

A photograph of a rural farm scene with solar panels. In the foreground, there is a field of tall green grass. In the middle ground, several rows of dark blue solar panels are mounted on a field. Behind the solar panels, there are two large wooden barns with corrugated metal roofs. The background features a dense line of green trees and a clear blue sky with a few wispy clouds. Power lines are visible in the upper part of the image.

# *Richmond Solar Farm*

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# Who I am and how I got here

- Renewable Energy Consultant
- Rocky hillside farm with lots of open space
- 33 kVa distribution line in back yard
- Could I make the numbers work for me?
- If so, can I help others do the same thing?

# Group Net Metering

- Established in 1997 for farm methane projects
- Allowed farms to use multiple meters to offset production from digester
- Legislature expanded concept to commercial and groups of residential customers
- Since I use little electricity, I decided to do a group system

# Technical Details

- 13.6 kW Solar PV System
- Two 7 kW Fronius Inverters
- Eight poles with eight 215 watt panels @
- Fixed mount with one axis adjustment
- Produces 15,000 kWh per year
- Four households in group

# Cost and Incentives

- \$85,000 including trenching and inverter room
- 30% Federal Tax Credit
  - available until 2016
  - Section 1603 Treasury Grant (no longer available)
- Eligible for MACRS depreciation on 85%
  - Section 179 deduction
- Vermont Small Wind and Solar Incentive

# Math

Installed Cost of System	\$85,000
30% Federal Tax Credit	-\$25,000
MACRS Depreciation on 85% of Cost	-\$20,000
Vermont Small Wind and Solar	-\$10,000
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Net Cost of System	\$30,000

# More Math

kWh Production per year	15,000
Retail rate per kWh	\$.17
Solar Adder	+ \$.03
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Net Metered Credit	\$.20
Revenue is 15,000 x \$.20 =	\$3,000
\$30,000 / \$3,000 =	10% ROI



# Lessons Learned

- Get multiple quotes and check references on installer
- Solar investment is more about taxes and less about energy
- Billing is a hassle
  - Solar credit is not transparent on bills
  - Hopefully PSB will fix
- Solar is more affordable than ever



# Policy Conclusions

- There is a lot of marginal land where solar fits
- There are a lot of middle income people with \$ to invest
- Group net metering creates opportunity
- Tax deductions are key to ROI
- More smaller installations are good for the grid
- We should be doing this everywhere we can



*For More Information*

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