Why smart home tech will revolutionize the energy efficiency game

ENERGY STAR Partners Meeting • October 25, 2016
Gain a sustainable advantage
Our Vision: Every home & building in America is energy responsible and sustainability is ordinary.
We create a market advantage for organizations who create a sustainable, energy-responsible future.
Gain a sustainable advantage

energypulse™

ecopulse™

b2bpulse™
The Smart Home Gender Gap
What it is and how to bridge it

The smart home technology market is a sleeping giant – and no one’s sure exactly when it will awaken. Many market observers think the tipping point will be an advance in technology that proves impossible for consumers to resist. But we think market success may actually hinge on speaking credibly to an audience that has been largely overlooked: women. See what our research shows about the smart home gender gap: what it is and how to bridge it.
Smart Home Strategies for Utilities
Five reasons you should get in the game

The energy landscape is changing, and utilities are retooling old business models to include more products and services. Smart home technology is a natural fit, offering utilities unbeatable opportunities for increasing customer revenue and loyalty. But you’d never know it, judging by how slowly utilities are moving into the space. Our research shows that now is the time to act – and we’ve got five compelling reasons why.
The short answer
Gain a sustainable advantage
Gain a sustainable advantage

9%
choose **smart thermostats** as one of the top things that have an impact on making a home more energy efficient

9%
choose **insulation** as one of the top things that have an impact on making a home more energy efficient

Source: Energy Pulse 2015
The longer answer
1.8b
Connected home devices expected to ship in 2019

$490b
Expected connected home revenues in 2019

Gain a sustainable advantage
60% believe a fully connected home will be achievable within five years

84% of smartphone or tablet owners either currently, or plan to, control a connected home device in the next year

Source: Energy Pulse 2015
39%
prioritize smart thermostats as the technology they’d “try” if given a chance

Source: Energy Pulse 2015
Within the year...

19.8m
Likely household penetration for smart thermostats

19.5m
Likely household penetration for smart lighting

Source: Energy Pulse 2015
Meanwhile...
Likelihood of doing nearly every EE home improvement we track is in a 3-4 year flatline.
Gain a sustainable advantage

Propensities have declined and stagnated

Energy-Efficient Home Activity Propensity

- Unplug chargers, small appliances and electronics when not in use
- Install high-efficiency/ENERGY STAR® certified windows
- Purchase an ENERGY STAR® certified refrigerator or freezer
- Replace most inefficient lighting (and even CFLs) with more efficient LED bulbs
- Install extra insulation
- Install a smart thermostat that learns your temperature preferences and knows when you’re not home
- Replace showerhead with water-efficient model
- Replace toilet with a water-conserving (e.g., dual flush) model
- Install “smart” outlet switch for easy-off of non-essentials or light or motion-sensing light bulbs or switches

N=2,029

Energypulse 2015

All material contained herein is PROPRIETARY intellectual property and is protected by United States Copyright, Trademark, and/or Patent laws. © 2015 Shelton Communications Group, Inc. ALL RIGHTS RESERVED.
Add caulking or weather stripping
Install a super high-efficiency, tankless or heat pump water heater
Purchase an ENERGY STAR® certified clothes washer
Purchase an ENERGY STAR® certified dishwasher
Have a professional home energy inspector evaluate your home
Change habits at home to save energy: adjust thermostat settings, wash clothes in cold water, etc.
Purchase ENERGY STAR® certified electronic products like a TV, computer or printer*

*New item in 2015

N=2,029
Gain a sustainable advantage

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Get rid of/recycle an old inefficient second refrigerator</td>
<td>8%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Replace most incandescent bulbs with energy-efficient CFL light bulbs</td>
<td>6%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Install a higher-efficiency furnace, heat pump or boiler system</td>
<td>7%</td>
<td>8%</td>
<td>12%</td>
</tr>
<tr>
<td>Add a home energy monitoring device or display</td>
<td>5%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Add solar panels to generate electricity for your home</td>
<td>7%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Add duct sealing/duct insulation</td>
<td>7%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Have a professional seal the air leaks in your home*</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase a certified energy-efficient home built to ENERGY STAR® or other program standards</td>
<td>3%</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Install some other renewable energy system like geothermal heating or a small residential wind turbine</td>
<td>5%</td>
<td>4%</td>
<td></td>
</tr>
</tbody>
</table>

*New item in 2015

N=2,029
Gain a sustainable advantage
Most homeowners prioritize aesthetic remodeling

Q15 – If you were suddenly given $10,000 to make home improvements, which two of the following things would you do?

- Remodel kitchen or bathroom (net)
- Remodel kitchen
- Remodel bathroom
- Replace windows with more energy-efficient ones
- Add solar panels
- Replace major appliances with higher-efficiency units
- Replace carpet or add hardwood or tile
- Replace HVAC or furnace with a higher-efficiency unit
- Redecorate/update furniture

N=2,029
43%

Plan to make aesthetic improvements

Source: Energy Pulse 2014
They deny they have a problem & don’t think efficiency is “worth it”.

