



Sheep from Owens Family Farm at
Susquehanna University Solar Project
(photo credit – E2)

Dual Uses of Agriculture and Solar

PA Senate Agriculture and Rural Affairs Committee
Hearing
September 21, 2021



Kling Family Turkey Farm,
Sunbury, PA



Jack Copus
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Coalition Member RW4PA





RENEWABLES WORK FOR PA



<https://www.RenewablesWorkForPa.com/>



SGC Power is a Community Solar developer. With more than 40 years of combined experience, our team originates, develops and finances Community Solar projects in key markets.

Susquehanna UNIVERSITY



Total Sheep	40
Rotational Grazing	4 Quadrants, weekly visits
Other benefits	Soil keeps in better shape with hoof action, self fertilization



Project Name	Susquehanna University
Location	Selinsgrove, PA
Project Role	Development, Engineering, Construction Management, Project Management
Project Capacity	3 MW AC
Project Delivery Type	PPA
Land Management	Agrioltaic (Sheep Grazing – Owens Farm)
Year Completed	2018

Farmland Permanently Lost and Paved Over **Vs.** Farmland Preservation + Energy Independence



“Pennsylvania’s agriculture land is disproportionately threatened by a new, more insidious kind of development discovered by AFT through this research, termed Low-Density Residential, or LDR, land use.” – **American Farmland Trust** (the cause of 70% of farmland lost in PA)



Land is kept under farm ownership and leased for temporary development that improves the soil.

Dual Use of Solar on Agricultural Land = Farmland Preservation Tool

- **Pennsylvania lost more than 6,000 farms between 2012 and 2017 and more than 700 dairy farms in the past two years. (*American Farm Bureau Federation*)**
- Solar provides energy savings by powering farm operations onsite or through land leases for larger scale solar that supplements farm income and provides financial security to sustain PA farms
- Landowners are paid about a fixed price of \$1,000 to \$1,500 per acre per year to lease land for solar development for 20 years or more
- The solar equipment is removed at the end of the life of the solar and the improved land can revert to farming
- Agrivoltaics incorporates benefits of grazing, pollinator friendly plants and shade-grown crop



Why Solar Grazing?



Sheep grazing at Susquehanna University

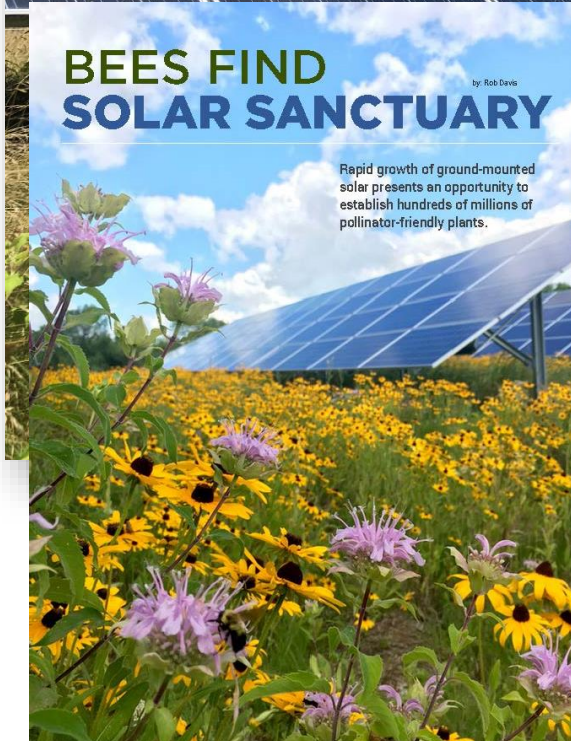


ASGA

American Solar Grazing Association

- Ground mounted photovoltaics (PV) are expanding in size and number nationwide, and the most desirable sites for solar projects are often already in cropland
- Keeps farmland in farm production
- Farm incomes are down, and solar grazing allows farmers to increase and diversify revenues without taking land out of food production
- Contributes dairy, meat, and wool to regional markets.
- Reduces or eliminates the need for mowing at solar sites, reducing emissions
- Vegetation at solar sites becomes a source of nutrition and a pasture for sheep

