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# Solar Power Production at Caltech

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June 2008



# Why Solar Power?

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- Electricity prices increased ~20% in 2008
- Expected to rise 5-10% per year
- Pasadena Water and Power Rebates are high
- Part of a larger Sustainability Initiative at Caltech
- More predictable utility costs



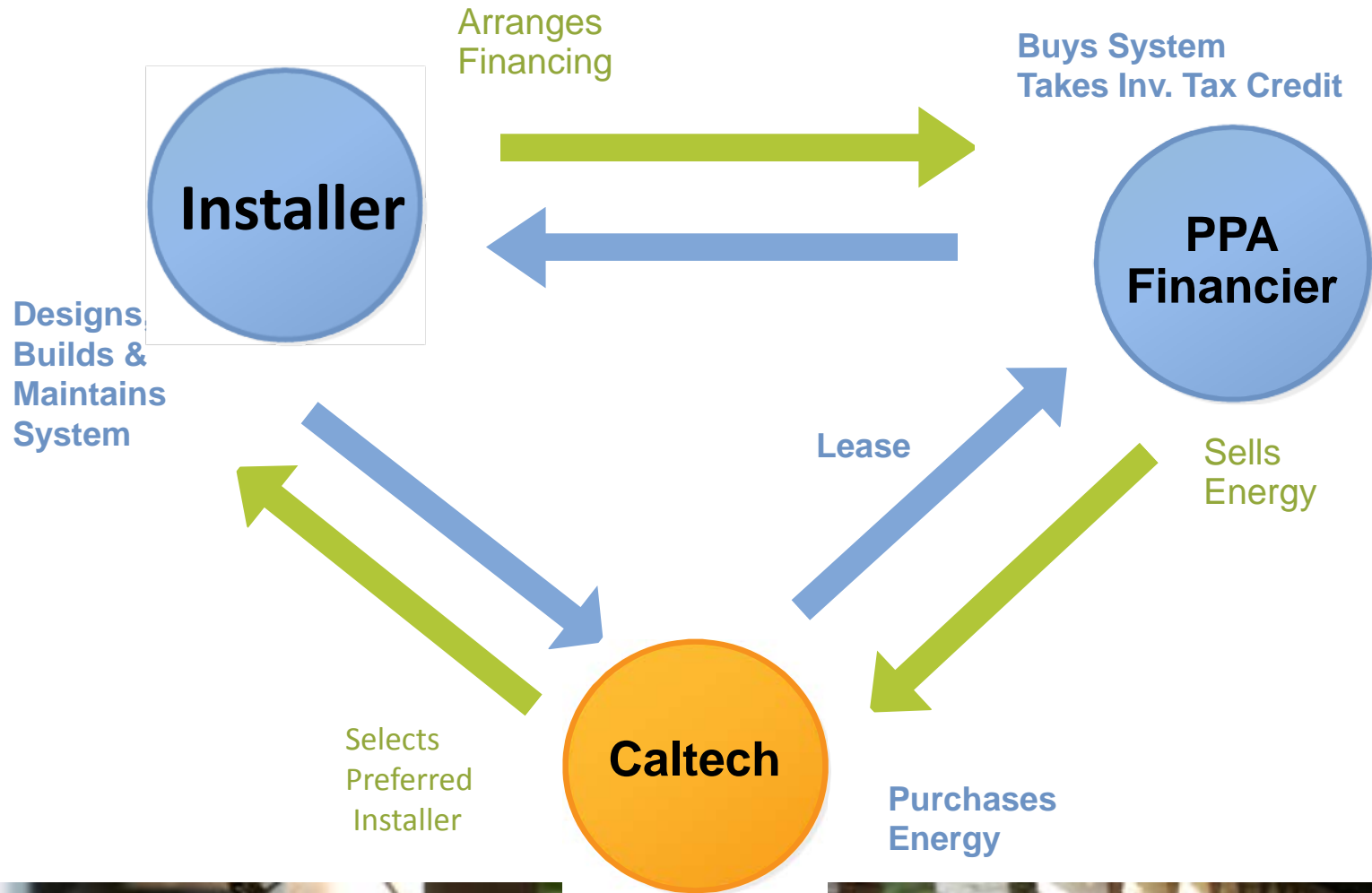
# Solar Power at Caltech

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- Phase 1 and 2 → 1.25 MW
- Offset 5% of connected peak load (MW)
- Replaces 7% of purchased power (KWH)
- Power Purchase Agreement (PPA)
- No Caltech investment needed
- Expect Phase 3



