹

3. An insidious climate change connection exists between food deserts and fast food consumption. Fast food generally focuses on an animal-product that is central to the meal. Fast food is often deep fried, high in fat, and prepared with little consideration for quality. The majority of fast food is animal-based, with McDonald's® being the top global purchaser of beef and pork products, and the second global purchaser of poultry.³⁰ Additionally, studies conducted by Stockholm University have found that if 300,000,000 Americans, or the total U.S. population, ate an average of 50 hamburgers per year it would result in 65,250,000 metric tons of CO2 emissions.³¹ Low-income community members, who are driven to eat fast food and processed food because of their geographic location in food deserts, end up contributing more to climate change, which more adversely affects those who cannot afford to adapt.
4. Though the United States Department of Agriculture (USDA) Food and Nutrition Service (FNS) provide SNAP funding, states and municipalities distribute benefits locally, which allows for the implementation of pilot programs.³² Additionally, New York City has experience in establishing programs aimed at modifying the eating habits of low-income New Yorkers. These ongoing programs include the 2008 Green Carts Program,³³ aimed at expanding the number of vegetable food vendors in low-income areas, the 2005 Healthy Bodegas Initiative,³⁴ and the 2008 Food Retail Expansion to Support Health (FRESH) program.³⁵ In addition to the experience provided by these programs, the programs themselves can be modified and expanded to serve the goal of reducing animal-product consumption and the associated GHG emissions.

5. There are currently many community organizations and non-profit organizations working in NYC's low-income communities to increase access to healthful foods. These organizations can serve as essential collaborators, as they are tuned in to community needs and behaviors. Likewise, they can provide the Mayor's Initiative on Food and Climate task force and the Eating for the Green Apple campaign office with recommendations to more effectively reach these various low-income communities and their members, as well as disseminate materials to aid these communities in their efforts to eat a larger proportion of plant-based products (e.g. toolkit materials and recipes) and hold events to encourage them to reduce their animal-product consumption (e.g. cook-outs and cooking classes). These organizations may include WE-ACT, the Brooklyn Food Coalition, Just Food, Sustainable South Bronx, and the New York Bronx Green-Up, among others.

Policies to Increase Geographic and Monetary Access to Cool Foods in Low-Income Communities

In order to improve the health of participating New Yorkers, while also reducing the GHG emissions associated with their eating habits, the Mayor's Office should support policy initiatives aimed at increasing access to healthy plant-based food in low-income communities. These policies are:

- Reducing the size and number of Food Deserts in NYC by expanding existing programs.
- Expanding the Green Cart Program, and changing it to the Cool Green Cart Program, which will require that cart operators receive education on the GHG emissions associated with animal-product consumption and the reductions associated with a plant-based diet.
- Initiate the Farmers' Market Cool Nutrition Pilot (FMCNP) to incentivize the purchase of plant-based foods by SNAP beneficiaries at farmers' markets.

Reduce the number and size of Food Deserts in NYC

In order to reduce the size and number of food deserts in NYC, we recommend that that the number of supermarkets, farmers' markets, and green

carts be increased. This will facilitate access to plant based foods. We also plan to establish a policy called the Farmers Market Cool Nutrition Pilot, which will incentivize the purchase of plant based food while disincentivizing the purchase of animal based products under the preexisting infrastructure of SNAP and WIC (food stamp programs).

In New York City, there are areas where there are no locally accessible supermarkets or farmers' markets; these areas are known as "food deserts." According to the NYC Department of City Planning, "food deserts are areas that lack access to affordable fruits, vegetables, whole grains, low- fat milk, and other foods that make up the full range of a healthy diet."

Residents of food deserts are forced to choose less healthy food options more frequently, which has been linked to increases in levels of obesity and subsequently heart disease and diabetes. Moreover, these consumption patterns lead to detrimental climate impacts due to high animal-product consumption and food processing.³⁶ If food desert residents intend to use SNAP/WIC benefits, they are forced to shop in 'bodegas' and corner delis, as opposed to larger supermarkets or farmers' markets, where there are fewer fresh-food options. It is estimated by the New York City Department of City Planning that 19 of these low income neighborhoods, when looked at in totality could support an expansion of supermarkets and farmer's markets equal to approximately 1.1 million square feet of full-service supermarket space.³⁷

The existence of food deserts represents a social justice issue. Low rates of supermarket and food venue density correlate to communities with lower-than-average household incomes and communities of color. Historical structural barriers with roots in prejudiced housing and zoning policies have succeeded in compounding the problem. Conjointly, in NYC, it is often the communities with the least accessible food purchasing options that have the highest rates of preventable, diet-related disease. There is also an issue of climate justice. The areas that will be impacted the most by climate change are also the areas that are least equipped to deal with these issues.

Corner stores, like liquor stores, delis, and fast food restaurants dominate food deserts because large-scale supermarkets are wary of entering low-income neighborhoods. Since supermarkets need a lot of customers to make a profit, they would rather build a supermarket in a higher income area, where they know they will make enough money. There is also a perceived higher risk to operating a business in a low-income area because of the association between low-income neighborhoods and increased crime, such as vandalism and theft. There is also limited available space, structurally, in low-income neighborhoods. Leasing enough space for a supermarket is very expensive and there is little incentive for supermarkets to enter into food deserts due to limited prospect of profitability and high real estate costs.³⁸ Conversely, in high-income areas, supermarkets are easily accessible and there are no food deserts to be found, as in neighborhoods like the Upper East Side. However, they are prevalent in low-income communities in Harlem, Brooklyn, and the Bronx.

In order to encourage supermarkets to enter food deserts, we propose expanding the Healthy Foods and Healthy Communities Fund (HFHC), as well as the Food Retail Expansion to Support Health and Healthy Supermarkets initiatives. We also propose to provide additional incentives to grocers that encourage the purchase of plant-based foods by various mechanisms, including discounts or education campaigns. In addition, we propose to increase Community Supported Agriculture, the number of farmers' markets, and the Green Carts Program, as well as initiate the Farmers Market Cool Nutrition Pilot.

Currently, New York City's Food Retail Expansion to Support Health Program (FRESH)³⁹ helps establish grocery stores in food deserts by offering retailers real estate tax reductions and zoning incentives. The Healthy Food and Healthy Communities Fund (HFHC) has made \$30 million available to food desert projects. The Healthy Supermarkets Initiative is funded by the DOHMH, and focuses on "ensuring that customers have access to high quality produce" by helping retailers improve their stores through presentation and proper maintenance and storage.

