

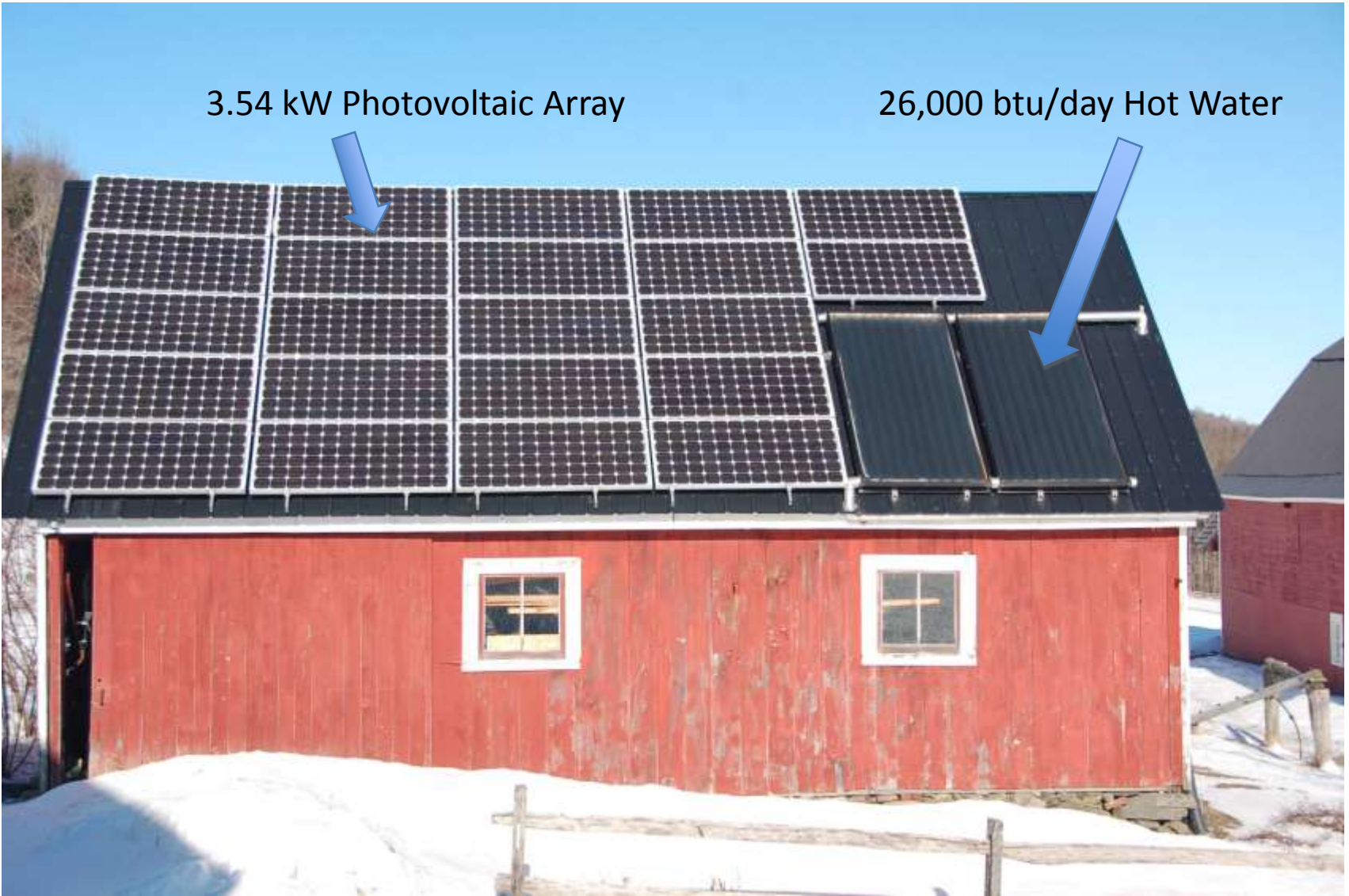
Solar Energy at Sunrise Farm

White River Junction, Vermont



3.54 kW Photovoltaic Array

26,000 btu/day Hot Water



PV/Grid Connection

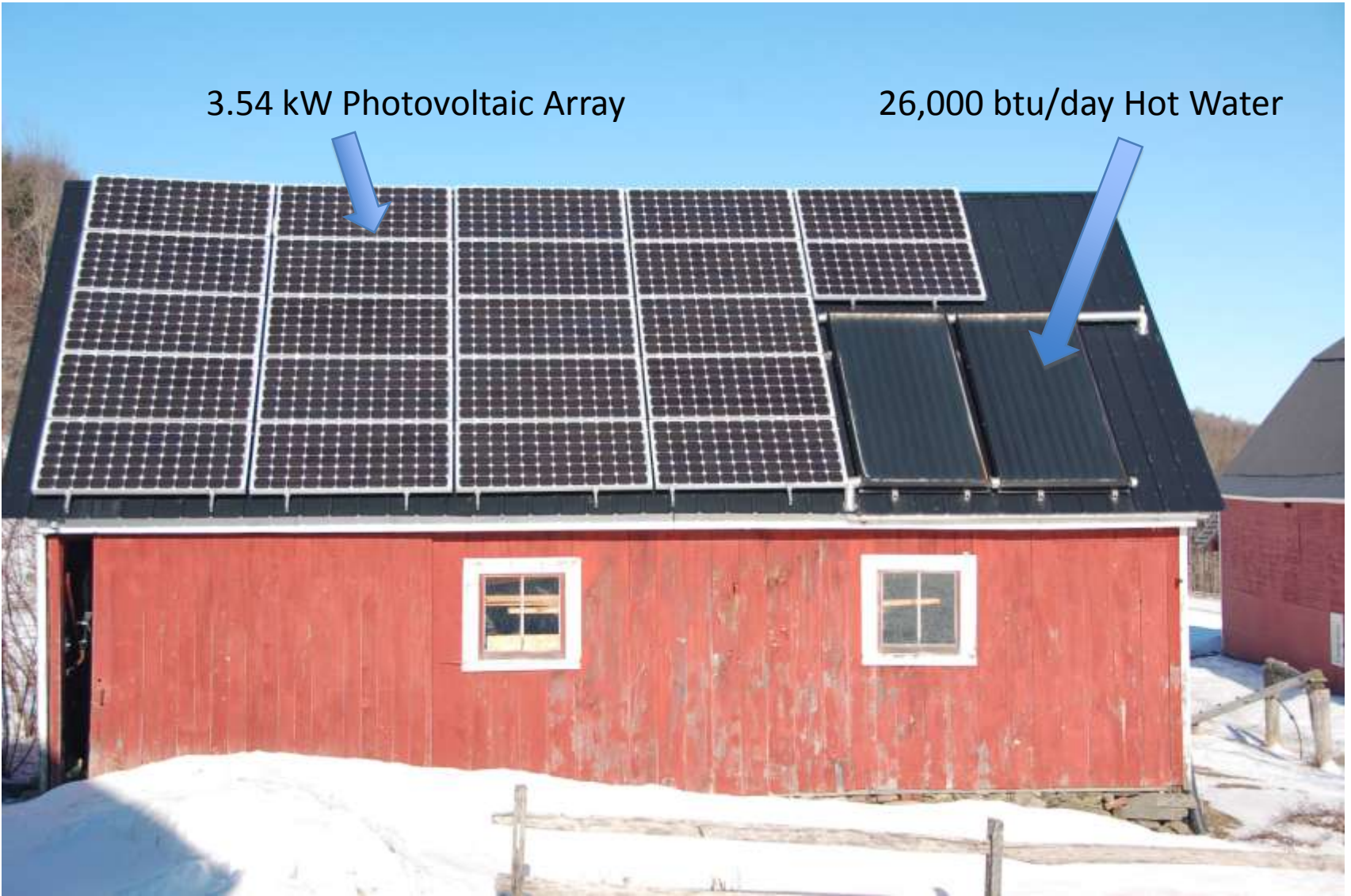


- One master breaker
- Two inverters
- Two inverter breakers
- (No battery backup)

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3.54 kW Photovoltaic Array

26,000 btu/day Hot Water



Hot Water Storage System

- Circulator pump
- Temperature gauges
- Pressure relief tank
- Glycol fill valves
- Heat Exchanger



Capital Costs

Electricity

- Equipment: \$25,025
- Installation: \$4,132
- Total Cost: \$29,157

- VT Cost Share: -\$8,800

- Final Cost: \$20,357

Hot Water

- Equipment: \$2,840
- Installation: \$3,633
- Total Cost: \$6,473

- VT Cost Share: -\$1,500

- Final Cost: \$4,973

Payback Periods

Electricity

- Final Cost: \$20,357
- 3,794 kWhr / yr
@ \$0.15 / kWhr =
\$569 saved per year
- PV Payback = 36 years

Hot Water

- Final Cost: \$4,973
- 9.5 million BTU/yr, or
69 gals oil @ \$3.00/gal
\$207 saved per year
- H2O Payback = 24 years



Potential Savings in 2009

- Simpler H2O installation (-\$1,000)
- Federal Tax Credit: 30%
- VT Tax Credit: \$1.75 / installed watt
\$1.75 / 100 btu / day
- Depreciation: 20% (Federal + VT tax rates)

Potential Paybacks

Electricity

- PV Total Cost: \$29,000
- Less Fed. 30%: $-\$8,700$
- Less VT: $-\$6,195$
- Subtotal: \$14,105

- Less Sect 179: $-\$2,821$
- Total: \$11,284

- PV Payback: 19 years

Hot Water

- H2O Total Cost: \$5,500
- Less Fed. 30%: $-\$1,650$
- Less VT: $-\$455$
- Subtotal: \$3,395

- Less Sect. 179: $-\$679$
- Total: \$2,716

- H2O Payback: 13 years



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