# Power Purchase Agreement - PPA



# SOLAR POWER FACILITIES

## Photo Voltaic Arrays – Phase 1 and 2

N. Wilson Parking Structure  
380 kW

S. Wilson Parking Structure  
390 kW

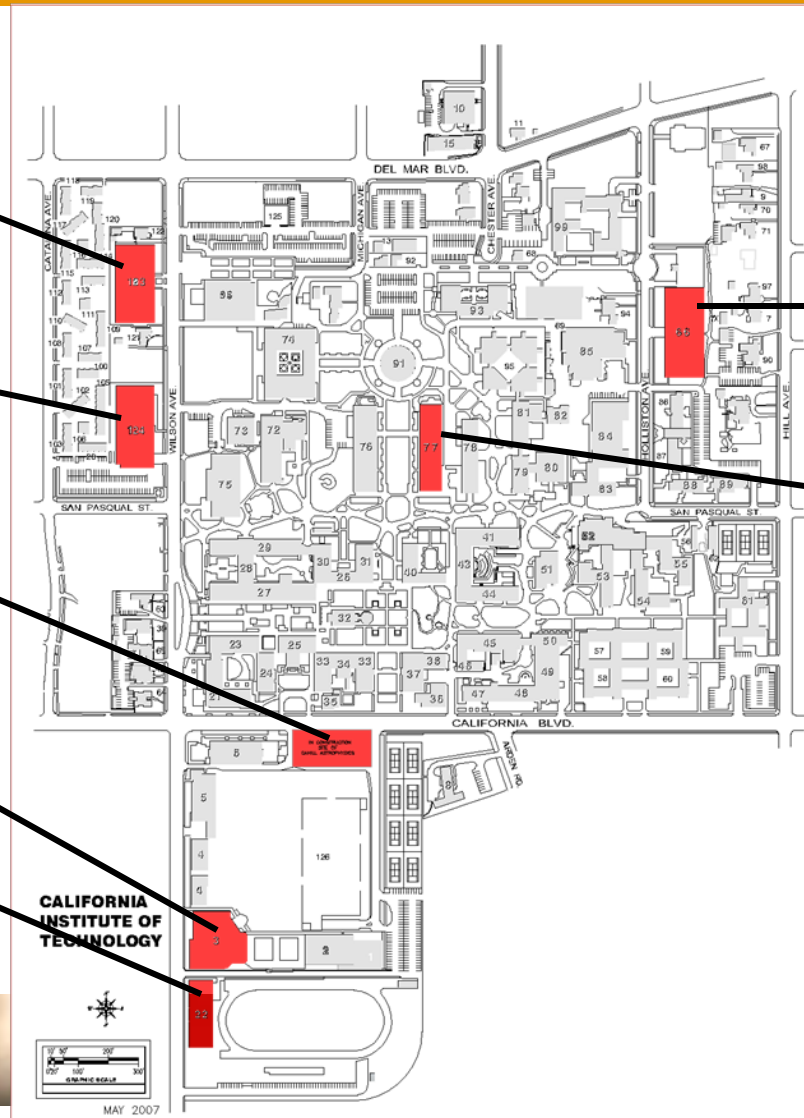
Cahill Center  
20 kW

Braun Gym  
75 kW

IPAC Building  
75 kW

Holliston Parking Structure  
200kW

Baxter Hall  
110 kW



# Holliston Solar Energy Facility

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- Construction Started in April 2008
- Operational in August 2008
- 200 KW - 320,000 KWH per year at 13 cents / KWH





# Solar Power - Phase 1

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Power Production	320,000 kWh / Year
Term	15 years
Renewable	2 five years terms
Energy Purchase	100% of output
Start Rate Year 1	\$0.13/kWh
Annual Escalation Rate	3.9%
Schedule	Start-up August 2008
Renewable Energy Credits (REC)	Retained by Provider





# Solar Power - Phase 2

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Power Production	1,700,000 kWh / Year
Term	15 years
Renewable	2 five years terms
Energy Purchase	100% of output
Start Rate Year 1	\$0.10 - .11/kWh
Annual Escalation Rate	3.5%
Schedule	Start-up 2009
Renewable Energy Credits (REC)	Retained by Caltech

# Shade and Solar

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- Designed around mature protected trees
- Removed trees will be replaced with drought tolerance species
- Replacement trees provide equal canopy





# Benefit to Caltech

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- Lower, more stable electrical costs
- Cleaner and Greener Campus
- Renewable energy credits
- Greenhouse Gas Reduction



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# Questions?

