

Building America Opportunities for Raters

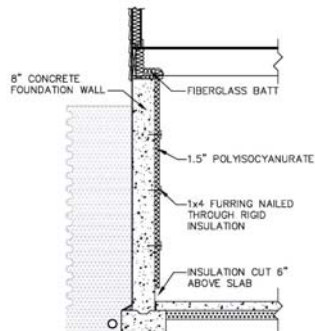
RESNET Conference
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Building Systems Research

- Cambridge Homes, Chicago
- Moisture & thermal performance



Solar Homes

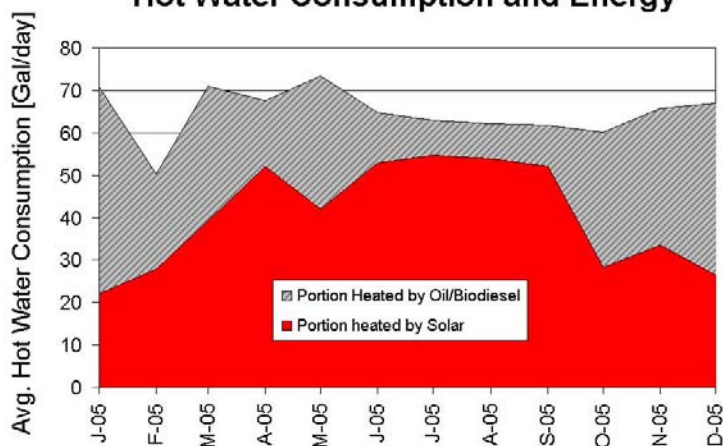


Partnership with Western Massachusetts Electric Co.



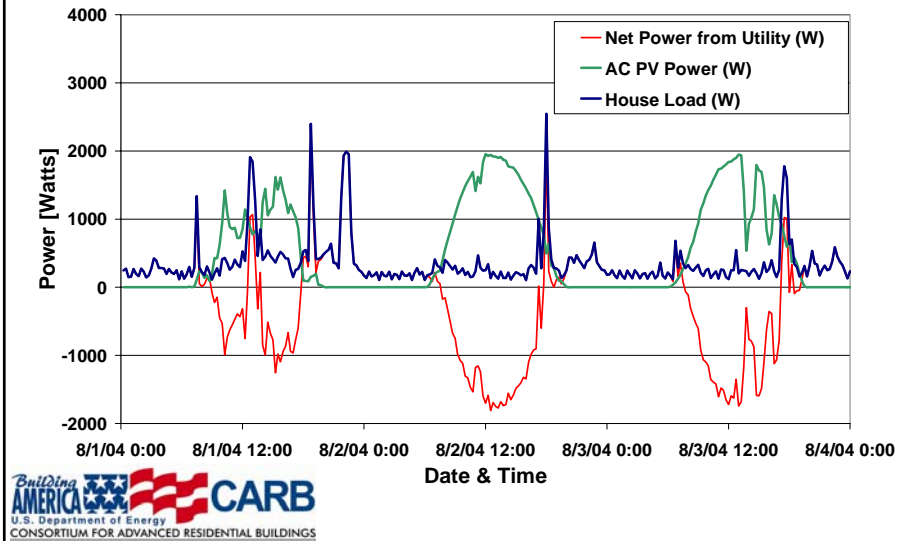
Solar System Performance

Hot Water Consumption and Energy



Utility Costs & Benefits

Electric Power Profile
Three Days in August



Lakewood Ranch, Sarasota, FL

- Helped design & implement “green” development and building standards for community.
- 30,000 Homes over 15 years
- All Energy Star
- All “Green” per FGBC Standards



Veridian Homes: Achieving 40% Goal

Based upon Previous Prototype

- Advanced Framing
- Engineered Duct System
- Basement Insulation to Sill (R-5 minimum)
- R-40 Attic Insulation
- Vinyl, Double Pane, Low e windows
- Air Sealing to Reduce Infiltration
- All Ducts in Conditioned Space & Tightly Sealed
- Direct- or Power- Vented Mechanical Equipment