Another avenue to increase access to fresh and affordable food in low-income communities is through Community Supported Agriculture (CSA) among

under-served New Yorkers, through city programs that extend 'loans' to SNAP beneficiaries so that they may cover the upfront costs necessary to join a CSA. CSA membership has the dual benefit of providing members with a variety of fresh, local, healthful (largely but not solely) plant-based foods, while providing capital to farmers at the beginning of the growing season, when it is most needed.

Programs that work to increase access to healthful, plant-based foods by residents of underserved neighborhoods often run into two major obstacles: a lack of funding for their initiatives, and a lack of access to real estate to construct supermarkets and host farmers' markets. Municipal funding is hard to obtain through lengthy approval processes and waiting times. A potential solution lies in more efficient and comprehensive utilization of the HFHC Fund and the Federal Healthy Food Financing Initiative, which receives an approximately \$400 million annual budget and is designed to bring healthy food and to low income communities.

Since there are so many people utilizing SNAP and WIC benefits living in food deserts, these are concrete avenues for updated policy to cause change in food choices. Incentives can be built in to encourage the purchase of fruits and vegetables, through the subsidization of these products. A program called "Health Bucks" has already been implemented in New York City. This program gives lower-income residents a \$2 coupon for every \$5 spent using food stamps that can be used at farmers' markets.⁴⁰ This program was developed by the DOHMH, serving communities in the South Bronx, East and Central Harlem, and Central Brooklyn during the spring and summer seasons. This program can be expanded and more effectively promoted.

A University of California-Los Angeles study, conducted in 2008, targeted subsidy implementation and fruit and vegetable purchases among WIC participants. Participating women were given food vouchers for six months to be used only at farmer's markets. The study found that participants increased their consumption of fruits and vegetables, and maintained that increase even after the vouchers were no longer available.⁴¹

The introduction of farmers' markets into low-income communities and incentivizing the utilization of SNAP and WIC benefits at these farmers' markets can lead to a more healthful diet that includes more plant-based products like fruits and vegetables. If meat is purchased at a farmers market, it is likely that it will be locally and more sustainably produced, making it preferable to industrially produced meat available at supermarkets, corner stores and fast food restaurants. The presence of farmers' markets encourages the buying of fresh produce, which then informs the buyer of alternative dietary options that were not previously available to them, which will put them on the path of a more sustainable diet.⁴²

Modify and Expand the Green Carts Program

The Green Carts Program was established by the 2008 Local Law 9 with the goal of distributing Green Cart low-price permits to 1,000 vendors, and is managed by the NYC DOHMH.⁴³ This policy was pursued in order to expand healthful eating in low-income neighborhoods. As such, vendors are only allowed to sell fruits and vegetables and only in designated low-income areas, for example North and Central Brooklyn. Unfortunately, fewer than half of the available permits have been granted due to lack of interest in the program. Further, a recent assessment from the Office of the Manhattan Borough President reports that Green Cart vendors often park near brick-and-mortar greengrocers to attract customers with their lower prices.⁴⁴

We recommend that this program be expanded, such that the remaining permits are granted, so that these vendors may reach more New Yorkers. Additionally, the Green Cart vendors should be forbidden from placing their carts within some number of blocks from an established green grocer. Furthermore, the Mayor's Office should recommend that the name of the program be changed to the "Cool Green Carts Program". Accompanying this change, materials discussing the GHG emissions reduction associated with a largely plant-based diet would be included in the Cool Green Cart brochures and resources for Cool Green Cart vendors and customers, which will be available in at least English and Spanish. Additionally, vendors will be taught about the association of GHG emissions with the consumption of various foods during their mandatory workshop training.

It is not clear that additional funding will need to be allocated to accompany this modification of the Green Carts program, as an operating budget has been established with the program itself. The City should work with private organizations that are concerned with food justice and equity in low-income areas to encourage the expansion of the Green Carts program in their neighborhoods. Additionally, materials to educate vendors on the GHG gas emissions affiliated with animal-based products versus plant-based foods can be provided by the Eating for the Green Apple campaign office.

The primary opposition to the expansion and modification of the Green Cart program has been touched upon in Manhattan Borough President Scott Stringer's 2011 "Red Tape, Green Vegetables" report.⁴⁵ There he discusses opposition that may come from those greengrocers who are concerned that their business will be adversely affected by the expansion of the Green Carts program. This opposition should be countered by the proposed modification to the program stipulating that Green Cart operators park their carts a given distance away from other vendors. Furthermore, grocers should be mollified by the fact that the same initiative that is pursuing the expansion of the Green Carts program is also working to increase plant-based product consumption in NYC, and thus their sales of fruits and vegetables.

Launch the Farmers' Market Cool Nutrition Pilot (FMCNP)

The Council for Environmental Quality, through GrowNYC, the privately-funded citizens organization operated out of the Office of the Mayor, should establish pilot programs, in concert with the FMNP and Greenmarket NYC, that would encourage the purchase of plant-based products, while discouraging the purchase of animal-based products, for those who receive SNAP benefits. SNAP benefits that are used to purchase plant-based products would receive \$1.25 per \$1.00 of benefits spent. In contrast, animal-based products would receive \$0.75 on the dollar. Participants would be encouraged to participate in the pilot when they 'buy' Farmers' Market tokens using their EBT cards at the market's managerial

table. Participants would be quickly instructed on the environmental and health benefits of a plant-product based diet, as opposed to an animal-product based diet. Participants would receive corresponding green-colored tokens for plant-based foods, and red-colored tokens for animal-based foods. Recurring participants will be asked to fill out questionnaires that would ask about their eating and purchasing habits within and outside the FMCNP, so that the success of the program may be determined. In particular, it should be determined if an increase in cool foods purchasing at farmers' markets causes a spillover effect in such purchasing at other venues.

In 2010 nearly \$500,000 worth of SNAP benefits were spent at 40 EBT-accessible farmers' markets in NYC,⁴⁶ representing a doubling of SNAP benefits spent at farmers' markets since 2009. If all of these purchases went to unprepared fruits and vegetables (typically, only 80% do),⁴⁷ this program would cost \$125,000 if it were initiated at all EBT-accessible farmers' markets. The Mayor's Office should attempt to allocate funding for this pilot from the operating budget for the SNAP dispersal offices. Additionally, the Mayor's Office can seek out funding from the USDA's Community Food Projects Competitive Grant Program (CFPCGP), a federal grant program that seeks to increase access to healthy foods in low-income communities through the award of competitive, but high-value, grants. Of course, the budget of this program would depend on the number of participants and their purchasing habits, and the operating costs of this program. If this program is successful, it should be expanded such that education on the environmental impacts of food choices be handled on a community-level, rather than on a participant-to-participant basis; rather than providing participants with resource materials, participants would attend an orientation or seminar, which would educate on the environmental degradation associated with animal-products and the importance of maintaining a largely plant-based diet.

