

ThermalShell Technologies www.thermalshell.com
<http://www.markostic.com/tst/index.html>

“Exudes Green” and http://en.wikipedia.org/wiki/Heat_recovery_ventilation
www.highperformancebuildings.gov



U.S. Department of Energy
Energy Efficiency and Renewable Energy

Building Technologies Program

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◀ [Commercial Building Initiative Home](#)

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Net-Zero Energy Building Definitions

About the Initiative

Building Energy Consumption (U.S.)

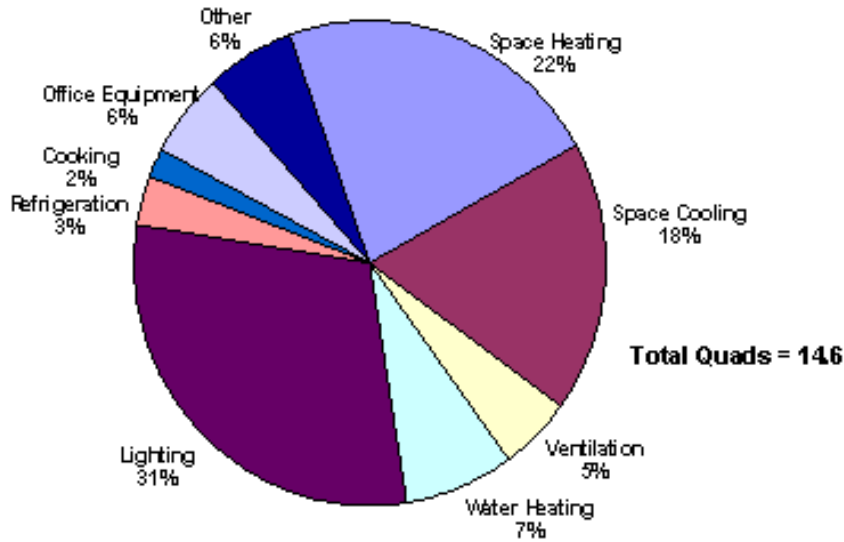
- 35% of total energy used in U.S.
- 65% of total electrical consumption
- 48% of energy used in buildings in U.S. is used for comfort cooling & refrigeration.
- 50% of all U.S. homes have A/C.
- 81% of all new homes have central air-conditioning.

Environmental impact:

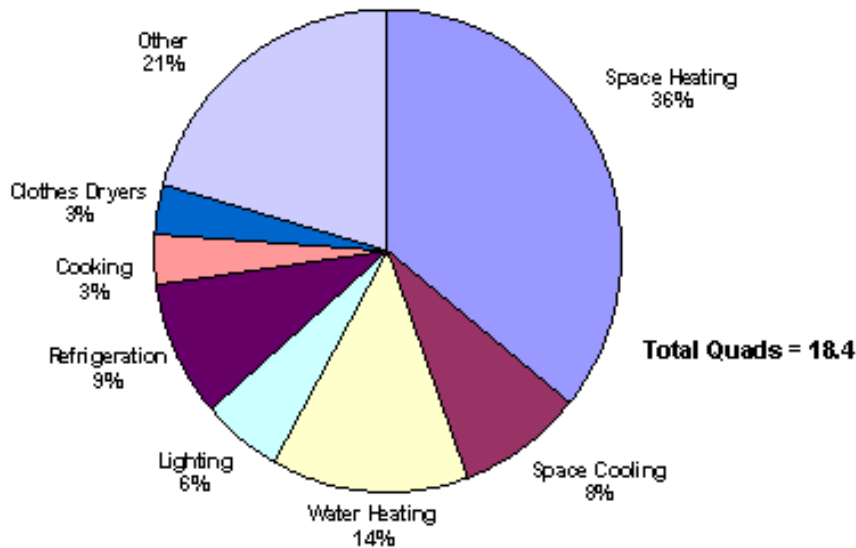
- 114 million tons of CO₂ produced due to energy consumption in U.S. buildings.
- 67,000 tons of SO_x
- 35,000 tons of NO_x

[Energy Efficiency in Buildings](#)

1995 Commercial Building End-Use Splits



1995 Residential Building End-Use Splits



TST Walls-Roofs reduce depletion of Earth's mineral resources and environmental pollution

Reduce localized discomfort

Thermal Bridging

Towards Zero Energy Buildings: [WBCSD EEB PROJECT Challenges Towards](#)

[Achieving a Zero Net Energy ...](#)

Buildings <http://www.energy.gov/energyefficiency/buildings.htm>

The Department of Energy, through the [Office of Energy Efficiency and Renewable Energy's \(EERE\)](#)

[Building Technologies Program](#) works closely with the building industry and manufacturers to conduct research and development on technologies and practices for energy efficiency. The Department also promotes energy and money-

saving opportunities to builders and consumers and works with state and local regulatory groups to improve building codes and appliance standards.



Households, Buildings &

Industry Energy use in homes, commercial buildings, manufacturing and transportation...