Added Features

- Blown-In Insulation (R-23)
- Solar Water Heating System
- 100 % Fluorescent Lighting
- ECM Motor on Furnace
- Energy Star Appliances
- Home Energy Monitoring System



Blue Sea Construction

- CARB project in 2001: Develop specifications for affordable Energy Star homes.
- 375 units in NYC, 79 more in 2006



Simpler QA

- Blower Door Testing
- Duct Blaster Testing
- Balancing



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CONSORTIUM FOR ADVANCED RESIDENTIAL BUILDINGS

Ventilation Commissioning

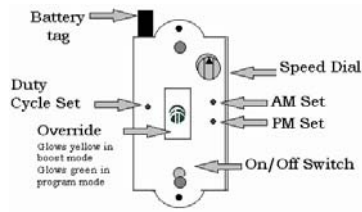
- Check flow of Exhaust Fans
 - Flows often <50% of rated flows



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Ventilation Commissioning

- Check Controls
 - Timer settings
 - Other specialized controls



Ventilation Commissioning

- Proper
- Operation
 - Installation
 - Ducting



Combustion Testing

- Combustion Efficiency
- Safety
 - CO levels
 - Proper draft
 - Spillage



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Refrigerant Charge

- Necessary for proper capacity and efficiency
- EPA Certification



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LEED-H



LEED
for HOMES



LEED for HOMES Project Checklist

Project Name: _____
Address (Street/City/State): _____

Category	Requirement	Points Available	Points Earned
Green Building Practices (GBCP)	1.1.1 Green Building Practices (GBCP)	10	10
	1.1.2 Green Building Practices (GBCP)	10	10
	1.1.3 Green Building Practices (GBCP)	10	10
	1.1.4 Green Building Practices (GBCP)	10	10
	1.1.5 Green Building Practices (GBCP)	10	10
	1.1.6 Green Building Practices (GBCP)	10	10
	1.1.7 Green Building Practices (GBCP)	10	10
	1.1.8 Green Building Practices (GBCP)	10	10
	1.1.9 Green Building Practices (GBCP)	10	10
	1.1.10 Green Building Practices (GBCP)	10	10
Energy Efficiency (EE)	2.1.1 Energy Efficiency (EE)	10	10
	2.1.2 Energy Efficiency (EE)	10	10
	2.1.3 Energy Efficiency (EE)	10	10
	2.1.4 Energy Efficiency (EE)	10	10
	2.1.5 Energy Efficiency (EE)	10	10
	2.1.6 Energy Efficiency (EE)	10	10
	2.1.7 Energy Efficiency (EE)	10	10
	2.1.8 Energy Efficiency (EE)	10	10
	2.1.9 Energy Efficiency (EE)	10	10
	2.1.10 Energy Efficiency (EE)	10	10
Water Efficiency (WE)	3.1.1 Water Efficiency (WE)	10	10
	3.1.2 Water Efficiency (WE)	10	10
	3.1.3 Water Efficiency (WE)	10	10
	3.1.4 Water Efficiency (WE)	10	10
	3.1.5 Water Efficiency (WE)	10	10
	3.1.6 Water Efficiency (WE)	10	10
	3.1.7 Water Efficiency (WE)	10	10
	3.1.8 Water Efficiency (WE)	10	10
	3.1.9 Water Efficiency (WE)	10	10
	3.1.10 Water Efficiency (WE)	10	10
Indoor Environmental Quality (IEQ)	4.1.1 Indoor Environmental Quality (IEQ)	10	10
	4.1.2 Indoor Environmental Quality (IEQ)	10	10
	4.1.3 Indoor Environmental Quality (IEQ)	10	10
	4.1.4 Indoor Environmental Quality (IEQ)	10	10
	4.1.5 Indoor Environmental Quality (IEQ)	10	10
	4.1.6 Indoor Environmental Quality (IEQ)	10	10
	4.1.7 Indoor Environmental Quality (IEQ)	10	10
	4.1.8 Indoor Environmental Quality (IEQ)	10	10
	4.1.9 Indoor Environmental Quality (IEQ)	10	10
	4.1.10 Indoor Environmental Quality (IEQ)	10	10

Solar Systems

- Still not common, but commissioning is key.



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