Increase Access of Students to Cool Foods in Public Schools and Afterschool Programs

In addition to our focus on low-income communities, the policy working group proposes changes in educational institutions and programs to promote cool foods and reduce the consumption of animal-based products, as these have the potential to reach a large and diverse demographic. There are approximately 1.1 million children in the New York City public school system,⁴⁸ and over 640,000 children in the afterschool program,⁴⁹ and therefore the NYC DOE and the afterschool program have influence over the eating habits of many children in New York City. Furthermore, in addition to reducing GHG emissions, replacing animal products with cool foods in educational institutions and programs have the added benefit of positively affecting public health, as cool foods are strongly correlated with being healthy foods.⁵⁰

Policies to Affect Procurement in Educational Institutions and Programs

Food Procurement in NYC Public Schools

In addition to influencing a large number of people, public educational institutions are also an effective entry point due to the fact that the New York City Department of Education has ample procurement power, as it is the second largest purchaser of food among institutions in the United States.⁵¹ This scale of procurement gives the NYC DOE the power to influence the national food system by altering its procurement policies. Furthermore, some NYC schools have already adopted programs that reduce the consumption of animal products, such as Meatless Monday⁵² and Project Cool School Food,⁵³ which provides precedence for replacing animal products with cool foods in public school lunches. Therefore, we propose the following recommendations:

1. Empower and motivate parents, teachers, students, and administrators to advocate for cool foods in schools:

- As part of our “Eating for the Green Apple” Initiative, we recommend that alliances be formed with various non-profit organizations, including some of

those in the NYC Foodprint Alliance as well as the Meatless Monday organization. This network of organizations will assist our initiative in educating parents, teachers, students, and administrators about animal products, nutrition, and the connection to climate change.

- In combination with this network, we recommend that the Mayor through the Chancellor of the DOE, make Wellness Committees (also known as Nutrition Committees) mandatory for each school's corresponding PA/PTA. Wellness Committees are made up of parents and teachers from a school's PA/PTA, and work towards improving foods served in their corresponding school.⁵⁴ As PAs/PTAs are already mandatory for each NYC school by state law, this recommendation would require a revision of the Chancellor's Regulation A660, which regulates the bylaws produced by PA/PTA.⁵⁵ Furthermore, we propose that SchoolFood Partnership meetings, which are meetings held by SchoolFood Managers to facilitate communication between the Office of SchoolFood and parents, students, and school staff, be made more accessible and convenient to these parties, in order to maximize this communication.⁵⁶

2. As another part of our initiative, the CFSA will help to determine cost-effective ways in which the DOE procurement policy may be revised to favor cool foods. Specific programs that may be helpful in making these reductions are Meatless Mondays, as recommended by "FoodNYC", and the New York Coalition for Healthy School Food's Project Cool School Food program, which provides recipes of plant-based cool foods for school lunch food. Furthermore, the updated PlaNYC's ambition of altering NYC procurement practices to reduce solid waste may be a potential entry point for altering procurement of food.⁵⁷

Modify Food Procurement Policy and Cool Foods Education in High-Demand NYC Afterschool Programs to Reduce GHG Emissions Associated with Animal-Product Consumption

Given the institutional and language constraints existing in the realm of public school policy and procurement, afterschool programs can potentially provide a public venue for increasing public awareness and agency within low-income communities while serving to provide precedence for instituting similar programs in the public school realm. Additionally, these policy initiatives could have positive implications for our focus demographic.

Afterschool programs are a service in demand, particularly in low-income communities, where the single parent or both parents are often at work full-time. This is relevant to New York City where half of the City's children live in low-income families, with more than two-thirds of this population having both parents working full-time, necessitating safe and reliable child care for after school. Thus, there is a potential reservoir of untapped demand for enriching, safe, and educational afterschool programs.

However, the success of these initiatives is constrained by several complex factors: (1) notably budgetary concerns or access to public funding; (2) lack of public awareness of existing afterschool programs; (3) limited reach of the existing programs.

Within this proposal, the Mayor's Office should recommend:

1. The Mayor's Initiative on Food and Climate Change, under the auspices of the New York City Mayor's Office, should recommend the creation of an afterschool food and climate change educational program with a strong emphasis on the role of animal-based foods. This program should seek to integrate itself with already existing programs to facilitate an easier transition into community and school culture. Utilizing already existing program infrastructure will also potentially limit excess costs.

2. The development of robust relationships with community and non-governmental organizations to act as collaborative partners in the development and application of the curriculum. Potential partnerships and collaborations could be sought with existing programs such as the Eat Well Play Hard program and with the nongovernmental sector with organizations such as Solar One.

3. The development of an afterschool childcare grant for low-income families, specifically intended for enrollment in integrated health and climate change education programs.

Afterschool programs provide services and benefits that are in high demand: enriching, safe, and rewarding environments, which seek to facilitate academic excellence and provide the tools and skills needed to succeed as an adult. These programs are particularly in demand in low-income communities, where accessing affordable and reliable childcare can be problematic.

In New York City, 56% of the city's children, or 1.1 million, live in low-income households⁵⁸. Within this demographic, 69% of low-income children have at least one parent who is employed.⁵⁹ In a study profiling the quality of afterschool programs available to low-income children, researchers found that that most low-income children have both or one single parent working at the end of the school day, leaving children unsupervised for hours at a time.⁶⁰ Additionally, low-income children would benefit from increased adult supervision, academic help, and a safe and stimulating environment. By this logic, all low-income children are in need of afterschool programs.

Currently, 21% or 644,287 of New York State's K-12 children participate in afterschool programs.⁶¹ More illuminating, 46% of all New York students currently not enrolled in an afterschool program would enroll if one were made available.⁶² Interpolating these statistics leads to the conclusion that while 79% of New York's K-12 children are not in afterschool programs, almost half of this population, or an additional 36% of New York's total K-12 children, would participate if these programs were made available. If afterschool programs were made more accessible and commonplace, potentially 57% of New York's K-12 students would be involved in an afterschool program.

Furthermore, surveys conducted by New York State Afterschool network (NYSAN) have indicated that 86% of adults favor federal funding for afterschool programs,⁶³ highlighting a potential venue in which to begin implementing the public school Wellness Committees. This broad public support should be harnessed

in order to create the fundamental change in attitudes and behavior surrounding animal product consumption.