Solar Power is Playing a Growing Role to Save the Bees



Meadville, PA

Ernst Native/Naturalized Solar Farm Seed Mix

34.0% *Festuca rubra* (Creeping Red Fescue)

33.0% *Festuca ovina*, Variety Not Stated (Sheep Fescue, Variety Not Stated)

15.0% *Festuca ovina* var. *duriuscula*, *Gladiator* (Hard Fescue, *Gladiator*)

5.0% *Festuca ovina* var. *glauca*, *Azure* (Blue Fescue, *Azure*)

5.0% *Poa pratensis*, 'Selway' (Kentucky Bluegrass, 'Selway')

5.0% *Poa pratensis*, *Appalachian* (Kentucky Bluegrass, *Appalachian*)

3.0% *Agrostis perennans*, *Albany Pine Bush-NY Ecotype* (Autumn Bentgrass, *Albany Pine Bush-NY Ecotype*)



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Agrivoltaics are a Growing Field of Study

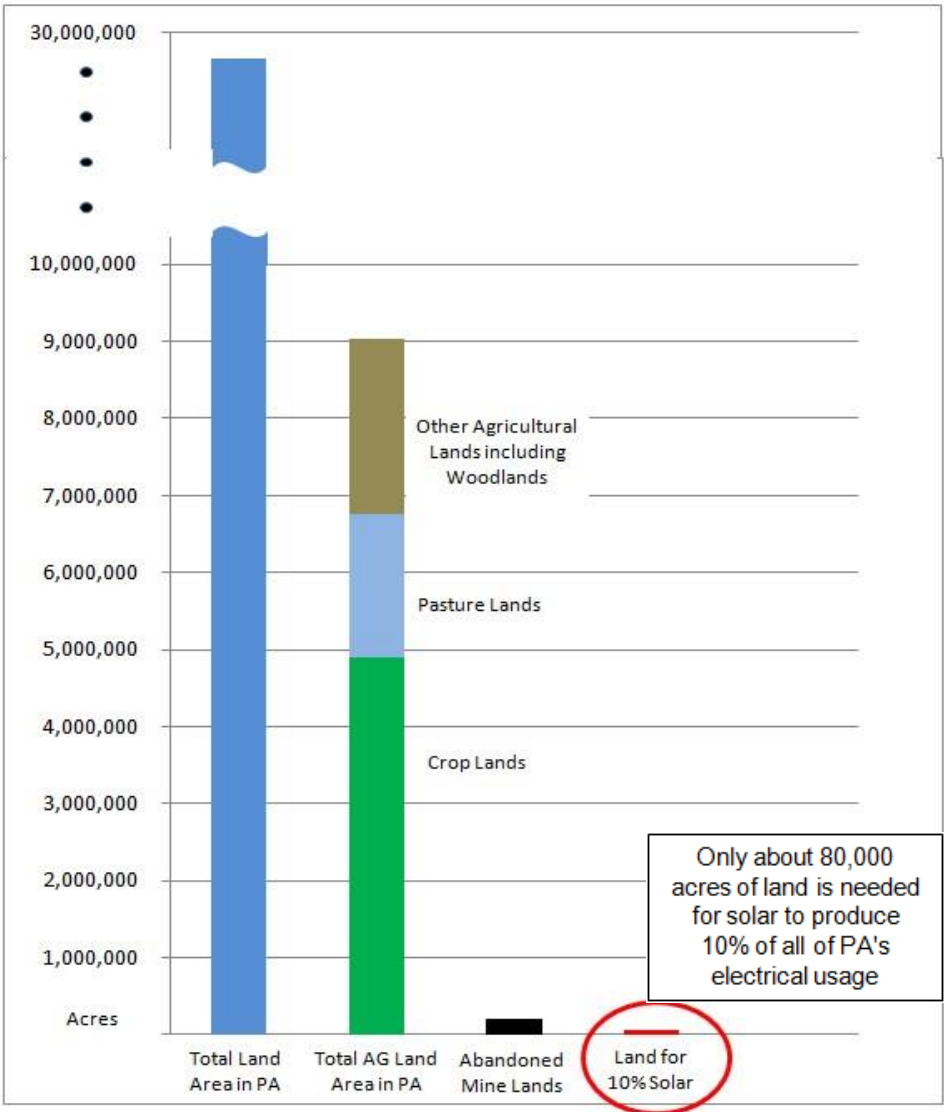


Solar providing shade for dairy cattle, increasing production; shade-growing crops

