NYC
Urban Agriculture

Request for Information
Urban Agrivoltaics
Spring 2025

This RFI seeks information and comments for review and consideration related to the potential of design, management, growth, and ongoing maintenance of scaled food production in models with solar components.

A. Background

The New York City Mayor's Office of Urban Agriculture (MOUA) leads the city's efforts to increase access to and the production of fresh, healthy, locally grown food while strengthening climate resilience, and spurring economic activity across New York City. MOUA is releasing an RFI as part of an overall initiative to explore the potential of innovative urban agriculture infrastructure, increased scaled food production, and workforce opportunities in the green economy.

One innovative model that can support addressing NYC's varied needs of food and capital use is agrivoltaics. According to the New York State Department of Agriculture and Markets, agrivoltaics is defined as the simultaneous use of land for solar photovoltaic power generation and agricultural production of "crops, livestock and livestock products,". [1] Agrivoltaics can be sited on land and rooftops to work symbiotically with solar elements and pollinator habitats, aquaponics, vegetation, and other agriculture mediums. MOUA has been exploring the concept and feasibility of urban agrivoltaics - the co-location of solar generation and agriculture focused on food production - on new and existing city-owned sites.

Urban agrivoltaics is aligned with the MOUA's priorities to:

- Foster innovative agriculture-based models in the city
- Increase active and vibrant green spaces, benefiting all New Yorkers
- Increase access to fresh, healthy food by scaling up hyper-local food production
- Mitigate climate effects through agriculture throughout the city
- Cultivate emerging land stewards and green entrepreneurs

[1] New York State Agriculture and Markets Law (AML) § 301(2)

- Spur economic development opportunities for agriculture and horticulture small businesses
- Activate underutilized city-owned land

For a fuller background of MOUA's innovative urban agriculture infrastructure strategy, please see Exhibit A.

B. Purpose of the RFI

As MOUA continues to explore how to increase innovation through agriculture, a better understanding of the feasibility and replicability of urban agrivoltaics models in the city is needed. MOUA's aim is to develop and integrate innovative, nature-based models that will provide increased food production and economic opportunities, while strengthening environmental resilience, in neighborhoods across NYC.

MOUA is issuing this Request for Information (RFI) to seek technical knowledge and gauge interest from the urban agriculture and solar sectors to explore developing urban agrivoltaics models on city-owned rooftops, over 5,000 sq. ft., that can include solar systems of at least 10kW. The City is interested in a variety of design options, ranging from intensive green roof infrastructure to container gardens, and other innovative options. Also of particular interest are the potential edible crop options, scale of production, environmental co-benefits, shade implications/impacts of solar panels on plants, labor capacity (e.g. paid, apprenticeship, and/or volunteer), and related cost, and maintenance, required of urban agrivoltaics models. Gaining information on challenges and ideas for community and student engagement with these models is also welcomed.

MOUA understands that it could potentially take multiple partners in the solar, urban agriculture, horticulture, and/or tech sectors to foster urban agrivoltaics adoption in the city. We are looking to identify the critical elements necessary for developing rooftop oriented urban agrivoltaics models and to learn more from organizations and their operations (solar, urban agriculture/horticulture, and groups that can maintain one or both components) that can inform MOUA on this model.

In general, MOUA seeks:

- Information on components of urban agrivoltaics models that contain co-located solar and edible food systems operations.

- Basic design ideas that highlight the options for solar arrays and installation options on new or existing city-owned buildings.
- Information on potential edible crops such as native plants, herbs, other vegetable crops and trees suitable for the city's microclimate are welcomed for consideration to be included in the planning.
- Models in which yield can support local food sovereignty, production, training/research opportunities, climate resilience, and economic development opportunities (e.g. produce for sale, value added products, agritourism for paid tours/events, maintenance contracts, etc.)

C. Submittal Contents

1. Basic Information- Responses should include contact information, including the organization's name, address, name of contact, email address, telephone number, and website address.
    a. Please include an executive summary which briefly describes the respondent's organization and what category you fall under:
        i. Urban agricultural vendor (answer Section A)
        ii. Solar vendor (answer Section B)
        iii. Urban agricultural and solar vendor (answer Section A, B, C)
    b. Based on your response, please answer section A, B, and/or C
2. In your response to the RFI, please consider including the following:

Section A: Urban Agriculture
A. Description of relevant urban agriculture and/or horticulture work the organization has operated in the past or currently operates, agriculture installation experience (e.g. community gardens, urban farms, rooftop gardens, controlled environment agriculture, aquaponics, etc.), and related research (if applicable) in agriculture and/or agrivoltaics B. Brief description of your urban agriculture ideas such as potential edible crop selection, potential scale of production, and other agriculture considerations (e.g. suggested depth based on crops/plantings, etc.) that could be integrated in a co-located solar model C. Briefly describe some additional environmental co-benefits that could be generated from a co-located model (e.g. shade consideration on plants, evapotranspiration, irrigation ideas, etc.) D. Brief description of urban agriculture maintenance and prospective labor needed to sustain the urban agriculture component of the model. Ideas that include varied maintenance approaches such as paid staff, apprenticeship, and or

workforce, solar installation training, are strongly encouraged. Potential strategies to engage the community (if feasible) are also welcomed

E. Brief description of relevant community engagement, agriculture training, apprenticeship, and/or student educational experience (if any).
F. Potential collaborative points or steps to engage with other urban agriculture and/or solar partner(s) in the planning process or design ideas are welcomed.
G. Any challenges you forecast in developing an urban agrivoltaics model on a roof ranging 3,000 – 20,000 sq. ft. and ways of mitigating those challenges. Any suggestions for MOUA to take into account as it learns more about urban agrivoltaics and maintenance/staffing considerations, are welcomed.
H. Description of any partnerships you'd like to share that can help to support this work. Please describe any history working with listed partners.

Section B: Solar

A. Description of relevant solar development work, or other relevant work as applicable to the RFI.
B. A brief description of your solar design ideas, such as elevated racking, garden tray ballast systems, or other innovative strategies that could be integrated in a co-located agriculture model. Please include any limitations of the design in regard to plant selection, and other relevant factors.
C. Briefly describe some additional building and/or energy co-benefits that can be generated from a co-located model.
D. Briefly describe any solar maintenance considerations that may come with co-location with agriculture - in particular, on a rooftop.
E. Potential collaborative points or steps to engage with other urban agriculture and/or solar partner(s) in the planning process or design ideas are welcomed.
F. Any challenges you forecast in developing an urban agrivoltaics model on a roof ranging 3,000 – 20,000 sq. ft. and ways of mitigating those challenges. Any suggestions for MOUA to take into account as it learns more about urban agrivoltaics and maintenance/staffing considerations, are welcomed.

Section C: Combined

A. Description of any partnerships you'd like to share that can help to support this work. Please describe any history working with listed partners.
B. Please confirm whether you are able to hire subcontractor partners, or if you prefer to be a subcontractor of another vendor.

D. Submissions

All submission must utilize electronic mail and be sent as a Microsoft Word or PDF document by **April 30, 2025**, to Evan Burr at nycurbanag@cityhall.nyc.gov with the subject line "Urban Agrivoltaics RFI".

This document is not intended as a solicitation for the award of a contract or a prerequisite for participation in any future solicitation. No contract will be awarded as a result of this RFI, and response to this RFI is not required in order to respond to any subsequent solicitation or procurement opportunity.

MOUA reserves the right to cancel or postpone this RFI in whole or in part at any time and will not reimburse respondents for any costs in connection with their responses to this RFI. Each respondent is solely responsible for its own costs and expenses in preparing and submitting a response to this RFI, and participating in the RFI process, including the provision of any additional information or attendance at meetings or interviews.

Appendix: Exhibit A

The NYC urban agriculture landscape is a diverse tableau comprising community gardens, urban farms, commercial growing spaces, controlled environment agriculture (CEA) models such as hydroponics, aeroponics, and aquaponics, and other green spaces.

Given the microclimate found in New York City, the range of biodiverse crops that could be grown and harvested in these models would provide a needed and close source of hyper-locally grown food. Urban agrivoltaics possess the same sustainability co-benefits as rural models, but integrating a focus on food production offers the additional opportunity to address hyperlocal healthy food access and yield. In densely populated cities like New York,

urban agrivoltaics can be an innovative approach to reducing land-use competition by enabling the co-existence of scaled food production, while creating new points of food access in neighborhoods, and providing active carbon/water mitigation. Solar panels provide not only solar energy, but also critical shade that can support mitigation of heat stress on crops, irrigation usage, and protective cover for conservation efforts such as allowing soil to rest. Evapotranspiration, from soil and plants under solar arrays, can also create a cooler microclimate that benefits solar energy output by cooling the solar cells, causing them to perform better.

Currently, the city does not have a cohesive blueprint to inform and encourage innovative agrivoltaics models specifically designed to be co-located and work symbiotically to generate both food and solar energy production. NYC has the potential to address varied demands such as food insecurity, and climate resilience, through innovative agriculture-based approaches, such as agrivoltaics.