Given that low-income communities are often the same communities suffering from lack of access to fresh and healthful foods, with correspondingly higher rates diet-related illnesses, integrated afterschool education programs aimed at NYC's K-12 population could be a robust starting point from which to begin addressing the health and societal issues affecting NYC's communities. These afterschool programs would incorporate age-appropriate scientific knowledge, incorporating climate change, and health and nutritional components, thus increasing education and awareness in an under-served population.

Policy designers and decision-makers have already begun to recognize the need for improved public awareness regarding nutrition. In conjunction, programs in health and nutrition are already a core aspect of afterschool curricula; potentially creating an easier transition to a curriculum that strongly ties our eating habits, particularly animal product consumption, to the health of our environment (i.e. climate change).

Given our project's scope within New York City, it is therefore necessary to highlight contemporary regional programs and public-private initiatives. Additionally, not any one organization or institution will have the capacity to undertake such an integrative program necessitating increased collaboration and utilization of existing infrastructure. This is useful in identifying programs or organizations that address issues similar to our goals or employ a framework potentially useful to the proposed programs. In the realm of climate change education, supplementary education programs are being provided to public schools by such organizations as Solar One, while health and nutrition education is being conducted across the city by organizations such as Peer Health Exchange and Girls for Gender Equity in partnership with the NYC DOE.⁶⁴

Another current example is the Eat Well Play Hard in Child Care Setting Program. The NYC DOHMH, in partnership with New York State, has developed the Eat Well Play Hard in Child Care Settings program, seeking to provide nutrition and physical activity curricula and training for childcare providers.⁶⁵ While this is a

promising program and one that offers many lessons for our own goals, these centers are limited to children under five. Increasing childhood diabetes and obesity rates necessitate a broader demographic scope and limited interventions, like those of the Eat Well Play Hard in Child Care Settings, could exacerbate the health and societal issues facing the rest of the K-12 population. This program provides many lessons on effective outreach and could potentially be a useful partner in establish our program. As with our own afterschool initiative, the long-term goal is to institutionalize these programs within the public schools.

A statewide example is the Advantage After School Program, which funds community-based organizations working in partnership with local schools to expand youth development-focused activities during non-school hours. Another state program, the Extended School Day/School Violence Prevention Program of the State Education Department has been providing competitive grants for collaborative projects between schools and community-based partners.⁶⁶ Given the need for strong, healthy relationships with community partners, successful afterschool community-school collaborations highlight the potential for afterschool programs to create positive change in the lives of their students and the communities who will benefit the most.



While the educational and awareness-raising components are crucial, these programs must also prove to be economically feasible for the communities for which they are intended. One potential entity to ensure sustainability is a grant program similar to the Child Care and Development Block Grant (CCDBG) which provides vouchers or subsidies for low-income parents to pay for childcare, including afterschool programs for school-age children (ages 5-12).⁶⁷ We would like to explore the potential for this program to promote the reduction of animal product consumption through a grant to provide a quality afterschool program teaching our integrated and practical education program on animal products and climate change to children and parents.

Afterschool Meal Procurement

Afterschool snacks and meals are a different entity from the regular school meal program and are consequently affected by a different set of nutritional guidelines and rules regarding procurement. One federal entitlement program involved in afterschool meals and snacks is the At-Risk Afterschool Snack and Supper Program. The At-Risk Afterschool Snack and Supper Program is a federally funded nutrition assistance program that helps qualifying afterschool programs provide free snacks and suppers to youth and teenagers. Currently, over 1,000 afterschool programs participate in the At-Risk Afterschool Snack and Supper Program in New York State.⁶⁸ As opposed to the Federal School Lunch Program, which is administered by the NYC DOE, the At-Risk Afterschool Snack and Supper Program is administered by the offices of the NYS Child and Adult Care Food Program (CACFP).⁶⁹

Unlike the NYC DOE procurement policy, the At-Risk Afterschool Snack and Supper Program is not as restricted in the methods of procurement available to the afterschool programs. In order to receive reimbursement, each snack and supper must meet USDA and NYS CACFP nutritional standards. Additionally, there is no comprehensive list of vendors associated with the program and staff from NYS CACFP can only offer suggestions.⁷⁰ This allows program facilitators to choose vendors who exercise and promote environmentally sustainable business practices that are in accordance with our GHG emissions reduction goals.

Below is a chart of required afterschool meal dietary guidelines from the CACFP. The guidelines are based upon nutritional needs, with flexible restrictions on differing nutrient sources (i.e. protein sources may come from non-animal based food stuffs such as lentils, beans, tofu, and peanut butter).

		Age 6 thru 12	Age 13 thru 18 ¹
	Snack Serve two of four components. Fluid Milk Juice or Fruit or Vegetable ² Meat or Meat Alternate Grains/Bread	1 cup 3/4 cup 1 ounce 1 slice	1 cup 3/4 cup 1 ounce 1 slice
		Supper Serve each component. Fluid Milk Meat, Poultry, Fish, Cheese, or Egg, or Cooked Dry Beans, Peas, or Peanut Butter ³ Vegetables and/or Fruits (must serve at least two different varieties ⁴) Grains/Bread	1 cup 2 ounces 1 1/2 cup 4 tbsp. 3/4 cup total 1 slice

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In conclusion, we propose that the Mayor’s Office take the following steps in implementing an integrative afterschool program in animal product and climate change education:

1. The Initiative on Food and Climate Change Task Force, under the auspices of the New York City Mayor’s Office, will recommend the creation of an age-appropriate afterschool food and climate change educational program to help facilitate fundamental attitudinal and behavioral change in the community. This program will primarily focus on the implicit relationship between our modern livestock and animal husbandry system and GHG emissions associated with them. Additionally, supplemental health and nutritional education will be integrated into the program in order to create the most community and environmentally beneficial program.

2. In order to facilitate the most cost-effective and resource-efficient afterschool program, the Mayor’s Office will develop strong relationships with community and non-governmental organizations to act as collaborative partners in the development and application of the curriculum.

3. Under the umbrella of this afterschool program, the Mayor’s Office will recommend the development of a afterschool child care grant for low-income families, specifically intended for enrollment in integrated health and climate

change education programs. This will provide safe and reliable afterschool childcare for low-income communities that are both educational and engaging for students.

