SOLAR PV	Commercial 25 kW			Residential 6 kW		
	Annual Energy	Payback	NPV	Annual Energy	Payback	NPV
Nebraska Net Metering	41,438	10.2	$1,753	8,712	12.7	$2,980
Nebraska with Net Billing	41,438	12.6	-$5,941	8,712	16.1	-$869
Nebraska buy all sell all	41,438	19.5 – 50+	-$19,500 to -$34,365	8,712	50+	-$14,630

NOTE:
Economics vary widely due mainly to four things: Electricity Rates, Utility Policy, Cost of System, Incentives

John Hay's Solar Installed Feb 2017

Electric Rates (check your utilities website, call, or email to get current rate schedules)

- Higher Cost per kWh generally improves solar economics and yields shorter paybacks
- Demand Rates usually yields longer paybacks

Utility Policy Net Metering (All utilities up to 1% of their demand, under 25 kW)

- Net Metering: Consumer generator gets full retail rate credit for generation (equal to or below how much they use). Excess generation is totaled at the end of each billing period and a credit (excess generation times "avoided cost rate") is then credited to customers account. System size limited to 25 kW or smaller.

Utility Policy Other (Utilities which have met the 1% or systems over 25 kW)

- Net Billing: Consumers can offset their use. All excess generation is paid at wholesale rate
- Buy all Sell all: All electricity generated even kWh used instantaneously behind the meter are purchased by utility at wholesale and sold back at retail

Cost of Systems (cost is a total installed cost per DC Watt)

- Residential costs range from $2.50 to $3.25 per DC Watt, Smaller systems cost more per Watt
- Commercial/Farm system costs range from $2.00 to $3.00 per DC Watt, Smaller systems cost more per Watt, microinverters cost more

Incentives and other benefits

- 30% Federal Tax Credit (available to all who have tax burden)
- Depreciation available to businesses
- USDA Rural Energy For America Program (REAP) 25-50% of Costs
- Low interest loans from Nebraska Energy Office
- Utility incentives (LES capacity based incentives)

