

ENERhouse 2009

TechReady: The Greening of Technology

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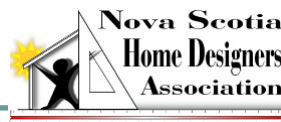


What is uberHome?

- **uber** [**< German über "over, above, higher,"**]; **synonym for super**
- We are an electronics system contractor
- We design and install custom electronics and technology solutions that add to the comfort, convenience, enjoyment and safety of a home.

Associations & Awards

- NS Home Builders Association
 - 2008 TechReady Ambassador Award
 - 2008 Marketing Excellence Award
 - 2008 & 2007 Community Service Award
 - 2007 Sub-Trade of the Year Award
 - 2007 New Member of the Year Award
- NS Home & Building Designers Association
 - 2008 Design Award
- Custom Electronics Design & Installation Association (CEDIA)
- Better Business Bureau
 - 2008 Business Ethics Award



What We Do

- TechReady Structured Wiring (Communications Cabling)
- Systems Integration (think `Smart Homes`)
- Distributed Audio and Video
- Custom Home Theatre and Media Rooms
- eHealth Technology Systems

Structured Wiring



Systems Integration



Opportunities for Energy Savings

- Centralized Monitoring and Management
 - Comfort
 - Convenience
 - Conservation

Opportunities for Energy Savings

- **Centralized Monitoring and Management**
 - Audio/Visual Systems
 - Security
 - Irrigation, Pools, Spas
 - Lighting
 - HVAC
 - Shading Control

Opportunities for Energy Savings

- **Audio/Visual Systems**
 - Consume Great Amounts of Energy
 - When in use or in 'standby'
 - 'Vampire Power', 'Phantom Loads'
 - Great Push among Consumers and Regulators for 'Greener' Electronics
 - Energy Star Ratings



Opportunities for Energy Savings

- Irrigation, Pools, Spas
 - Through sensors and logic, use only as needed
 - i.e. No sprinklers within X hours of rainfall, or when relative humidity at X per cent.
 - Warm up a tub just before use and cool down afterward.
 - Set back pumps during extended periods of inactivity

Opportunities for Energy Savings

- Lighting
 - Lighting Provides the Greatest Opportunity for Energy Savings
 - Reduce Consumption by Reducing Waste
 - Total hours a light is on - total useful hours = left-on hours. Add to that forgotten days, unused rooms, etc.
 - Occupancy Sensors,
 - Remote Monitoring,
 - 'All-Off'

Opportunities for Energy Savings

● Lighting

- Household lighting accounts for 12-15% of our household utility bill

Source: American Lighting Association

- 20% of electricity produced in the US is used for lighting
- 50% is wasted by inefficient lighting sources or careless consumers

Source: Energy Conservation Enhancement Project at LSU

Opportunities for Energy Savings

● Lighting

- Further savings can be realized by controlling the amount wattage used by light bulbs
- Installing dimming devices:
 - Conserves electricity and save energy costs
 - Extends the life of light bulbs

Opportunities for Energy Savings

Dimming the light this much	Saves electricity	Extends bulb life
10%	10%	2 times longer
25%	20%	4 times longer
50%	40%	20 times longer
75%	60%	More than 20 times longer

Opportunities for Energy Savings

- Lighting
 - Installing 25 automated dimmable lights in a typical house, having the lights set back 15% and putting in basic timer programming and occupancy sensors
 - Can offset 781 pounds of CO₂
 - Equivalent of almost 1,000 miles of driving

Opportunities for Energy Savings

- Lighting
 - Occupancy Sensors
 - Remote Monitoring
 - Within the Home
 - Via the Internet
 - All Off & Scene-Based Lighting:
 - Turn off the entire house at the touch of a button
 - No more 'Night-Prowling'

Lighting – Remote Monitoring

The screenshot shows a home automation interface with a red header bar. The header bar contains navigation tabs: Overview, Lighting (selected), Security, Climate, and Motorization & Sensors. A yellow lightbulb icon is positioned below the Lighting tab. The main content area is divided into two panels. The left panel, titled "Lighting Controls", lists four theater areas: Theater Center, Theater Left Hall, Theater Middle, and Theater Right Hall. Each area has a slider control. The Theater Center slider is set to 100, Theater Left Hall to 52, Theater Middle to 0, and Theater Right Hall to 0. The right panel, titled "Lighting Scenes", contains the text: "No lighting scenes were found in your system."

Opportunities for Energy Savings

● HVAC

- Ability to monitor temperatures in any zone of the house, from anywhere
- Easy, intuitive programming for wake-up, away, sleep, vacation, etc.
- Use local temperatures to initiate fans, shades, or other systems before engaging HVAC system

HVAC – Remote Monitoring

Overview Lighting Security Climate Motorization & Sensors

Thermostat Controls

The screenshot displays a smart thermostat control interface with two zones. The top zone is labeled "Hall Dn Basement Stat" and shows a current temperature of 72°. It has a "set heat" button set to 62 and a "set cool" button set to 82. The mode is set to "Auto" and the fan is set to "Auto". The bottom zone is labeled "Hall Up Main Level" and shows a current temperature of 76°. It also has a "set heat" button set to 62 and a "set cool" button set to 82. The mode is set to "Auto" and the fan is set to "Auto". A "hold: off" indicator is visible below the temperature controls for both zones.

Opportunities for Energy Savings

- Shading Control
 - Control passive solar heating before engaging HVAC
 - Base shade control events on temperature, time of day, activity, etc.

Questions?



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