Additional Recommendations

Since Mayor Bloomberg assumed office in 2002, he has used the visibility of the Mayor's Office to great effect in promoting and launching initiatives tackling poverty,⁷² public health,⁷³ and sustainability.⁷⁴ In line with Mayor Bloomberg's established goals of reducing New York City's greenhouse gas (GHG) emissions by 30% by the year 2030, the Mayor's Office will establish the City-wide Eating for the Green Apple 2030 initiative. This initiative will be launched via a Mayoral press event in concert with the revision of the "Mandatory Department of Health and Mental Hygiene Nutrition Standards for Healthful Eating Among Employees and Visitors" to include recommendations for cool foods consumption, and the revision of the Mayoral Challenge for Higher Education Institutions, a challenge to reduce GHG emissions by 30% by 2017, rather than 2030.

Mayoral Press Event and Accompanying Actions

We recommend that the Mayor's Office hold a press event signifying the establishment of the Mayor's Initiative for Food and Climate Change and the launch of the City-wide 'Eating for the Green Apple 2030 Initiative.'⁷⁵ At this event, the Mayor will encourage all New Yorkers to learn more about the association of an animal-based product diet with elevated GHG emissions, as compared with a plant-based diet, and to reduce their consumption of animal-based products, identifying this as the single most significant action a New Yorker can take to reduce their carbon footprint. At this event, the Mayor will concretely establish the goal of reducing animal-product consumption and the associated GHG emissions by 30% by 2030 (baseline values to be determined by the CFSA task force).

Additionally, the Mayor's Office should call for the revision of the "Mandatory DOHMH Nutrition Standards for Healthful Eating Among Employees and Visitors", a set of nutrition standards set for all food served in municipal offices and during municipal events, to include a cool foods standard, so that fewer animal-products will be eaten in municipal facilities.

Likewise, the Mayor's Office should call for the revision of the 2017 Mayoral Challenge. PlaNYC 2030 included the requirement that municipal facilities reduce their GHG emissions by 30% by 2017, rather than 2030. The Mayor's Office extended this challenge to the City's higher education institutions in the 2017 Mayoral Challenge. This challenge should be revised such that universities will commit to reducing animal-product consumption on their campuses.

Eating for the Green Apple 2030 Campaign Office

In order to establish and maintain the visibility of this Mayoral initiative, and to sustain the efforts of New Yorkers to reduce animal-product consumption, we recommend, in partnership with our colleagues working to establish recommendations for the Eating for the Green Apple campaign and toolkit, that the Mayor's Office should form an Eating for the Green Apple campaign office to: (1) produce campaign materials, including advertisements, commercials and posters that will aim to energize New Yorkers about the initiative, educate them on the environmental impacts of animal-product consumption, and teach them how to reduce their animal product consumption, (2) develop general toolkit materials (appropriate for all New Yorkers) and specific toolkit materials (aimed at subsets of New Yorkers, e.g. Community Organizers, Students, Restaurateurs, Chefs, etc.) with information on effective ways to reduce animal-product consumption and act on behalf of this City-wide initiative, (3) establish and maintain a website responsible for disseminating all campaign and toolkit materials, as well as directing New Yorkers to Mayoral press materials and publications associated with the initiative, programs, such as the FMCNP and the Green Carts program, which may help them reduce their animal-product consumption, and data associated with these programs,

Mayoral initiatives, and City-wide animal product consumption (as maintained by the CFSA task force). More detailed information on the initiation and sustainability of this campaign effort, as well as concerns for campaign methods and budgetary guidelines, can be found in the Campaign and Toolkit working-group's report, included in this document.

Obstacles

We realize that there will be obstacles to the policies that we have proposed. By anticipating these potential roadblocks, we will be more adequately equipped to surmount these challenges and succeed in our goal of reducing animal-product consumption in New York City. By outlining the obstacles, we can efficiently identify the issues that will face us in the process of policy-making and incorporate the mitigation of these obstacles into our mindset in order to avoid surprise or failure due to an unforeseen problem.

Our three-faceted approach focuses on conducting the Cool Foods System Assessment, increasing the access of low-income communities to cool foods, and facilitating change through education and increased access of climate friendly foods to students in the public school system.

The Cool Foods System Assessment (CFSA), which will attempt to conduct an evaluation of the food system in NYC with the goal to assess the patterns of animal-product based consumption, will face some obstacles in its implementation as well as its reception in the general community. As far as passing the policy proposal, the public will likely be largely unaware of the proposal itself, but policy-makers may oppose it if it requires a large municipal budget. However, the benefits of the assessment could be easily explained to these politicians. More of a concern is once the CFSA has been conducted there might be some public criticism due to a possible perceived bias toward plant-based products. The CFSA will focus on animal based products as a significant source of GHG emissions, so this accusation can be readily anticipated and it will be essential to convey much scientific data so that we can

avoid this issue. The largest obstacle is industry opposition as the CFSA focuses on promoting Cool Foods, made obvious in its title. We can expect industry opposition in general to all of the proposed policies, as our main goal is to reduce animal based products. It will be a constant balancing act to counter and attempt to avoid backlash from the industry.

The second facet of our approach focuses on low-income communities and increasing their access to cool foods. Since we plan to use preexisting infrastructure like SNAP and WIC programs in order to influence food choices, this can be seen as too “top-down” and we foresee criticism for the nature of our policy. But, we would counter this possible obstacle by emphasizing that in order for people to make cool food choices, they need to first have access to these choices. Once people living in current food deserts have access to healthy and affordable food, they can start to make informed climate-friendly food choices. They can do this through existing community organizations in which they can take control of their health and of the future of the climate. They can influence local-decision makers to keep cool food in their communities and focus on education on food choices only after policy creates accessibility for the low-income communities and opens the door for the cool food dialogue.

Obstacles to our third facet, the focus on procurement habits of public schools, include resistance to change by the Department of Education. Various professionals who interact with the DOE Office of School Food have informed us that the office is resistant to the idea of reducing animal products in schools, as they are concerned about interfering with people’s eating habits, and again, about backlash from the livestock industry. Furthermore, there are budgetary constraints, as changes to the procurement policy must be cost-neutral in order to be viable. The CFSA will help to determine possible ways of changing the procurement policy, but utilizing programs already in place in some schools, such as Meatless Mondays and Project Cool School Food, may prove useful in implementing these changes. Both of these programs involve the replacement of animal products-based foods with plant-based foods, and therefore may be potential tools, through alliances with the organizations that run them.

