

# Project Costs

- Project Costs (blue)
  - Project Size
  - Project Cost

Owner Name			
Solar System Project	40	kw system	Cost per KWT
			4200
Cost	\$168,000		
Less tax credit	\$50,400	30% of cost	
Net Cost	\$117,600		
		Loan Rate	loan term - months
		4.25%	84
Monthly Loan Pmnts	\$1,621	Farm Credit East	
Total of payments	\$136,165.69		45
SREC Proceeds (yrs)		(\$12,825)	SREC*
7	(\$89,775)	Min. \$300/SREC)	annual
		\$285	10 years total
Net costs	\$46,391		*SREC: Solar Renewable Energy Credit
Less:			
Electricity savings		45,427	kwh production
\$6,360	(\$44,519)	0.14	price/kwh
(per year)		Solar System Production	
		3.12	kwh production/day-average
Net costs	\$1,872	124.8	total (x system kw)/day
		45,427	kwh/year
Deprec expense	(\$29,400)	25.00%	tax rate
Net costs	(\$27,528)	(\$3,932.57)	per year cost

Monthly Cost (Revenue)  
\$1,621

(\$1,069)

(\$530)

\$22

# Solar Systems 101



SolarFlair Project in Westboro MA

Presented by:

Matt Arner

President



# Solar panel technologies

- Photovoltaic (PV) or Solar Electric  
Produces only electricity
- Solar Hot Water  
Produces only solar hot water





# Typical size of PV systems

- Residential:  
Turnkey cost \$20,000  
System size 5 kW
- Small Commercial:  
Turnkey cost \$1,000,000  
System size 300 kW
- Large Commercial:  
Turnkey cost \$3,000,000  
System size 1000 kW or 1 MW

