

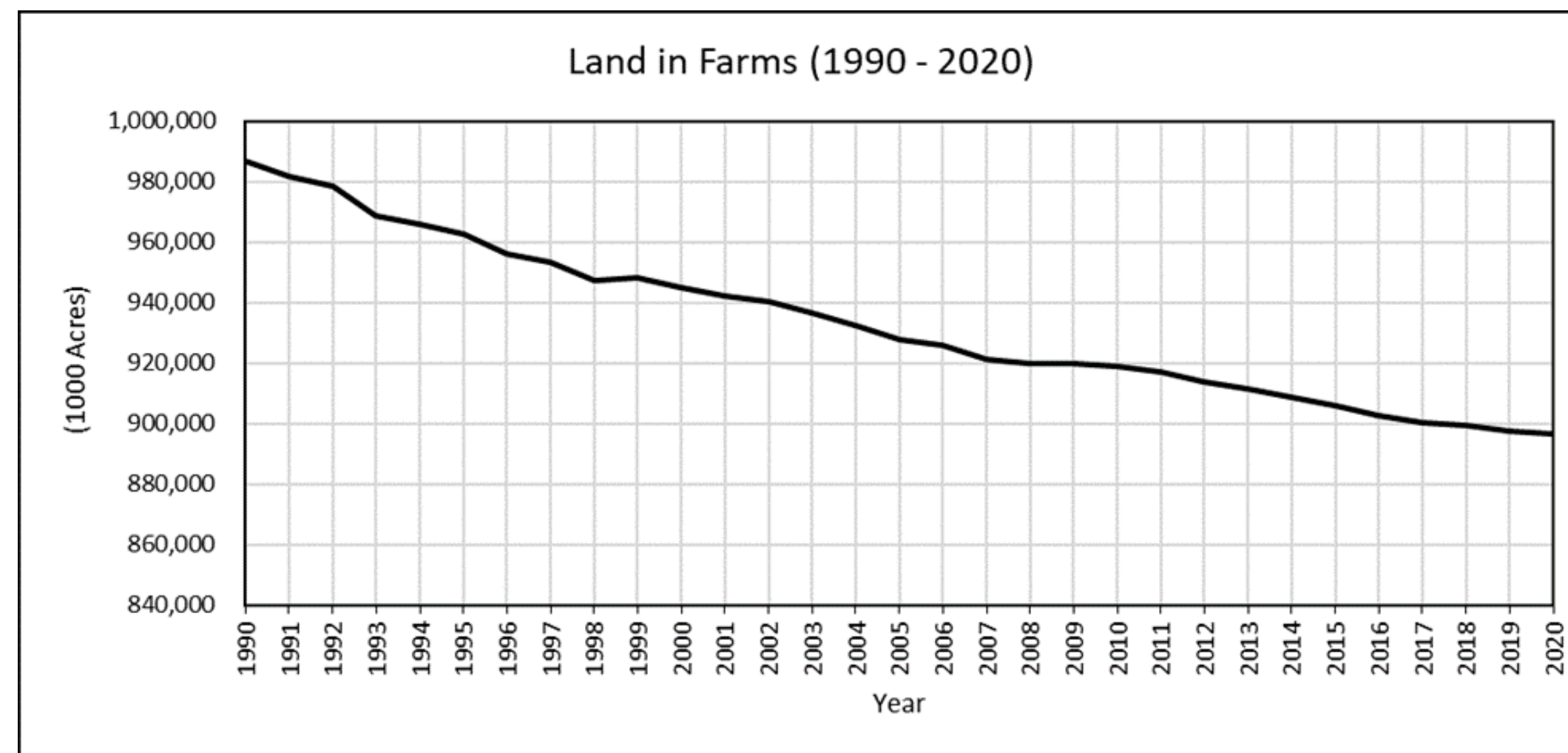


Emerging Agrivoltaic Regulatory Systems: A Review of Solar Grazing

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Agricultural Land Use Is Shifting



Factors Changing Land Use

- Shifts in agricultural land use occur regularly due to “Changing commodity and timber prices, agricultural and natural resource policies, urban pressure, and environmental factors.”

