American Farmland Trust

To: Illinois Power Agency
From: American Farmland Trust
RE: Feedback for IPA's Traditional Community Solar Project Selection Strawman Proposal
Date: September 16, 2022

Background

American Farmland Trust (AFT) saves the land that sustains us by protecting farmland, promoting sound farming practices, and keeping farmers on the land.

Illinois is one of the most productive agricultural states in the nation. Still, more than 244,000 acres of farmland were converted to developed uses in the past two decades alone[1]. One impact of this development is the loss of smaller production acres that are important for diversifying agricultural production and local food efforts. Currently, more than 90% of the food consumed in Illinois is produced elsewhere[2].

Without attention to how to best locate solar development while mitigating impacts to farmland, new solar installations may inadvertently contribute to these trends and limit local agricultural opportunities.

AFT believes there is a middle ground that can promote the development of solar energy while maintaining agricultural production. AFT works to advance "smart solar" to enable the transition to renewable energy while strengthening farm viability and protecting our nation's farmland. Smart solar minimizes impact on agricultural land and makes any solar built on farmland more beneficial for farmers and for agriculture. AFT has developed the following smart solar principles[3]:

- Prioritize solar developed on the built environment (e.g. rooftops, carports) disturbed and contaminated land (e.g. brownfields, landfills), and marginal agricultural land
- Minimize conversion of our land most well-suited for agricultural production to traditional ground-mounted solar
- Protect and enhance soil health for solar projects on all agricultural land by requiring developers to follow best practices to minimize soil disruption and compaction during times of high disturbance (e.g. construction, decommissioning) and throughout the life of the project
- Maximize agrivoltaics, otherwise known as dual-use solar, on land well suited for agriculture
- Ensure that solar built on agricultural lands prioritizes farmer interests and community farm viability
- Promote an equitable, ethical and inclusive process for solar development.

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[1] Freedgood, J., Hunter, M., Dempsey, J. and Sorenson, A. 2020. Farms Under Threat: State of the States. Washington D.C.: American Farmland Trust. https://s30428.pcdn.co/wp-content/uploads/sites/2/2020/09/AFT_FUT_StateoftheStates_rev.pdf

[2] Chicago Metropolitan Agency for Planning. 2012. The Local Food System. Local Technical Assistance Program. https://www.cmap.illinois.gov/documents/10180/117119/FY12-0115+LOCAL+FOOD+BROCHURE_nospread.pdf/55c0aeb5-118a-4e83-a99a-d1d27093d4c7?t=1386802006000

[3] Hunter, M., A. Sorensen, T. Nogeire-McRae, S. Beck, S. Shutts, R. Murphy. 2022. Farms Under Threat 2040: Choosing an Abundant Future. Washington, D.C.: American Farmland Trust. https://farmlandinfo.org/wp-content/uploads/sites/2/2022/08/AFT_FUT_Abundant-Future-7_29_22-WEB.pdf

We are pleased that many of these elements continue to be reflected in the "Traditional Community Solar Project Selection Strawman Proposal Request for Stakeholder Feedback." There are a few areas where these principals may be strengthened. We greatly appreciate the opportunity to provide comment.

Built Environment—Inclusion of PFAS Contaminated Agricultural Lands

AFT agrees with IPA that community solar projects should be prioritized within the built environment, on disturbed and contaminated lands, and on brownfields in order to protect as much farmland acres as possible from development impacts.

There is growing concern[4] around the continued viability of farming operations occurring on lands that are contaminated with PFAS, or "forever chemicals," as the result of the spreading of municipal sludge as a soil fertilizer. In many cases, it is likely that these lands, accounting for thousands of acres, will be found to be no longer suitable for food or crop production because of the potential health impacts to consumers.

These lands may not currently meet the EPA's "contaminated lands" definition and are unlikely to be listed as brownfields at this time given the recent discovery of possible contamination. As these lands are identified, AFT asks that farmland contaminated by PFAS be included within the priority ranking for solar siting, alongside contaminated lands and brownfields. This will allow for the prioritization of solar installation on land that is currently not suitable for agricultural production while also providing economic relief to the landowners who are no longer able to use those land for productive purposes.

Built Environment—Agrivoltaics Definition

AFT appreciates IPAs inclusion of Agrivoltaics and dual use solar as an element in the scoring criteria. When done well, agrivoltaics can provide an opportunity to generate solar energy while maintaining viable agricultural operations, enhancing soil health and water quality, and retaining farmland for current and future use.

AFT believes that dual-use solar should be designed and constructed in a manner that (1) retains or enhances the land's agricultural productivity and soil health, both short term and long term, (2) is built, maintained, and has provisions for decommissioning to protect the land's agricultural resources and utility during and after the life of the project, and (3) supports the long- term viability of a farming operation within local agricultural communities—meaning the project is designed to maximize flexibility for the farm operation to respond to changing market conditions over the life of the project, and the proposed agricultural activities are aligned with existing or emerging infrastructure to bring products to market, and can therefore support a viable farm operation throughout the life of the project. The definition provided for the strawman proposal can further emphasis these points while also providing flexibility to the agricultural producers to establish agrivoltaic enterprises that are viable and productive within the footprint of the solar installation.

