

When Land Use & Renewable Energy Goals Collide

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New Opportunity for Agriculture?

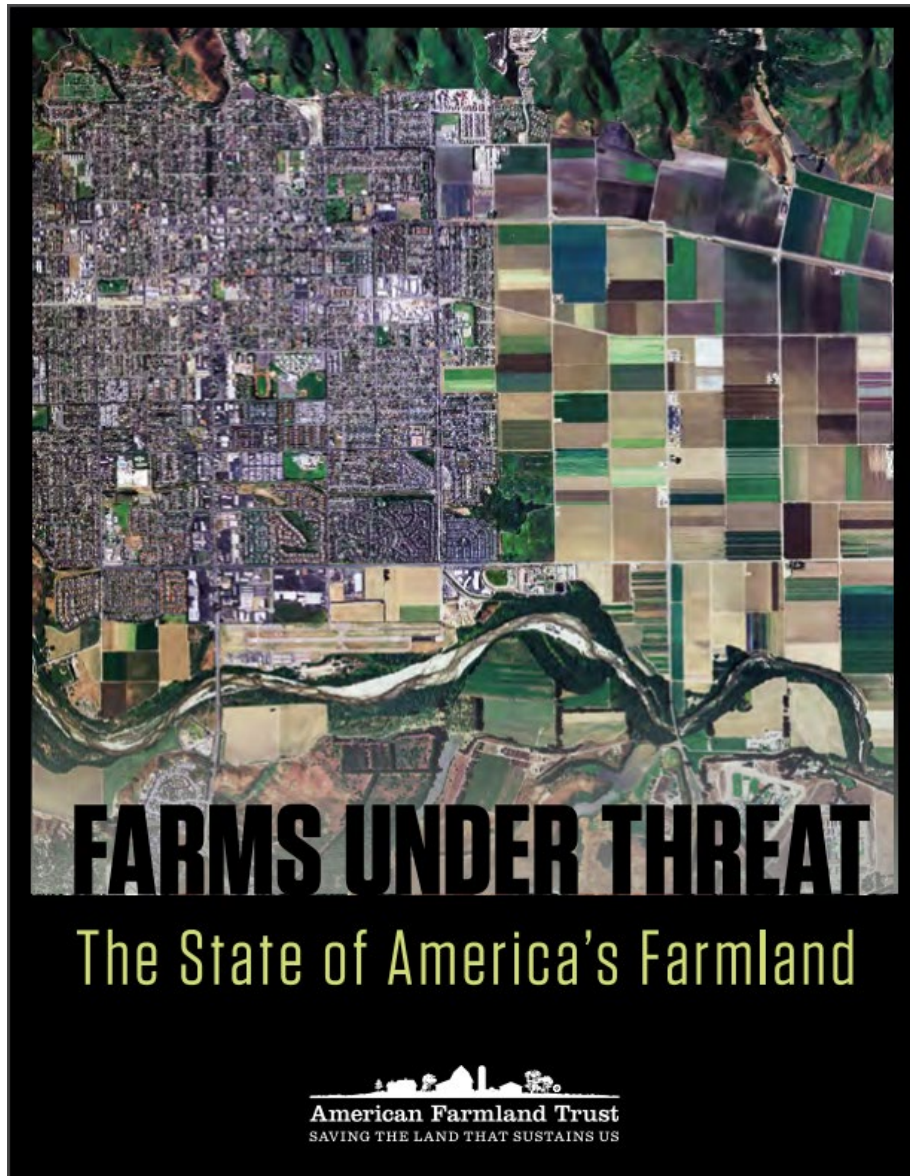


Or New Threat to Agriculture?

Local

Proposed solar energy developments draw opposition over loss of farmland





Renewable energy...

“creates opportunities for farmers and landowners to earn new income

but also poses threats to farmland and local food systems.”

What are we trying to preserve?

	Wind	Solar
Land for growing food	✓	✗
Farm livelihoods	✓	✓
Habitats	✗	✓
Rural vistas	✗	✗
Urban boundary	✓	✓

Citations: Fthenakis & Kim, 2009; Majumdar & Pasqualetti, 2018; Swofford & Slattery 2010; Sutherland & Holstead 2014; Mills 2018; Grout & Ifft 2018; Elkind et al 2011;

Research Questions

1. Where do state farmland preservation policies come down on wind and solar?
2. Does policy position link to program goal?

What are state farmland preservation policies?

- Incentives in exchange for keeping land from non-ag development
 - Differential assessment
 - Conservation easements
 - Ag areas/districts
- Method: Inventory of programs, content analysis looking for energy, goals
 - Last Inventory 1982 (Furuseth & Pierce, 1982)

Results: Inventory of state policies

- All 50 states have farmland preservation policy
 - 183 programs total
- Only 13 states have policy on wind/solar

How States Treat Siting on Preserved Farmland

State	Solar			Wind			Renewable			Energy		
	On-farm	Ambiguous	Utility-scale	On-farm	Ambiguous	Utility-scale	On-farm	Ambiguous	Utility-scale	On-farm	Ambiguous	Utility-scale
California		Remove without Penalty									Permitted	
Hawaii	Permitted		Limited with Penalty	Permitted		Permitted	Permitted					
Iowa		Remove Later			Remove Later							
Maine										Permitted		
Maryland			Limited with Penalty			Limited with Penalty						
Massachusetts							Limited without Penalty					
Michigan			Remove with Penalty	Permitted		Permitted						
New Jersey	Limited without Penalty			Limited without Penalty								
New York	Permitted		Remove with Penalty		Remove without Penalty							
Ohio		Remove without Penalty			Remove without Penalty		Permitted					
Oregon			Permitted									
Rhode Island									Remove without Penalty			
Vermont	Permitted		Remove with Penalty									

- Treatment of Siting**
- Remove with Penalty
 - Remove without Penalty
 - Remove Later
 - Limited with Penalty
 - Limited without Penalty
 - Permitted

RQ 1: How do States Treat Renewables in Farmland Preservation Program?

- On-farm use generally ok for solar and wind

	Off-farm Wind	Off-farm Solar
Penalty	1/6	6/9
Removal	2/6	2/9
Permit	HI, MI, OH*	OR

RQ2: Does renewable policy position link to program goal?

	Wind	Solar
Land for growing food	✓	✗
Farm livelihoods	✓	✓
Habitats	✗	✓

**No, based on stated policy goals;
Yes, based on news articles**

Concluding thoughts

- Need to think about interaction / conflict between sustainability goals
 - Do farmland preservation programs limit achievement of RPS?
 - Should farmland preservation arguments be used to block renewables projects?
- Need more research on socioeconomic impacts of utility-scale solar

Thank you & questions

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