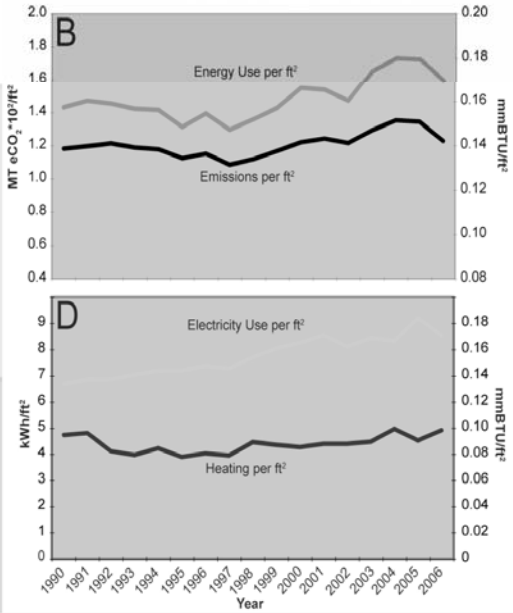
Photovoltaics at Amherst College: Powering the Campus with the Sun

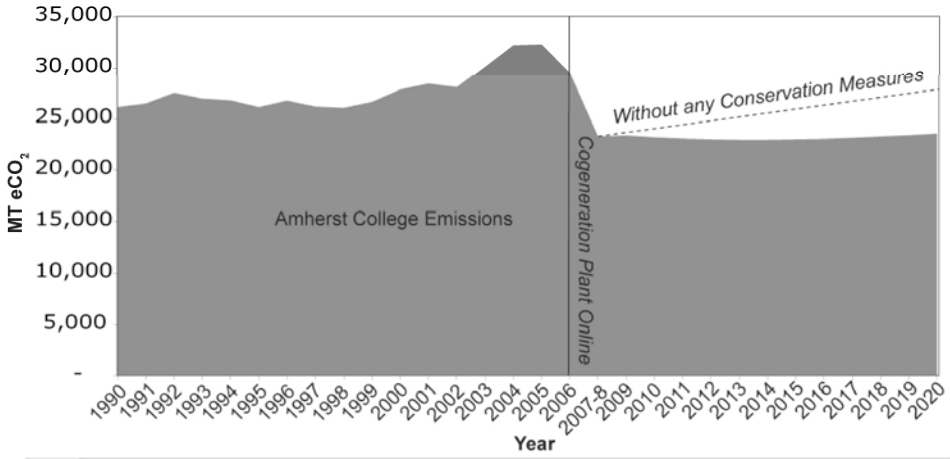
https://cms.amherst.edu/campuslife/greenamherst/renewable_energy