# Typical Residential PV systems



Holden, MA

# Typical Small Commercial System



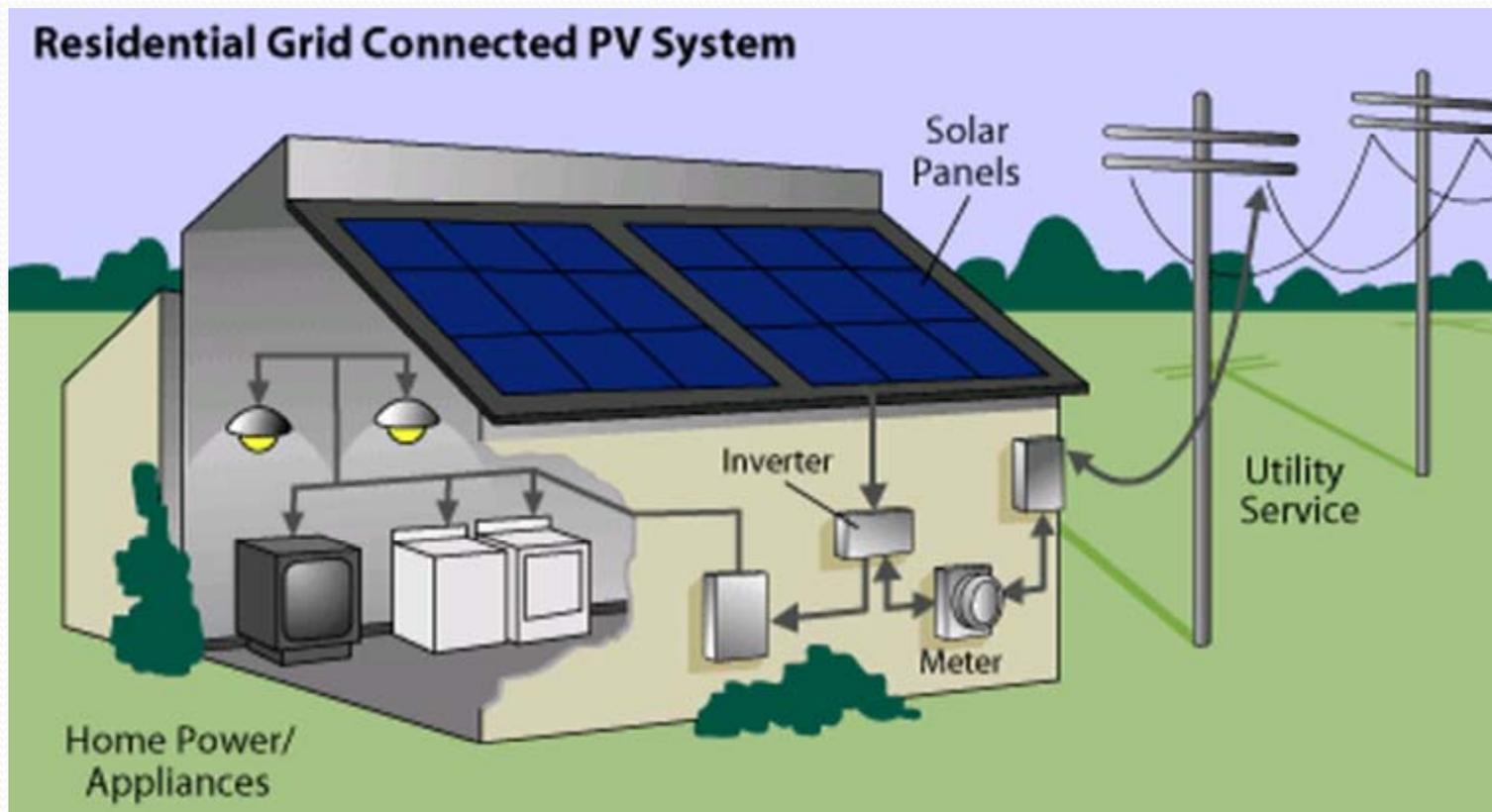
Leominster, MA

# Typical Large Commercial System



Charlton, MA

# How do solar PV systems work?



# Major Components

- Solar Panels



- Racking

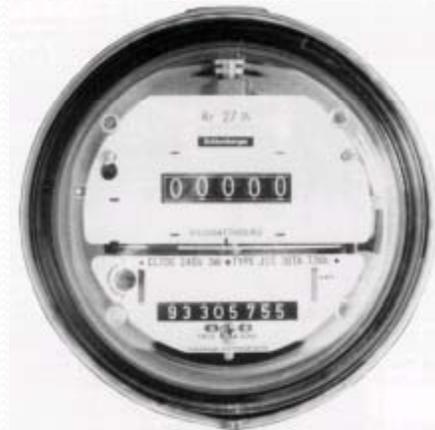


# Major Components

- Inverters



- Production Meter





# Warranties

- System Warranty:
  - Provided by solar installer
  - Typically 1-5 years
  - Covers parts and labor
- Manufacturer's Warranties:
  - Solar Panels: 25 years is industry standard
  - Inverters: 5-10 years with extended warranties available for a fee
  - Racking: Typically 25 years



# Operations and Maintenance

- Panels automatically turn on and off
- Rain keeps the panels clean
- Panels have no moving parts and require little maintenance. One annual inspection by the installer is recommended.
- Remote monitoring allows easy verification of system performance

# Operations and Maintenance



OMA Group

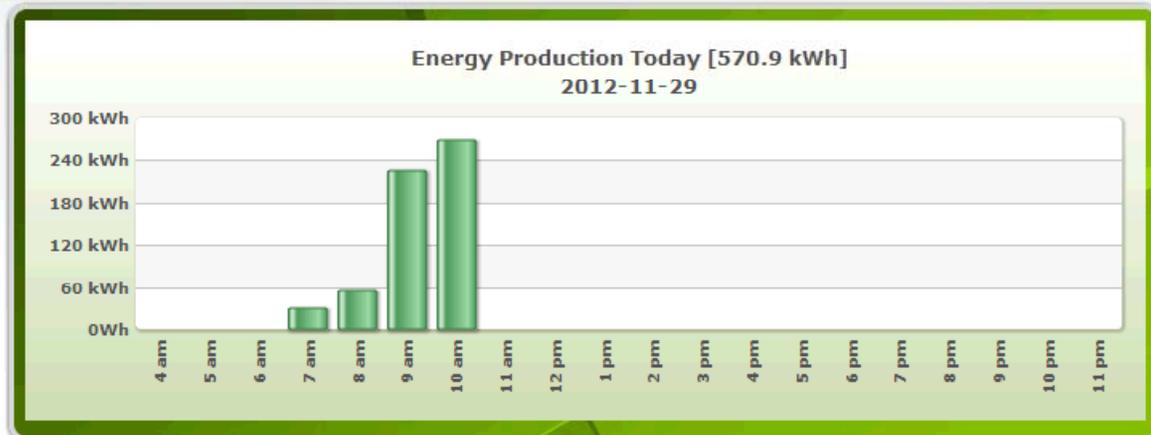
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# Certification of solar installers

- Solar PV systems must be installed by a licensed Massachusetts electrical contractor.
- Verifying NABCEP certification of individuals is an easy way to verify that a solar installer is qualified to design and install solar projects.



# Permitting

Solar PV Systems must obtain the following permits:

- Municipal building permit
- Municipal electrical permit
- Utility Interconnection Agreement

## Contact Information

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President

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