AFT proposes that the definition be amended to describe agrivoltaics as:

[4] Hawthorne, Michael. 2022. Sewage sludge contaminated with toxic forever chemicals spread on thousands of acres of Chicago-area farmland, Chicago Tribune, July 31 edition. https://www.chicagotribune.com/news/environment/ct-pfas-sludge-illinois-farmland-20220731-7xqijchadfhilbvkut3ndw5uja-story.html

the practice of installing solar photovoltaic energy generation in a way that integrates or allows for the continuation of primary agricultural production to satisfy human needs for food, fiber, fuel and ecosystem services during the lifetime of the solar development and beyond (crops, livestock, and livestock products as defined by 505 ILCS 5/3.02). This includes maintaining agricultural productivity and activities and returning the land to a state that allows for full agricultural production to resume after decommissioning.

This definition does not include the requirements for the operation to cover 75% of the project footprint or that agricultural production be featured at the time of project energization. While determining a project footprint is important, we do not believe that this factor on its own adequately accounts for the seasonal nature of farming operations, the diversity of production types, or the fact that farmers might need to make changes to the operation to remain viable that would not satisfy the footprint target, especially in response to factors such as weather, pests and other natural disasters. Without additional consideration, the footprint requirement might result in uncertainty about monitoring and enforcement that will unintentionally dampen interest in developing agrivoltaic projects or a lack of consideration for the diverse types of agricultural production systems that may be compatible within an agrivoltaic configuration.

Similar concerns are held for the requirement for agricultural production to be in effect at the time of project energization. Agricultural production will vary naturally with the seasons and the intensity of production may look different from year to year and during different parts of the growing seasons or in response to natural disaster. What is important is that the agricultural capacity is retained throughout the life of the project and that the viability of farming operations is of equal priority with solar energy generation over the long run.

There is potential that these requirements might also reduce the scope and kind of research which occurs within agrivoltaic projects. It might favor those research efforts that are seen as fitting the requirements rather than those that are best designed to provide sustainable production systems in Illinois' growing environment.

There are other ways that project developers can show commitment to agrivoltaics within the proposed solar installation. AFT recommends utilizing a template provided by IPA to collect information based on the 5-Cs of Agrivoltaic Success Factors as described by the U.S. Department of Energy and the National Renewable Energy Lab's (NREL) InSPIRE research project. The 5-Cs include information about: climate, configurations (including an expected project footprint), crop selection and cultivation, compatibility and collaboration[5]. In addition, AFT also suggests that project developers share goals for site decommissioning that results in the return of land to agriculture after the lifetime of the solar project.

Additional assurances to a commitment to agrivoltaic production can be found by encouraging project developers and farmers to maintain a farm number for their agrivoltaic site with the USDA Farm Service Agency, to develop a conservation plan with USDA Natural Resource Conservation Service, and to develop long-term research goals and partnerships.

[5] Macknick, Jordan, Heidi Hartmann, Greg Barron-Gafford, Brenda Beatty, Robin Burton, Chong Seok Choi, Matthew Davis, Rob Davis, Jorge Figueroa, Amy Garrett, Lexie Hain, Stephen Herbert, Jake Janski, Austin Kinzer, Alan Knapp, Michael Lehan, John Losey, Jake Marley, James MacDonald, James McCall, Lucas Nebert, Sujith Ravi, Jason Schmidt, Brittany Staie, and Leroy Walston. 2022. The 5 Cs of Agrivoltaic Success Factors in the United States: Lessons From the InSPIRE Research Study. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-83566. https://www.nrel.gov/docs/fy22osti/83566.pdf.

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The Importance of Farming Enterprise and Economic Viability in Agrivoltaics

The key strength of agrivoltaics is that it provides benefits to farming and renewable energy enterprises. Both of those elements must be present for a project to be a successful demonstration of agrivoltaics potential. Simply including elements that resemble agricultural production such as, periodic grazing as a substitute for mowing, or, limited crop production such as a vegetable garden, without attention to how those features are integrated into a viable farm business plan is not enough. Agrivoltaics installations should be designed to produce a marketable product or to conduct the research necessary to inform viable agrivoltaic models around crop and livestock production systems in the future.

This requirement should not however be used to discount or discredit the integration of critical soil health practices or pollinator habitat into an agrivoltaics operation. Soil health practices are essential to producing viable crops and protecting the sustainability and resilience of the land. Allowing for such practices as land fallowing, the planting of cover crops and the establishment of pollinators, among others, is key to maintaining a successful and vibrant farming enterprise. Agrivoltaic project should show how the use of these practices will be incorporated into project design to support the long-term production of a marketable good.

Project developers must demonstrate that a project's intention is to support a farming enterprise operating on that site. This includes working with the current farmer or landowner, providing land access to beginning and new farmers, or using an agrivoltaics site to provide space for the expansion of an existing farm operation. Attention to these details can be accomplished by incorporating elements of the 5-Cs, and others AFT recommends, listed above.

Siting and Equity Contractors—Beginning, Veteran and Socially Disadvantaged Farmers

AFT greatly appreciates the equity considerations included by IPA in the ranking process. In addition to the criteria listed, IPA could also add consideration for projects that provide access to land to beginning, veteran and socially disadvantaged farmers in the development of their agrivoltaic plans. This could be accomplished by including a siting category for land that is owned or operated through rental agreements by a beginning, veteran or socially disadvantaged farmer or by including farmers within an agrivoltaics project as equity eligible contractors for supporting on going management and maintenance of the site through their operations.

Thank you very much for your consideration of our feedback. We are happy to discuss these points in greater detail. Please let us know if there is any additional information that we can provide.

Sincerely,

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