The obstacles that these policies will face will originate in a general resistance to change due to monetary concerns and ideology. The industry, the DOE, and the city do not want to lose any money. Parents might be afraid of taking meat from their children's diets and critics may not want policy changing the eating habits in low-income communities. However, these obstacles can be largely countered through education of the public on the effects that their food choices have on the environment. Once people are largely aware of the issue at hand, these challenges will largely disappear. Through constant determination and application, we will slowly get closer and closer to a greater understanding of the animal-based product and climate change connection.

Campaign and Toolkit Working Group

Summary

The Campaign and Toolkit Working Group has developed an Eating for the Green Apple (EGA) campaign and toolkit to supplement the above-described policy recommendations. The primary goal is to engage individuals and communities in the initiative by providing them with resources for taking action with and without the support of the government to reduce their climate footprint through the reduction of animal-based foods in their diets.

The campaign consists of a poster public education campaign throughout the city in subways, a website (eatingforagreenapple.weebly.com), and partnerships with grocery stores, bodegas, and supermarkets around the city.

The toolkit consists of an introduction, description of the connection between livestock industry and climate change, cool foods shopping guide, a recipe index, and a set of Eight Actions for the Empowered New Yorker.

These components are all discussed in depth in the following sections.

Background to the Campaign and Toolkit

Background on the EGA Campaign

We have used precedents, including New York City's "Pouring on the Pounds" campaign, and London's Mayor's Food Strategy and Implementation Plan, to understand structurally how best to create this campaign. New York City's "Pouring on the Pounds" campaign is comprised mainly of posters and short online videos that reiterate the campaign's slogan, "Are you pouring on the pounds?" Many of these posters feature beverage comparison charts that display caloric information for coffee, cola, juice, and sports drinks. The campaign's agenda seeks to provoke disgust from the viewer in order to create negative associations with these

beverages, as well as introduce the concept of individual agency in a non-accusatory way by encouraging viewers to make a choice with the line, “So don’t drink yourself sick.” Most of the “Pouring on the Pounds” campaign is directed at creating a stigma against fat, sugar, and sugary beverages. However, by means of the campaign’s website, a solution is offered encouraging NYC citizens to drink tap water and educating them on where NYC tap water comes from.⁷⁶

The London Mayor’s Food Strategy Implementation Plan, which includes the Healthy and Sustainable Food Report (published by the London Mayor’s Office in May 2006), aims to re-structure the food system of London to include more local foods, while also strengthening London’s economy. Although climate change is not a primary focus for the report’s recommendations, the London report’s implementation plan is useful in that it includes a set of specific actions for individuals and communities. However, not all of these actions are geared toward communities or individuals, but also the government and other institutions writ large. This is similar to the toolkit portion of this project, and is also helpful in informing what kind of language to use in the campaign. It provides a reference for appropriate messaging and language for a city government to use.^{77 78}

One successful initiative that bridged the socio-economic gap (where lower income communities are often excluded from consumer-based behavioral change programs) is the NYC Healthy Bodegas Initiative launched by the New York City Department of Health and Mental Hygiene in 2005 and re-published in 2010.⁷⁹ Targeted specifically at neighborhoods in the South Bronx, North and Central Brooklyn, and East and Central Harlem with exceptionally high obesity rates, the education-driven program seeks to encourage bodega owners to apply for permits allowing for the sale of fresh produce on the sidewalk (a great retail surface area), helps stores promote and advertise healthier items (in-store displays, improved storage and shelving, promotional materials, and window advertisements), and provides nutrition education and outreach in these communities. The program is now operating in more than 1,000 bodegas and has seen significant increases in customer demand for fruits, vegetables, and low-fat milk.

The EGA campaign and toolkit draws on these examples, as well as the practices of non-profit or non-governmental organizations such as WE ACT for Environmental Justice, 350.org, and Slow Food NYC. These various organizations, initiatives, and campaigns provided a foundation for understanding the target audience, methods of distribution, presentation, and potential metrics for program evaluation for this campaign

Background on the EGA Toolkit

The EGA toolkit has drawn influence from a wide range of toolkits and public outreach efforts. The decision to analyze both government toolkits and non-governmental initiatives was made deliberately in light of the fact that this an initiative that a municipal government should undertake, but it also contains elements akin to the efforts of non-profit organizations in trying to effect behavior change and gain the participation of a broad range of people.

The New York City Greenhouse Toolkit, which helps home-owners and building-owners find information on making their dwellings more environmentally friendly, has a segmented and easy-to-navigate website (<http://www.nycgreenhouse.org>), which we hope to emulate. The Cape Town Smart Eating Toolkit, which seeks to “provide knowledge around the linkages between food and climate change, as well as to encourage and empower people to make informed and climate-friendly decisions regarding their food consumption,” is an example of a toolkit targeted at the exact behavior change we are aiming for.⁸⁰ Additionally, the Meatless Monday Campaign, which is working towards reducing meat consumption through behavior change, has provided insight into the framing of meat-related messages,⁸¹ and 350.org’s strategies for instigating grassroots action and effecting changes in behavior of a wide constituency were beneficial to the development of this toolkit.⁸²

Finally, Bard College geophysicist Gidon Eschel’s lecture “Small Decisions, Planetary Consequences,” in which he outlines the climate-effects of various foodstuffs, has helped form the basis for which foods to target in the toolkit. His research concludes that people should “Eat plants. Avoid Beef. If you must – favor eggs.”⁸³ Among animal-based foods, eggs require the least amount of resources to produce.

There are a few key differences between municipal and non-profit initiatives. For example, city documents have an authoritative tone, cite the sources used, are very formal in their language, and suggest somewhat general actions. On the other hand, the initiatives disseminated by non-profit organizations have a more informal tone and engaging language, give specific actions, and tend not to cite the sources used. Neither type of toolkit tended to have specific actions that individuals could take to solve the problem at hand. Thus, the Eating for the Green Apple toolkit provides *specific guiding actions*, which will empower individuals and communities to take charge.

Description of Campaign and Toolkit

Description: Campaign

The campaign will engage New York City residents of various ages, ethnic backgrounds, and geographical locations through a citywide effort. This effort consists of posters strategically placed in subways and subway stations, as well as on buses, bus stops, and billboards, a campaign website, and partnerships with supermarkets, bodegas, and farmer's markets.

