



**Clean Energy Cooperative Inc.**

*Developing Community through*

*Clean Energy in Northeast PA*

Learn More at [www.CleanEnergy.Coop](http://www.CleanEnergy.Coop)

# Co-op Financed Solar Array Discussion

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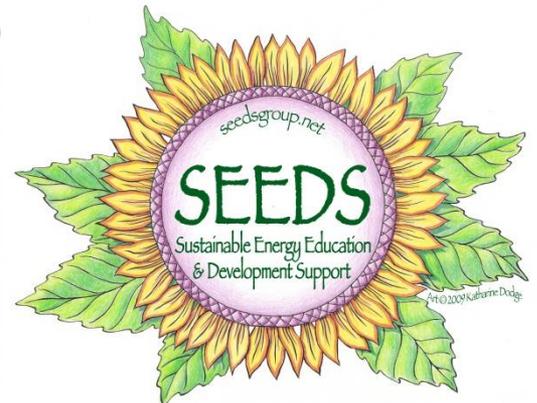
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# How We Started

Started in July 2013 as a 'circle' within *Sustainable Energy Education and Development Support (SEEDS)*, to:

- Demonstrate a renewable energy project at the community level
- Invest in our community to generate a positive 'return' for everyone
- Stretch beyond what SEEDS could do (as a non-profit)

As of May 2014, spun-off as a fully independent legal entity



# Why Sustainable Clean Energy?

- The US and our regional economy needs to transition away from fossil fuels. We want to show how this happens locally.
- Renewable energy requires significant up-front capital, yet has many positive & long-term impacts, both financially and other benefits.
- In 2010 our area was 3<sup>rd</sup> per capita in PA for installed solar PV. We've had little progress since, while easy financing has advanced other places.
- But conservation first! – The cleanest energy is the kWhr that is never used!



# Clean Energy Cooperative Inc.

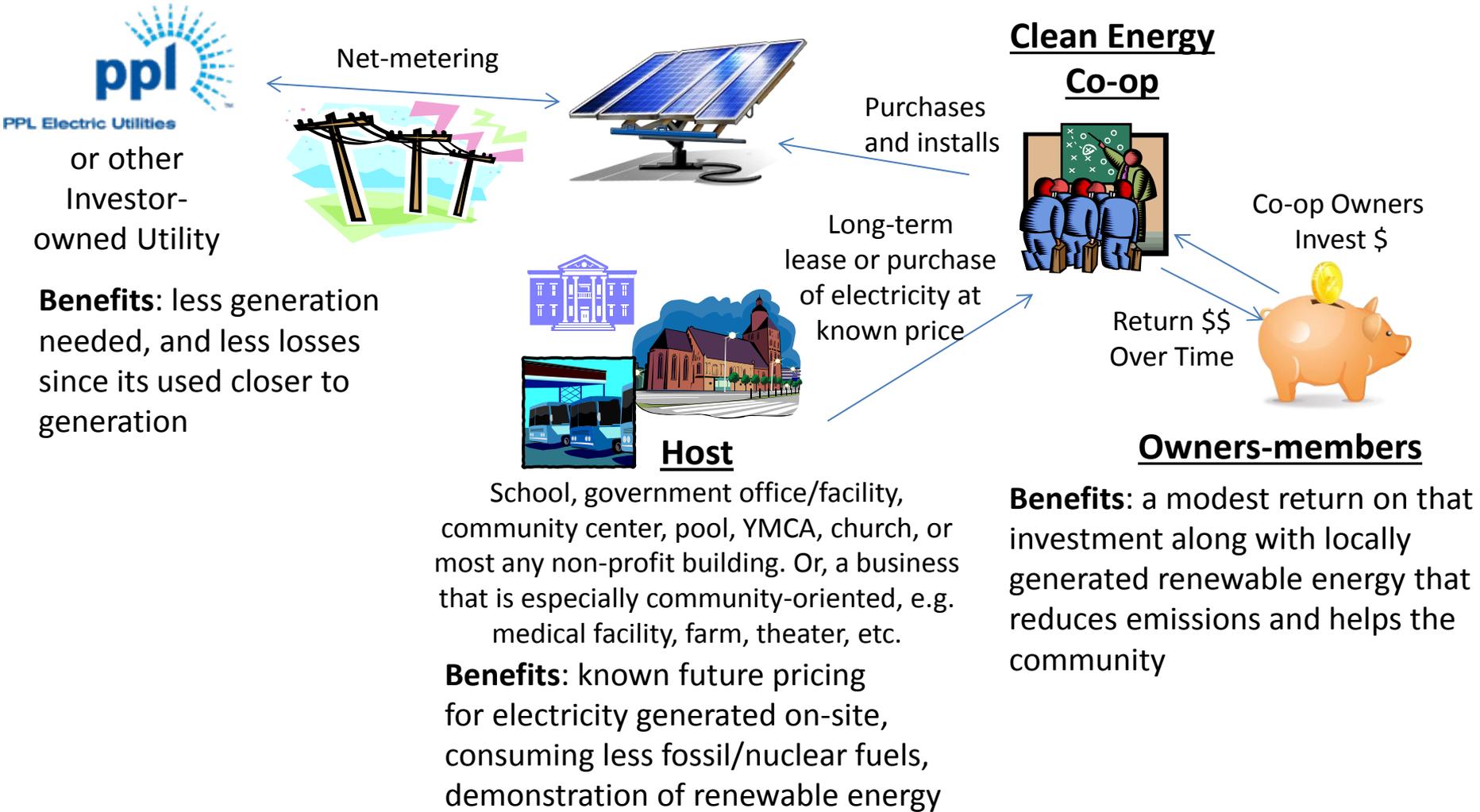
## *Mission Statement*

To sustainably develop renewable energy resources for a healthy and just energy future for our community, using local investment and providing positive returns to its members.