More Examples of Agrivoltaic Applications



Amount of Land Needed for Solar Development is Very Small

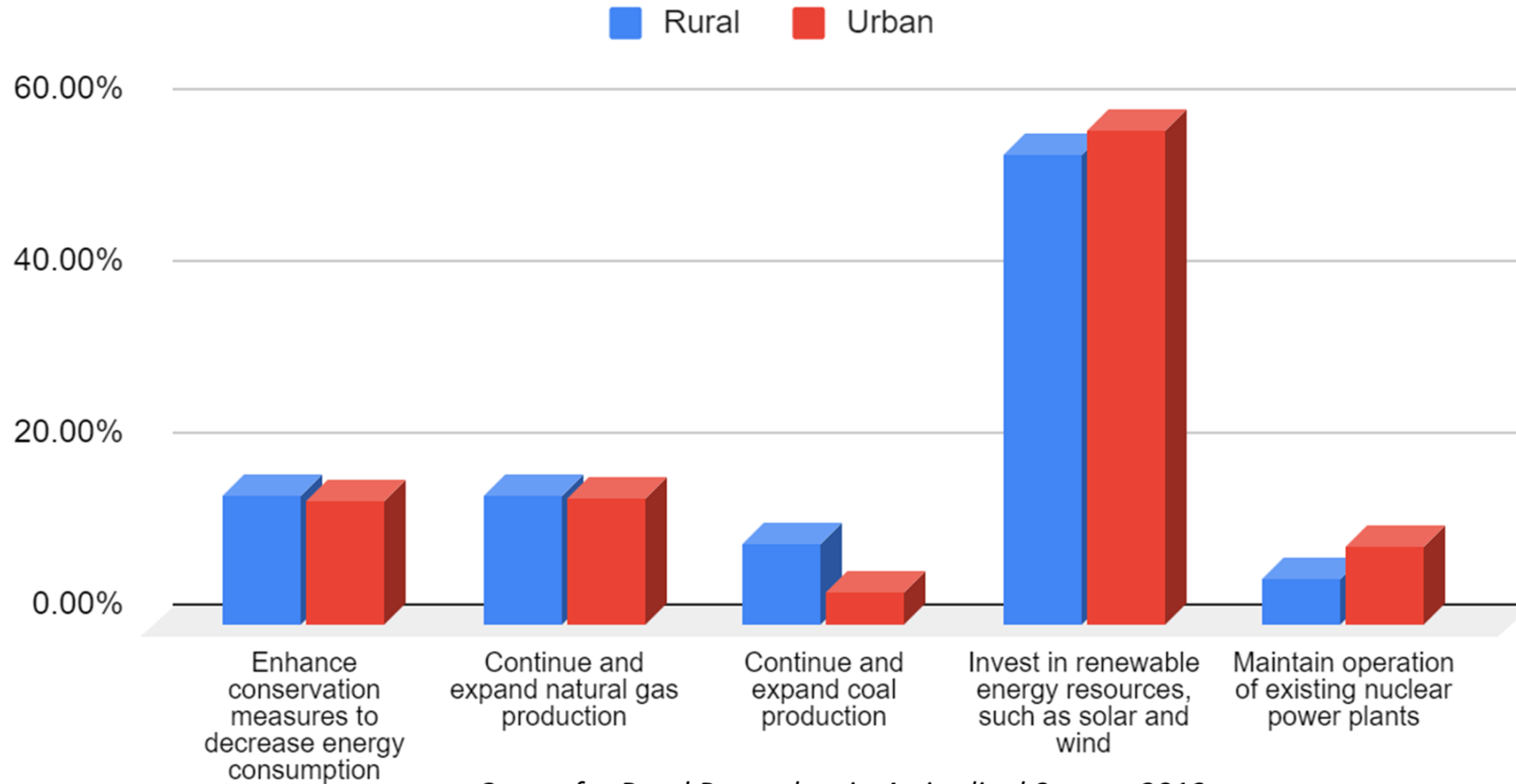


If simply 10% of solar energy was deployed on PA land, only 0.27% of all lands in the state would be used.