The posters feature an image of a person sitting at a table with a meal place setting. The person is intended to represent an average New Yorker and a variety of prototype images encompassing an aesthetically diverse group of individuals have been produced. Above each person is a quote that stresses the relationship between animal-based products and climate change. The place setting is empty, as the emphasis is intended to highlight the significance of the fact rather than direct attention towards vilification of any specific food product. Specific food products (for example, a hamburger) have also been omitted from the campaign posters to avoid potential backlash from the livestock industry. The image of the New Yorker along with an accompanying quote brings to light the connection that people have with their food, their health, and the planet. This conceptual junction also seeks to establish agency on behalf of the individual when making food choices, an example

of consumer empowerment. This connection provokes the viewer to explore additional and more substantive information located on the campaign website.

The campaign website has been created to serve as both a portal to information, as well as an interactive platform that fosters online community where people can share and get information (www.eatingfortheapple.weebly.com). The website domain will be featured on the posters and billboards. Additionally, the EGA policy recommendations, as well as the press release announcing the launch of the EGA initiative, will contain references to the website.

The website has the following pages:

Homepage – contains a brief description of the EGA initiative, an abbreviated discussion of why a visitor should get involved with this initiative, links to the Get Involved page, “Fast Facts” about animal-based foods and climate change, and will feature a slide show of the posters from the campaign

About EGA – contains a thorough description of the EGA initiative, a brief description of the work that has already been done along these lines by New York politicians to date (in order to provide the reader with some context for the EGA initiative), and a description of the EGA policy recommendations. It is also suggested that this section be updated with the historical development of the initiative, by means of a continuous timeline.

News and Updates – will contain information regarding new research, policy documents, news articles, activism developments, and an events calendar.

Get Involved – encourages visitors to contribute to the blog, view video testimonials from NYC residents describing why they have chosen to decrease their consumption of animal-based foods, and submit their own videos, and contribute to cool foods recipes. A downloadable version of the EGA Toolkit will be featured on this page as well.

Other Organizations – provides a reference to other projects, whether municipal or non-governmental, which are similar in scope and mission to the EGA initiative. This will strengthen the campaign by creating a sense of community around the issues that are presented.

Additional Information – contains more detailed information on the overall significance of climate change, the relationship between animal-based foods and climate change, and a description of the average New Yorker’s diet compared to the global average (to put a reduction in animal-based foods in perspective). This section will also contain links to documents related to food and climate change (such as the FAO’s report, *Livestock’s Long Shadow*).

Contact Us – contains a contact form to email us with comments/questions, and the phone number of the campaign office. This will allow us to gather feedback on the campaign and make adjustments when necessary. The number of website visitors, or “hits,” will be tracked on this page in order to document the digital dispersal of the campaign’s reach.

Below is a screenshot of the website:

EATING FOR THE GREEN APPLE

HOME ABOUT EGA NEWS AND UPDATES GET INVOLVED ORGANIZATIONS WE SUPPORT MORE...



Who are we?

EGA is a New York City government campaign that aims to encourage the consumption of fewer animal-based foods in order to reduce the impact on climate change.

The NYC government has already exhibited foresight and commitment to addressing climate change and responsible growth, through the comprehensive policy programme, PlaNYC. A missing category in this plan, however, is food production and agriculture.

The campaign will engage New York City residents of various ages, ethnic backgrounds, and geographical location, through a city-wide campaign consisting of posters strategically placed in subways as well as buses, bus stops, as well as billboards dispersed throughout the city.

This campaign has the potential to revolutionize the food and climate change movement. This kind of leadership exhibited by NYC will be sure to receive national and global attention and will exemplify how a city as diverse and populous as NYC can make a meaningful difference in both reducing our ecological impact as well as fostering a city-wide, local food culture.

JOIN THE MOVEMENT TODAY!



Why Get Involved?

"Refusing meat is the single most effective thing you can do to reduce your carbon footprint"

-Live Earth Global Warming Survival Handbook

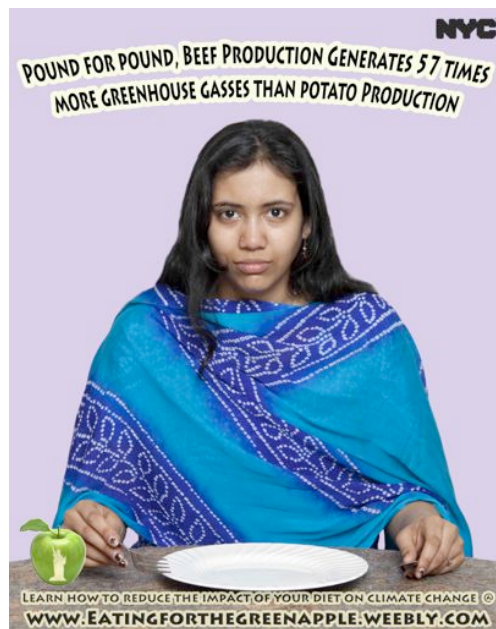
The livestock industry alone is responsible for 18 percent of global greenhouse gas (GHG) emissions (more than the transportation sector) (an estimated 1,800 to 2,500 gallons of water go into a single pound of beef. Soy tofu, on the other hand produced in California requires 120 gallons of water per pound. This is a big enough difference that if you replaced a 1/4 hamburger with a 1/4 of a veggieburger you would save at least 340 gallons of water.

The livestock sector occupies about 50% of the land surface on the entire planet.

Beef production generates more than 13 times the total greenhouse gas emissions from chicken production.

More than half of the world's crops are used to feed animals, not people. The

Below are samples of the campaign posters:



Description: Toolkit

The toolkit is a document, either printed or available online, that supplements the EGA campaign by giving individuals specific actions that they can take to reduce their consumption of animal-based foods and associated GHG emissions. So as not to polarize different groups of people, the use of terms such as vegan and vegetarian have been kept to a minimum. This will reduce resistance to the information, as the main goal is to provide them with the tools to change their behavior regarding dietary choices in a way that is most appropriate and effective for them while still effecting on climate change. Furthermore, throughout the toolkit we refer to non-animal derived foods, such as vegetables and legumes, as cool foods to draw attention to the fact that these foods contribute less to climate change than animal derived foods. It is a catchy way to tell the reader of the toolkit that they can eat foods that have less of an impact on climate change.

The toolkit will contain the following elements:

1. Introduction: This section will explain the concept of a toolkit (as a way to help individuals change their behavior). It will also provide context for how this toolkit fits into the overall EGA initiative.
2. The Livestock Industry and Climate Change: This section reiterates what individuals can learn from the website and the campaign as a whole. It gives users the scientific basis for why a diet with more cool foods and fewer animal-based foods will reduce their impact on climate change. Repeating these scientific facts in various formats can be effective in helping individuals remember and comprehend the problem.
3. Stay Healthy by Eating Cool Foods: This short section dispels myths about the necessity of eating meat and other animal-based foods every day, or even every meal, and explains why it is a healthy and safe choice to reduce meat consumption.
4. Cool Foods Meal and Shopping Guide: This section shows individuals what they can buy at the supermarket and how they can restructure their meals, so that they can easily transition to eating more cool foods. This section, as well as the recipes section,

will bridge the gap between learning and action, helping New Yorkers smoothly transition to a diet that has less of an impact on climate change.