# Why a Cooperative?

- It's about Community: Ownership and Governance
- One person = one vote (not: \$\$\$ = votes)
- Community benefit takes priority over profits
- But, IT IS A BUSINESS, and has to make money to justify continuing investments (donations ≠ sustainable)
- “Slow Money” Business Model:  
Long-term and modest returns are acceptable because the money stays local, is managed by trusted individuals, and provides other non-financial benefits to the investors and their community

# First Project: Community Solar PV Business Model



# Roles, Responsibilities & Risks

## Utility:

- Signs net-metering agreement with host for electricity generated/used
- Credits any excess electricity produced for host's later use at night or when it's cloudy
- Pays cash to host (in April or May) for any remaining annual excess credits (but not full retail price)

*Note: Host must still pay monthly connection fee, peak demand charges and for any electricity used greater than yearly PV production*

Risks: None additional

## Host:

- Owns site(s) with electrical usage/meter
- Site must have near perfect solar window at array location (newish roof or ground mount). And preferably highly visible to public traffic.
- Commits to 20 year lease/purchase agreement for fixed price electricity as generated by solar PV
- Site/array maintenance (cleaning, mowing, access/safety barriers)
- Property Insurance

Risks: Utility prices might decrease, regulations may change, peak usage still impacts utility price paid even with lower volume purchased, ...

## Clean Energy Co-op:

- Obtains the capital (e.g. preferred shares) to purchase and install solar array at host's site
- Pays taxes, liability insurance, legal & administration expenses
- Potential repair costs (and losses that result)
- May sell the SRECs
- Pays yearly dividends on its preferred shares
- Returns equity to the preferred shareholders (or as seed money for additional projects)

Risks: regulations may change, sun may not shine, host could try to cancel or not pay, legal liabilities, higher than expected repair costs, ...

## Owners/Members:

- Actively involved in directions and operations of the Cooperative
- Makes **long-term** investment in the Co-op via ownership, and optionally buying preferred shares (Note: per security laws, only available to Co-op members who are PA state legal residents)
- Willing to take modest returns to invest locally and sustainably

Risks: could lose it all

# Host Benefits from Solar PV

## when installed by the Co-op

- No cash up-front, instead paid for over 20 years
- All (or a portion) of your electricity will be produced on-site:
  - from clean and sustainable sunshine!
  - reduced emissions and pollution
  - much less electricity purchased from utility (perhaps zero)
- Reduces the impacts of future utility price increases, and quarterly rate changes - *PA PUC reports that average PA electricity prices have risen 3.3% annually over the past 10 years.*
- Money circulates within our local community
- The Co-op will remotely monitor system performance and investigate or repair the system if needed (PPA)

# Possible Types of Host Contract

- 1. Simple Operational Lease:** this version is the simplest legally, and easiest to understand. It's a straight lease agreement with fixed and consistent quarterly payments for 20 years.
  - The electricity production of a PV system is variable with weather/clouds, so the Host is taking that risk (i.e. more benefit if panels are operating clean, and we have sunny weather).
  - Host is responsible for property insurance, etc.
  - If the Host exits the contract early there is a penalty payment required.
  - At the end, the Host has an option to purchase the system at its Fair Market Value (as determined by an IRS-sanctioned method). Otherwise the Co-op removes the system from the property.
- 2. Power Purchase Agreement (PPA):** the Host is buying the monthly electricity produced by the PV system, at a price to be determined, but likely to be roughly the same the current PPL per-kWhr rate for GS1 tariff.
  - In this agreement, the per kWhr price paid by the Host is fixed for the entire 20 year term (except for a CPI/inflation adjustment, that we can probably delay until after year 5), and therefore as utilities' price for electricity raises, the Host is likely be paying less than the market price.
  - Co-op is responsible for operations, and having prompt repairs made, if needed.
  - Who pays for the property insurance is negotiable.
  - If the Host exits the contract early there is a (larger) penalty payment required.
  - At the end, the Host has an option to purchase the system at its Fair Market Value (as determined by an IRS-sanctioned method). Otherwise the Co-op removes the system from the property.

# Start with a Solar Site Assessment

- May we walk the site and take pictures?
  - We may also need to access the roof
  - How old is the roof?
- Please provide copies past electricity bills showing (or forecast of future) annual electric load of the building (in kWhrs)
- Where is the electric meter? Breaker box? Is there wired internet access near-by?
- What energy conservation/efficiency projects have been completed or planned?
- We have a more detailed questionnaire as well