Solar Economic Analysis Publication
https://go.unl.edu/solarpub

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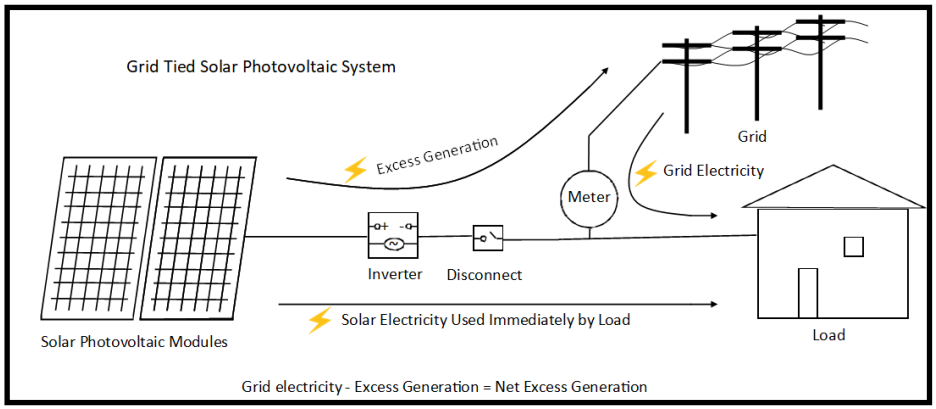
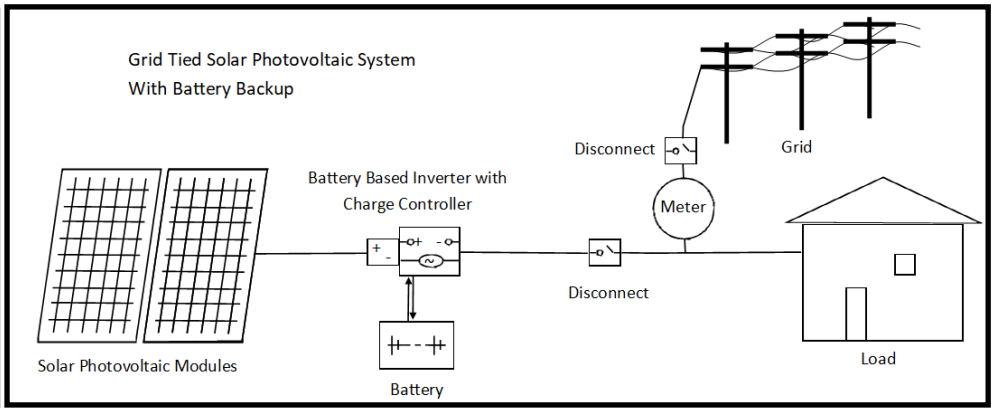
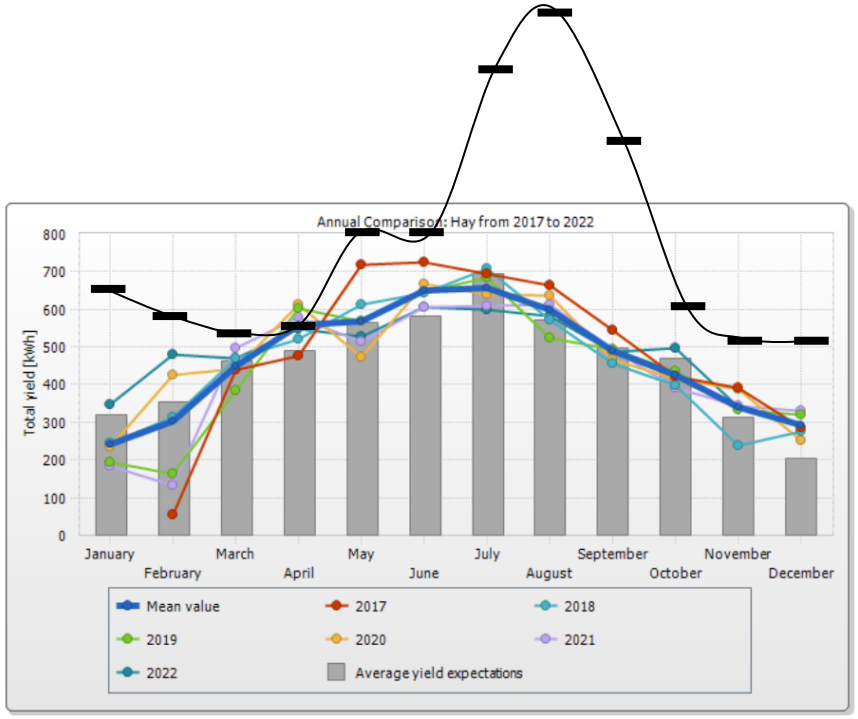
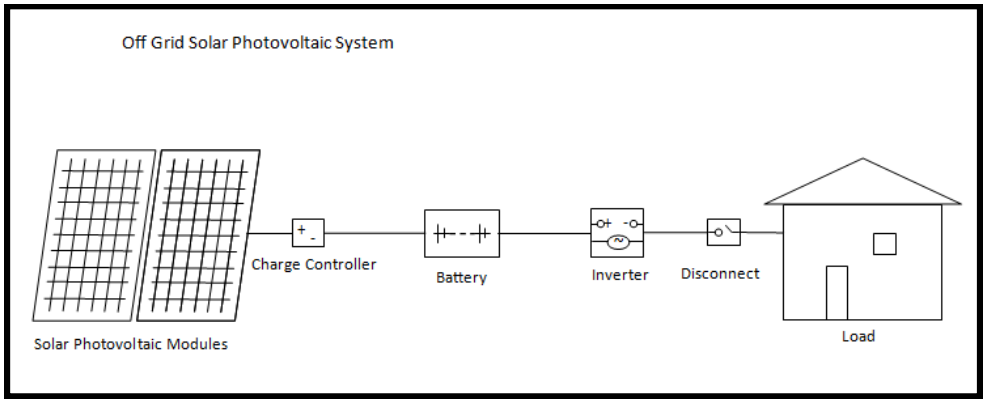






F. John Hay's residential solar array commissioned in Feb 2017. Bars are actual production. Dashes are electrical use estimates based on 4 year averages. Months with higher solar generation than use have net excess generation and utility policy applies.

Online Monitoring is important to identify maintenance needs and needed to access warranty for some inverters.



Steps in a Distributed Solar Installation Process:

1. Study electric bills, efficiency
2. Solar homework, goals,
3. Get quotes, talk to multiple installers
4. Contact utility (Owner and Installer)
5. Design
6. Order solar modules, inverter, mounting
7. Building permit
8. Structure
9. Solar rail mounting
10. Solar module (panel) installation
11. Electrical permit
12. DC wiring and grounding
13. Inverter installation
14. AC wiring
15. Electrical inspection
16. Install safety labeling
17. Utility agreement
18. New meter (Utility site inspection)
19. Turn it on! (owner and installer)
20. Online Monitoring (owner and installer)