Environmental Implications

- Shifts in agricultural land use have resulted in “highly simplified agricultural landscapes” and degrade ecosystem services such as soil fertility, nutrient cycling, and genetic biodiversity.

Solar’s Appeal

- 90,142 farms hosted solar energy systems as of 2017
- Farmers across the nation are leasing land to solar developers for as much as \$1,000 an acre.

Efforts To Protect Farmland

North Carolina



- Corrituck County board banned solar energy development in 2017 after pushback from residents who found the solar arrays unsightly and feared the damage the arrays could cause in a tornado or hurricane.

Connecticut



- State legislature passed a law requiring the Department of Energy and Environmental Protection to consider a solar project’s impacts to forestland and prime farmland when conducting a cost-benefit analysis.

Oregon



- Oregon Land Conservation and Development Commission approved a rule banning solar development on class 1 and 2 soils, limiting development to 12 acres on class 3 and 4 soils, or 20 acres if the solar array includes agricultural uses.

What Is Agrivoltaics?

A dual use approach allowing land to generate power from solar photovoltaics with agricultural production to generate solar power and produce food simultaneously.

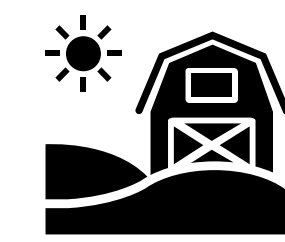
What Is Solar Grazing?

A subfield of agrivoltaics that focuses on grazing livestock on the same land used for solar energy generation, typically for the purpose of vegetation management.

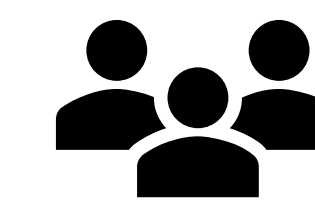
Benefits of Solar Grazing



Graziers receive financial diversification; solar operators reduce their maintenance costs.



Graziers receive additional pastureland for their herd to graze.

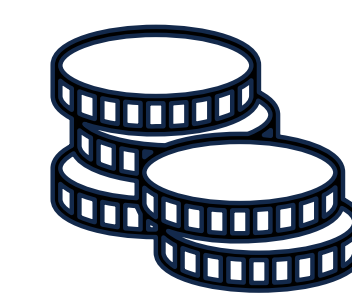


Solar operators can improve their public image by bringing livestock onto the land.

Solutions Necessary to Grow The Agrivoltaics Industry



Development of overlay districts that allow for land to be zoned for both agricultural and energy uses



Creation of tax incentives that increase the affordability of agrivoltaics



Dissemination of legal resources that farmers and solar developers can use to improve agrivoltaic contracts while reducing legal costs

Regulatory Challenges to Developing Agrivoltaics

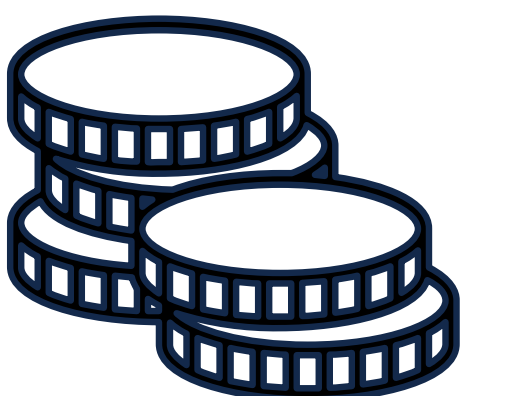


Zoning

- Existing zoning policies are designed on an understanding that land can only have a single use (e.g., agricultural or solar development).
- Agrivoltaics have an agricultural function but are subject to the additional permitting and regulatory processes of solar projects

Taxation

- In many cases, developing solar requires rezoning land from agricultural use, which increases tax burdens on the landowner.
- States laws on taxation of agrivoltaics are complex, creating confusion and financial uncertainty among developers.



Liability

- Solar sites are valuable assets; thus, developers are incentivized to carefully review potential contracts to bring a third party onsite.
- The contract review process, and the liability insurance required, particularly for solar graziers, can become cost prohibitive.