5. Eating a Diet that Emits Fewer Greenhouse Gasses: 8 Actions for an Empowered New Yorker: This section contains actions that individuals can take either by themselves or with the community to reduce their livestock-based product consumption. Individuals are implicitly encouraged to become involved with their communities and to adopt less consumer-based measures.

6. Cool Foods Recipes: This section supports some of the above actions by giving an idea of how the individuals can reduce their climate impact while eating a healthy diet. It also gives New Yorkers a few recipes that they can work with immediately so they can begin reducing their consumption of animal-based foods as soon as they obtain the toolkit. These recipes were selected because they are low-impact in terms of climate change, easy and quick to prepare, and contain little to no animal-based products.

Targeted Toolkits:

In addition to this general toolkit that will be applicable to people across socioeconomic, gender, and generational boundaries, a list of specific actions for New York University students has been devised, in order to 1) provide a practical example of how the general toolkit can be localized according to a specific context, and 2) provide documentation of the method used so as to make it replicable for other individuals and organizations that want to localize the toolkit to another specific demographic.

The targeted toolkit(s) will contain additions to the “actions” section in order to reach niche communities. This means that, for the NYU-specific toolkit, in addition to the eight general actions for New Yorkers, we will include four to five more actions specifically recommended for NYU-students. In order to maximize the effectiveness of these actions, we conducted a poll in April 2011 within NYU to determine which recommendations are likely to be well received.⁸⁴

NYU has already taken steps as an institution to reduce the GHGs associated with its operations.⁸⁵ Engaging students and changing food consumption habits is a

critical component of this goal. The NYU toolkit will thus seek to supplement and build upon existing initiatives to effect meaningful change in behavior.

Distribution of the Toolkit:

While a print version of the toolkit may be useful for some, it is not a necessity, given the high cost of printing and the potential that it may go unread. However, we do suggest that there be a “print version by demand.” This means that New York City citizens can call or e-mail the campaign office to request one or more print versions to be mailed to them. This will prevent unnecessary and wasteful printing of toolkits.

The toolkit should also be made available in many languages in order to be accessible by all citizens of NYC. According to Executive Order 120, all departments that provide a direct public service must have a Language Implementation Plan in order to ensure meaningful access to their programs. Although the Mayoral Task Force that will be executing this campaign and toolkit will not be providing an essential public service such as water and transportation, we still recommend that a language implementation plan be developed in order to ensure that the toolkit(s) reaches the widest audience possible. One aspect of this plan should be for the toolkit to be translated into the most common languages spoken and read by limited English proficient individuals in New York City. These include Spanish, Chinese, Russian, Korean, Italian, and Haitian Creole.⁸⁶

Measuring Impacts:

We will track the immediate effectiveness of our campaign and toolkit by measuring the number of “hits” on the website, the number of submitted videos/testimonials answering the question “Why do you eat cool foods?,” the number of individuals who download or request printed copies of the toolkit, and the number of survey responses gathered from grocery stores, bodegas, and farmer’s markets. While these numbers will not necessarily reflect changes in consumption behavior, they will provide an estimation of how widely

read/distributed is the campaign and toolkit, from which we can estimate the impact of the initiative.

The long-term effects of the campaign and toolkit could be measured in overall livestock-based foods consumed in NYC. This would require both advanced tracking of incoming foodstuffs, as well as an understanding of the baseline trends surrounding food consumption so that normal variance is not attributed to our campaign. The Cool Foods System Assessment Task Force, as outlined in this report, will establish this baseline. This information will be used to determine which aspects of the campaign are most successful. Further pursuits will then be developed accordingly, by re-allocating resources to maximize readership and civic engagement.

It is recommended that this information be used to assess the campaign's effectiveness every three months. Geographically based information, such as the location of citizen-action initiatives and the neighborhoods with high toolkit distribution could help those running the campaign determine where their efforts are needed most. This information could also be used to determine which methods of distribution are most successful.

Estimated Costs of Campaign and Toolkit

The relative costs will be an important consideration for developing and sustaining a legitimate website and web domain, constructing a sophisticated design, supporting a capable work staff earning enough pay to devote genuine energy to the campaign and toolkit as well as manage any user concerns, advertising (if this is adopted as an approved revenue-boosting outlet), and the purchase of various software updates. While initial costs and website development has been done using free, publicly available software, such as Weebly, as well as unpaid labor, we realize that in order to sustain the efforts of our campaign and toolkit over time, a working timeline and framework of appropriate costs will have to be factored in.

While a fully developed budget analysis is difficult to conduct at this time, the Bureau of Communications at the Health Department of New York City has said that

when implementing a public health campaign, there is a minimum order of 1,000 posters on subway cars and stations. These posters cost about \$100,000 for three months - a reduced price given the NYC government.⁸⁷ Given that the Eating for the Green Apple campaign consists not only of posters in subways but posters in bus stations and on buses, as well as the website described above and a full-time staff to oversee the campaign, it seems safe to start our initial budget estimate above \$400,000.

Conclusions

The Mayoral Initiative on Food and Climate Change should seriously consider adopting the Eating for the Green Apple initiative. The Eating for the Green Apple initiative – with the policy recommendations and the campaign and toolkit – provides a unique opportunity for New York City to establish itself as a leader in addressing global climate change, by taking the bold step to reduce the consumption and production of animal-products based foods.

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Professionals Interviewed or Consulted:

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Elam, Chris—Program Director of Meatless Mondays

Friedman, Jeremy—Sustainability coordinator at New York University

Goldstein, Anna—350.org U.S. Campaign Manager

Puccini, Elizabeth—Co-founder of NYC Green Schools Initiative and active parent

Romer, Nancy—Professor at Brooklyn College and General Coordinator for the Brooklyn Food Coalition

Subhudi, James—Environmental Policy and Advocacy Coordinator, WE-ACT

Schlottmann, Christopher—Associate Director of Environmental Studies at New York University

Professionals Contacted:

Jordan I. Brackett, Esq - Food Policy Analyst, City of New York, Office of the Mayor

Caroline Harries - The Food Financing Initiative, the Food Trust

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