The Importance of the Social Aspects of Agrivoltaics

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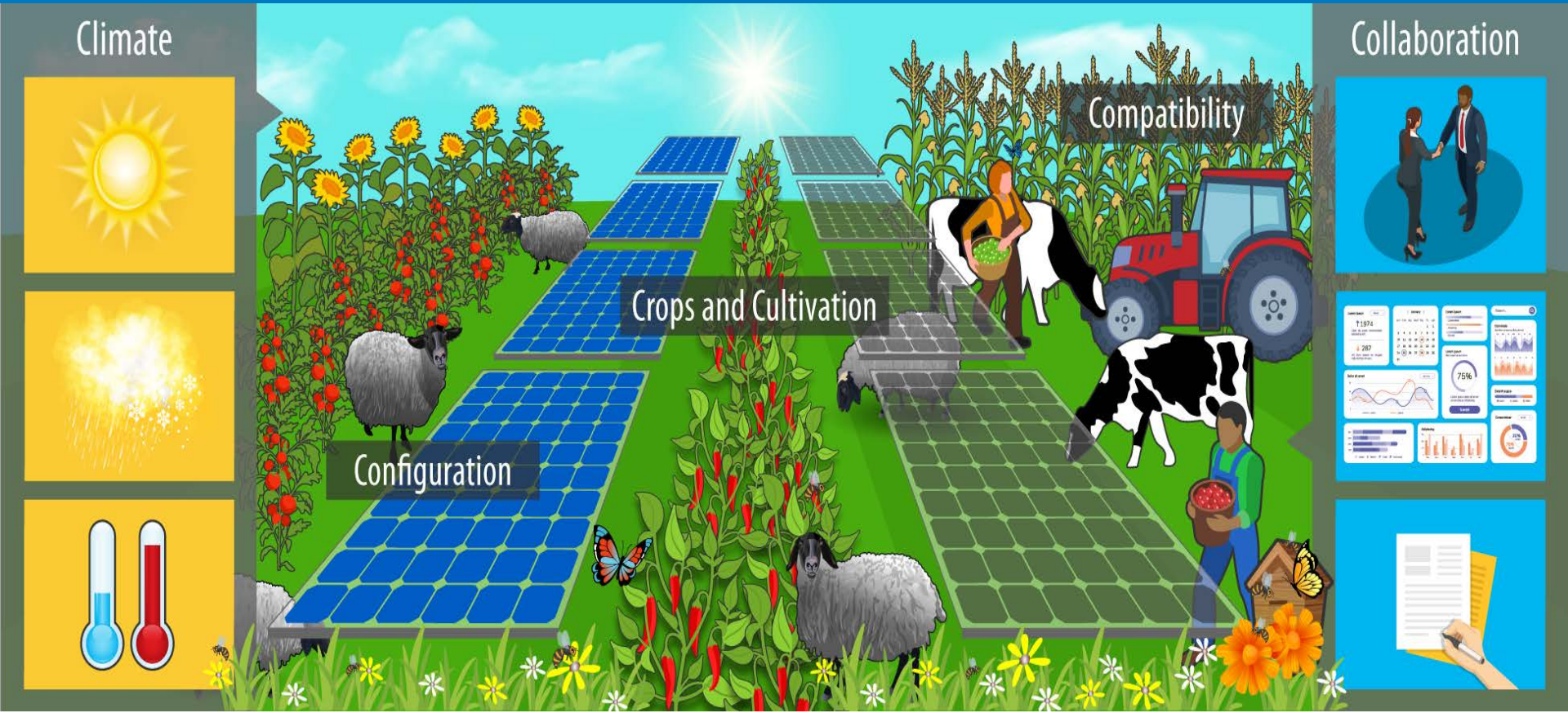
The 5 C's of Agrivoltaic Success



Macknick, Jordan, Hartmann, Heidi, Barron-Gafford, Greg, Beatty, Brenda, Burton, Robin, Seok-Choi, Chong, Davis, Matthew, Davis, Rob, Figueroa, Jorge, Garrett, Amy, Hain, Lexie, Herbert, Stephen, Janski, Jake, Kinzer, Austin, Knapp, Alan, Lehan, Michael, Losey, John, Marley, Jake, MacDonald, James, McCall, James, Nebert, Lucas, Ravi, Sujith, Schmidt, Jason, Staie, Brittany, & Walston, Leroy. The 5 Cs of Agrivoltaic Success Factors in the United States: Lessons from the InSPIRE Research Study. NREL/TP-6A20-83566. https://doi.org/10.2172/1882930

Nested Model Approach to the “5 C’s of Agrivoltaic Success”

Figure: Thomas Hickey, NREL

Social Considerations for Success – Compatibility and Collaboration

The growing body of social science literature on agrivoltaics emphasizes:

- Stakeholder engagement and adoption
- Participatory planning
- Community acceptance
- Agreements and business models
- Equity and justice
- Legal and regulatory frameworks
- Implementation pathways

Key Takeaways from Social Science on Agrivoltaics


Photo by Werner Slocum, NREL

1. Farmer engagement and agency can determine project sustainability.

- Agricultural representation at all phases of project development
- Retain agency to adapt practices to changing markets and environmental conditions
- Co-design of business models to better promote farm viability

Key Takeaways from Social Science on Agrivoltaics

Photo by Werner Slocum, NREL

2. Cross-sector partnerships can legitimize best practices and create mutual benefits.

- Federal alignment on research priorities & shared definitions of agrivoltaics
- Interagency coordination on policy design and administration
- Farmer-developer relationships built on trust and knowledge transfer

Key Takeaways from Social Science on Agrivoltaics

Photo by Byron Kominek, CALC

3. Legal frameworks can enable or constrain the deployment of agrivoltaics.

- Clear, consistent policy standards to support proper implementation
- The importance of local land use policy and market mechanisms
- Research to improve policy outcomes and de-risk adoption

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