Optimizing Renewable Energy Choices for Farms, Rural Small Businesses and Communities
“Solar Farms” are not Farms
“Wind Farms” are not Farms
“Solar Gardens” are not Gardens
Our History:

USDA Rural Energy for America (REAP)
Successful Project Support/Grant Writing

Community Wind Energy Project Outreach
Maryland Energy Administration

Community Solar Energy Generation Systems
• Pilot Project Stakeholder Support
• Land-Owner Education Garrett County

Commercial Solar
Ongoing Research
PROJECT FILTERS:

- Who Owns the Electrons?
- Who Owns the Production Assets?
- Who Derives Economic Benefits?
- Who Owns/Controls the Location?
- Regulatory and Financing Drivers?
- Environmental Benefits?
- Jobs?
U.S. Department of Agriculture
Rural Energy for America Program (REAP)
(Renewables & Energy Efficiency Improvements)
U.S. Department of Agriculture
Rural Energy for America Program (REAP)

- Farm or Rural “Small” Business – 25% grant and/or Loan Guarantees
- Electrons Used to Hedge Electricity Costs for Decades
- Applicant Must Own the System and Have “Site Control”
- Simple Payback
- Investment Tax Credit 30%
- Environmental Review -- Preference for Roofs
- Two Grant Cycles Annually: Ceiling is $500,000 grant
REAP Projects Examples:

- Thomas & Son – Boonsboro – 100% energy cost hedge
- Linganore Winecellars – Mt. Airy – small footprint
- Clear Ridge Nursery – land value too high
- Gravel Springs CSA – Roof (50%) and Soil (50%)
- Keymar – Former Dairy Pit & Benefits Other Locations
- Cedar Knoll – poor land for grazing/growing
Neighbors Complained... Project Set Back 100 Feet
Community Wind Energy

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Maryland Energy Administration
Community Wind Energy in Maryland (MEA)
Webinar - December 8th
Outreach Events in 2017

• One or Two Wind Energy Devices (Not a “Wind Farm”)

• Electron User Derives Economic and Environmental Benefit: Farms, Rural Small Businesses, Municipal, University, School, Hospital

• Windswept Grant – Provides $3,000/kw to Project Owner

• Project Owner Does Not NEED to be Electron User (for this grant)

• Diversify Energy Portfolio/Complements Solar Production Cycle

• Locational Specific – Anemometer Loans in Wind-Suitable Areas
Community Wind Energy in Maryland

Examples:

• Crisfield Wind Project at WWTP
• Chesapeake College

Anemometer Loans:

• City of Frostburg
• Garrett County
• Easton Utilities,
• State of Maryland
Community Wind Energy in Maryland

FARMS:

May Qualify for USDA REAP
AND
May Qualify for Windswept Grants

VERY SMALL FOOTPRINT!
Community Solar Energy Generation Systems (CEGS) -- Pilot Projects
Community Solar Energy Generation Systems (CEGS) -- Pilot Projects

State Law: 2015 HB 1087
PSC – Regulations Emerging – RM 56
Does not require PSC Certificate Of Public Necessity

UP TO 2 Megawatts of Production ≈ 12 Acres

Will require Local Permitting, PSC and Interconnection OK’s

Requires “Subscribers” who will buy the electricity

MAY qualify for USDA-Rural Energy for America Funding
Community Solar Energy Generation Systems (CEGS) -- Pilot Projects

This has been a major catalyst by out-of-state developers

Some Farms Received Multiple

Investor/Owners Want Investment Tax Credits

Investor/Owners Want Long-Term “Subscriber Revenue” versus “Merchant Revenue”
Community Solar Energy Generation Systems (CEGS) -- Pilot Projects

- Electrons – Primarily to the Grid
- Assets – May Be Third-Party Owned

**Economic Benefits:**
- Project Owner -- May Be Power Purchase Agreement
- **Subscribers** – Preference for LMI
- Land Owner – May result in Ground Lease Annuity
- Taxing Authority
- Maintenance/Deconstruction

- Location Control – Inside the Fence -- Maintenance?
- Environmental – Vegetative Buffer – New Options!
Commercial Solar Projects
Commercial Solar Projects

**Contentious!!!**

- Electrons – *Utility Normally Buys Electrons*
  “Merchant Rate”/Requires Large Scale Hybrid = Mt. St. Mary’s in Emmitsburg

- Assets – Owned by Third Party Investors

- Economic Benefits – Third Party Tax Equity Investor
  Land Owner – Annuity

- Local Property Tax Increase

- Site Control – Asset-Owner Controls Inside the Fence
Commercial – Washington County

State Prison:

• Largest (today) at 20 Megawatts
• Electricity goes to the Grid – not the Prison
• 132 Acres Out of Ag Production and “Tax Neutral”
• State-Owned Land -- “Bargain Lease” (Unsuitable for Other Uses?)
• Vegetative Buffer not “for pollinators”
• $70 Million and 300,000 panels
• Hundreds of Temporary Jobs
• Prisoners Maintain Grounds
Commercial – Washington County

Landfill Solar

- To be 25 Megawatts – to the Grid
- Public/Private Partnership
- 130 Acres – From Idle Landfill Space
- $515,000 Annual Income to County
- Offsets County Electric Bills
- Hundreds of Temporary Jobs
- Dashboard provided
- Lifetime Carbon Footprint Benefit:
  replaces 7.3 mill pounds of CO2
Commercial – Washington County

“Cearfoss” Solar Project

Planning Started – 2015; Likely Start 2018
Out of State Developer – Bears Development Risks

86 Acres -- Ag Land – NOT Owner Occupied

Economic Benefits:
• Lease to Land Owner
• Electrons Sold to Grid
• Tax Income to County
Commercial – Washington County

“Cearfoss” Solar Project

Stakeholder Issues:
- Setbacks Increased to Benefit Neighbors
- Property Rights vs Neighbor Rights
- Economic Loss to Neighbors?

Add Economic Benefit to Neighbors:
- Potential for Adding Pollinator Plantings?
- Potential for Adding Local Maintenance Services
- Give homeowners a stake in project/free electricity?
New Options for Real “Solar Gardens”

- Reduce Stormwater Runoff Risk
- Develop Jobs
- Add Beauty and Pollinator Support
- Use Disturbed Land for Collateral Benefits
New Options – Real “Solar Gardens”
New Options for Authentic “Solar Farms”
Special Thanks to Rob Davis, **Fresh Energy**, for pollinator + solar photos
www.freshenergy.org

**Maryland Energy Administration**, Community Wind Programs. Sam Bierne, Program Director, http://energy.maryland.gov/Pages/Info/renewable/windprograms.aspx
And ALPHA Energy, David Murrin, CEO, Community Wind Contractor, dkm@alpha-energy.com


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**Millinium-3 Energy, LLC**, Phil Kelly, www.m3-energy.com

**Land & Cultural Preservation Fund, Inc.**, www.l-cpf.org

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