Rural and Urban Pennsylvania Voters Overwhelmingly Support the Expansion of Renewables

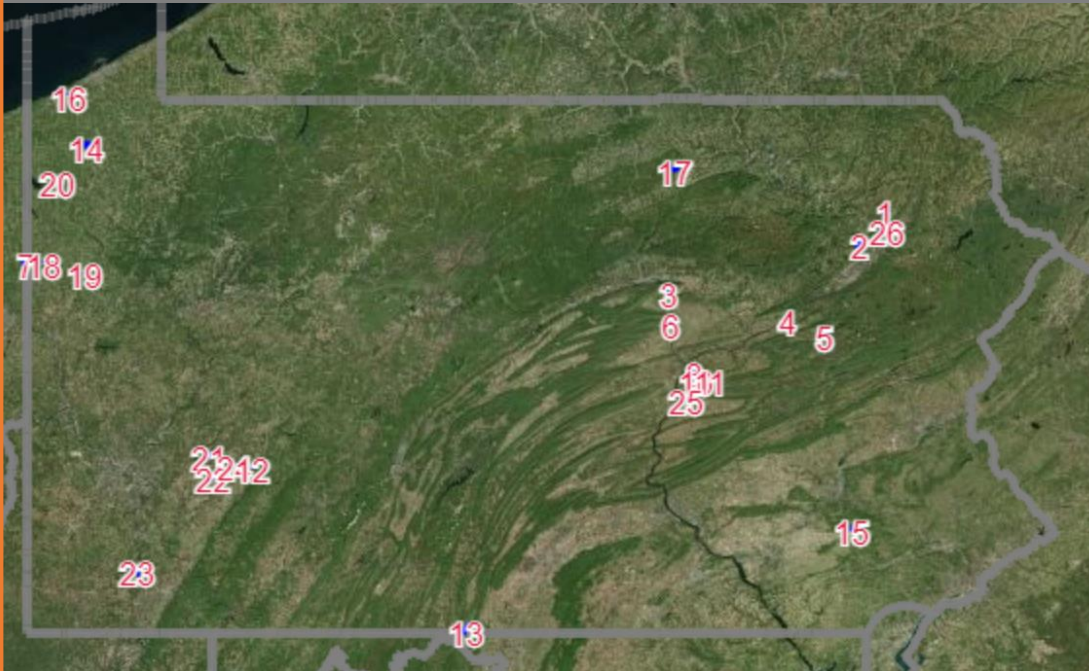
Which of the following options holds the greatest promise for addressing Pennsylvania's energy demands in the next 5 years?



Center for Rural Pennsylvania Attitudinal Survey, 2019

<https://www.rural.palegislature.us/documents/reports/Attitudinal-Survey-2019.pdf>

SGC Power in Pennsylvania



- 25 current land leases with landowners/farmers
- 200 MW of solar energy currently ready for development in Pennsylvania
- 500-625 total acres dispersed throughout 11 Pennsylvania counties

Economic Activity

- \$250MM potential investment into Pennsylvania economy
- **30% or approximately \$75MM is labor investment (electricians, laborers, civil, etc.)**
- Local tax generation
 - **Community Solar farm could generate between \$500,000 and \$1,000,000 over 20 years**
 - Resources for local emergency and education workers
 - Lower taxes for Senior Community

Landowner Benefits

- \$1,000 - \$1,500 per acre annual lease payment
 - **Over 20 years, this represents between \$500,000 and \$750,000 of diversified income for landowner**
- Prevents commercial development that takes farm out of agricultural production
- Opportunity for “Dual Use” agriculture

Policy is Crucial

All markets of solar energy can benefit farms with:

Distributed Generation

- Saves farmers money, generating electricity onsite for use

Community Solar

- Can incorporate Agrivoltaics, provides lease payments to farmers and produce energy to the local community

Utility-Scale Solar

- Provides lease payments to the farmers and a large opportunity for energy production for our state

Passage of policy now is crucial for investment into Pennsylvania