source : http://www.uvm.edu/~solar/?Page=images/roof_full.jpg

The Current Situation

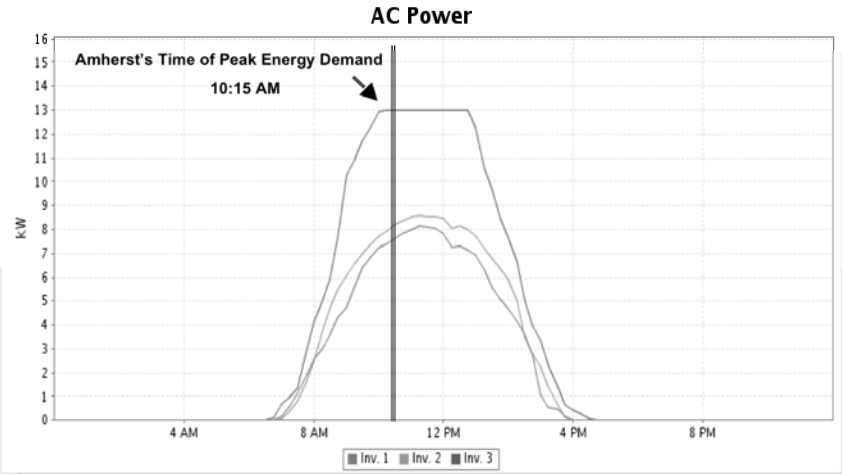


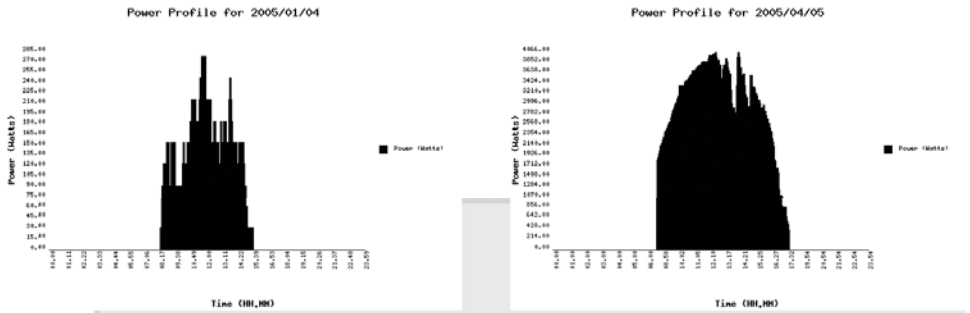
Amherst's Future



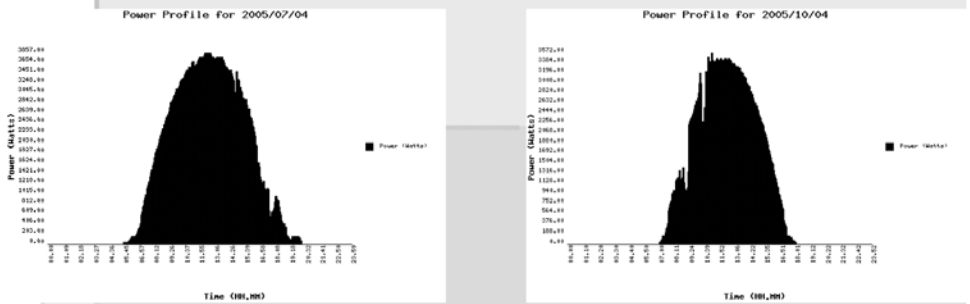
How can Solar Energy make a Difference?

40.132 kW DC system installed at Yale Divinity School
Graph of AC output for Nov 11, 2007





Winter **Spring**



Summer **Fall**

Source for all custom graphs :
http://www.uvm.edu/~solar/?Page=pastpower.htm

Possible Solar Initiatives

Solar Power as 30% of energy:

- 55,560 sq-ft of roof required
- $ 3,479,560 net cost
- $ 12,901 saved per month in utilities
- 13 years to break even (without increased property value)

Solar Power as 50% of energy:

- 92,600 sq-ft of roof required
- $ 5,813,080 net cost
- $21,502 saved per month in utilities
- 14 years to break even (without increased property value)

Source: http://www.findsolar.com/index.php?page=rightforme

CO2 Emissions Reductions

Size of Photovoltaic System	Amount of CO2 Emissions Saved	Equivalent CO2 Emissions from Auto Mileage	Amount of Saved Emissions in Cross-Country Road Trips!
926 kW (50% PV)	824 tons / yr	1,648,000 mi/ yr	14,189 trips!
	20,600 tons/ system lifetime	41,200,000 mi/ system lifetime	
555.6 kW (30% PV)	494.4 tons/ year	988,800 mi/ yr	8,513.5 trips!
	12, 360 tons/ system lifetime	24,720,000 mi/ system lifetime	

Solar Power- More than just rooftops!

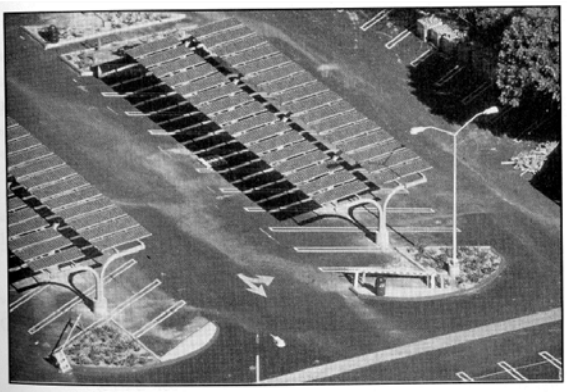


FIG. 2–4 SOLAR PARKING PANELS AT CSUN
(PHOTO COURTESY OF SHELL SOLAR)

Source: Chambers, Ann. Renewable Energy in Non-technical Language. Oklahoma: Penwell. 2004.