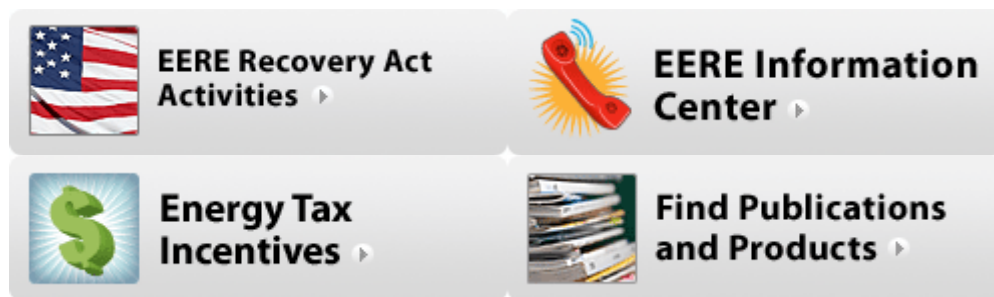
March 26, 2009

[Obama Administration Announces \\$3.2 Billion for Energy Efficiency Improvements](#)

April 09, 2009

[Department of Energy and Commercial Real Estate Executives Launch Alliance to Reduce Energy Consumption of Buildings](#)

[Summary of Energy Tax Incentives in The Emergency Economic Stabilization Act of 2008.](#)



ThermalShell Insulation

from EAS

www.EfficientAttic.com * <http://www.daveowens.com/>

http://en.wikipedia.org/wiki/Building_envelope *

http://en.wikipedia.org/wiki/Green_building *

HYPERLINK [YouTube - energy efficiency. The Solarcrete](#)

http://www.akama.com/company/Solarcrete_Building_Systems_a0ed61109628.html

The Solarcrete Energy Efficient Building System uses shotcrete and polystyrene to form structural insulated concrete panels that create a wall system that saves you 60% - 80% on heating and cooling costs.

<http://www.solarcrete2.com/> **Super Energy Efficiency**

Imagine living in a building that can save from 60% to 85% or more in heating and cooling costs! It's happening now, in Solarcrete buildings. There are two reasons. First, the Solarcrete wall consists of polystyrene (a superior insulant that's impervious to moisture) sandwiched between two thicknesses of concrete. Together, these yield a standard R-value of 36. Second, the Solarcrete System allows the polystyrene insulation panels to meet flush, unlike conventional walls in which wood or steel studs create "energy gaps" by separating the insulation. Finally, the

completed Solarcrete structure becomes a highly efficient "energy trap" within which a conventional heating and cooling system can operate at minimal costs.

<http://www.solarcrete.com/insulated-concrete-wall.php> : This insulated concrete wall system incorporates expanded polystyrene (EPS) foam board insulation for thermal energy efficiency, reinforcing steel for strength, new patent pending wall ties and high strength shotcrete to provide strength, safety and durability. The photo above is a sample that shows the cross section of what an actual finished wall would look like.

The standard Solarcrete insulated concrete wall is 12" thick. This includes 7 1/4" of EPS foam and 2 3/8" fiber reinforced shotcrete on both sides of the foam. This wall assembly provides an R-value of 36

These insulated concrete walls are also superior in structural strength and durability. The standard Solarcrete Wall System specification for the shotcrete that is applied to the insulation requires a minimum compressive strength of 4000 psi. A standard concrete block (CMU) is around 800 to 1500 psi.

Superior insulation will require smaller size HEATING & A/C equipment and thus provide additional cost saving

ThermalShell walls do not have local/bridge cold spots and associated condensation problems.

ThermalShell Structural Insulated Panels - Advantages

Advantages for Home or Building Owners

- Comfortable and Healthy Interior Environment
- Heating / Cooling Energy Savings
- Structurally Strong Building
- Reduction in Outside Noise Pollution
- Storm Resistant
- Fire Resistant
- Low Maintenance
- Mold / Mildew / Rot Resistant
- Vermin & Termite Resistant

Life Cycle Cost Effectiveness

Advantages for Architects & Builders

- Unlimited Design Flexibility
- Compliments Sustainable Design Architecture
- Incorporates Green Building Principles
- Unlimited Wall Finish Options

- Maximize LEED Points
- Suitable for Residential, Commercial, Industrial or Warehouse Buildings.
- Pre-engineered Project Design
- Pre-manufactured Panels Arrive Ready to Set
- Faster Construction Time
- Smaller Work Crews
- Provide your Clients with the Best Wall Systems Available

Mr. Pete Konopka and

Mr. Ike Bitton

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Interested in consulting and supporting students' projects:

Roman Building energy analysis

Grants proposals writing

Global Energy diversification: new ideas, analysis and application-expansion of cogeneration plants with low-energy-intense business

PPT Presentations for Solarcrete products/busyness

Web development

University presentations and seminars to educate public and customers

6/4/01 @ 1030am: Mr. Ike Bitton called 1-815-923-2553. I proposed to meet after 6/6/01
NIU Directions:

880 Rohlwing Rd, Edison, IL

; Ike Bitton, Nancy Mushro-Ondera

**Solarcrete-Energy Efficient Building:
Solarcrete Standard and Fire-Rated Wall System**

The Solarcrete Standard and Fire-Rated Wall systems consist of a reinforced concrete insulated sandwich panel. An expanded polystyrene insulation board core is sandwiched between shotcrete faces, which are interconnected with patented ties. Solarcrete walls provide a choice of insulation thickness, varying from 4, 6, or 7 1/4 inches, sandwiched between 2 3/8-inch thick faces of concrete. All Solarcrete walls are load bearing. Wall Specifications, Code Approvals, and Engineering Data can be provided upon request. Following is a brief summary of the distinct advantages found in Solarcrete Wall Systems:

www.solarcrete.com

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