- My home doesn’t need many/ any efficiency improvements: 36% in 2014, 27% in 2013
- I think that cosmetic improvements will make my home more attractive at resale than efficiency improvements will: 27% in 2014, 35% in 2013
- It’s more important to me to make my home more attractive than to make it more efficient: 15% in 2014, 16% in 2013
- Other: 11% in 2014, 15% in 2013
- I just don’t want to make efficiency improvements: 6% in 2014, 4% in 2013
- Cosmetic improvements cost less/are cheaper: 5% in 2014, 4% in 2013

You say you’re likely to make cosmetic improvements to your home, but earlier you said you were not likely to make very many energy efficiency improvements. Why is that?
By contrast...
of those who said they had installed a smart thermostat in their current home saw a reduction in their energy use due to their smart thermostat
COOL

Gain a sustainable advantage
Say energy conservation is important—very important in the way it impacts their daily purchases and activities.

Source: Energy Pulse 2015
45% say buying/using eco-friendly products is an important part of their personal image.
Q41 – Where do you get ideas and information for home improvements?

N=1,025

- **Home improvement store like Lowe’s or The Home Depot**: 57%
- **Home improvement television show**: 50%
- **Friend, neighbor or family member**: 36%
- **Home decorating and improvement magazine like Real Simple, Better Homes and Gardens or Southern Living**: 35%
- **Website**: 26%
- **Attending home and garden shows or “Dream Home” tours**: 10%
- **None (unaided)**: 3%
- **Other**: 1%
Walmart has a connected home section for online shopping.

Product offerings continue to increase and now include smart appliances, health and fitness. The site even allows searching by platform.
Target is creating a smart home section in stores.

Target’s Open House includes connected light bulbs, baby monitors, sprinklers, doorbells and more, displayed in rooms with clear plastic furniture to better highlight the devices and their uses.

Target announced in June it would expand to three more existing stores (Minneapolis, Cupertino, CA and NYC) which would have a “connected living experience” department.
Best Buy built a demonstration model of a connected home in the Mall of America.

Connected products displayed include Samsung Family Hub refrigerator, ecobee 3 smart thermostat, Yale smart locks, and Philips Hue lighting.
Many big-box, brick-and-mortar stores now have connected home display space.

- For Lowes, EE products (except for lighting) generally do not have separate displays, but are included with all products in the category.
  - End cap displays are used to highlight connected home products separately.
So let’s recap:

- People care about energy efficiency, and being green is now a mainstream value.
- It’s a mainstream concept because it’s cool.
- Smart home devices are cool.
- People can give themselves permission to buy smart home devices because they’ll save energy.
- And because they’re really convenient.
- And because they see them everywhere when they’re shopping – clearly everyone’s doing it, so I should, too!
To leverage the promise of smart tech and push energy efficiency forward...
We’ll need to bridge the gender gap.

Gain a sustainable advantage
Profile of home technology enthusiasts (13% of the population):

- Male
- Millennials or Gen X
- Well-educated, with bachelor’s degree or higher
- High income ($75K+)
- White-collar and professionals
- Married with children present in the household
- Homeowners (83%)
- Predominantly white, but over-index for minorities (index 126)
- Concerned Parents, True Believers

N=261
Women are the driver behind home purchases, yet they are ...

- Less likely to be technophiles or home technology enthusiasts
- Less likely to prioritize home automation when spending money on their homes
- More likely to prioritize making their homes healthier/safer and more beautiful
- Significantly less likely to think that smart/connected homes help save energy, make people feel more secure, or save money

Source: Energy Pulse 2015
So we must position smart home tech as easy, undaunting and as a means to an end to achieve what she really wants – a comfortable, beautiful, quality home.
How to

Gain a sustainable advantage
Building an effective campaign

- Be super clear about who your target audience actually is
  - Profile past buyers, not future/likely buyers
- Be where they’re searching
  - Contextual targeting
  - Behavioral targeting
  - Retargeting
- Use messaging that hits their care-abouts
  - Comfort, control, health, peace of mind and/or resale value
- Leverage their desires
  - Remember that aesthetics trump efficiency/sustainability
- Learn from results
  - Do A/B testing; ditch what’s not working
- Make it super easy for them to act; give them no more than two actions to take.
Gain a sustainable advantage
Gain a sustainable advantage

5 things DIYers need to know

Insulation isn’t pretty. Choosing countertops, flooring, wall colors and window treatments — that’s the fun part of building or remodeling a home. Those are the things that will make your home pretty and impress your visitors. Insulation? Not so much.

So why think about it? Why not just let your builder or contractor put whatever insulation they want in your walls?

Because it’s way more important than you think. Here are the top five reasons you should give your insulation some serious thought.

1. There’s more to it than you think

Insulation products can — and should — do more than help maintain comfortable temperatures within your home and help control your energy bills. Thanks to some recent advances in building science, today’s insulation products can go much further in helping you:

- Achieve a truly comfortable environment — and that involves air quality, noise levels, and an air tight home
- Guard your family’s health
- Protect the investment you’ve made in your home

2. Your climate matters

This is probably the most straightforward part of choosing insulation. Insulation comes in different “R-values,” which measure its ability to block cold or warm air movement from one side of it to the other. The colder your climate, the higher the R-value you’ll need to stay comfortable — and energy efficient.

3. What you’re insulating matters

We hope you don’t think only your exterior walls that need insulation. It’s crucial to insulate attics, basements and crawl spaces as well, and by helping reduce noise and room noise, insulating the walls between rooms can make a big difference too. The tricky part can be in knowing the right kind of insulation to use in each area.

4. The type — and even the brand — of insulation products matter

Fiberglass batts, blown-in fiberglass, spray foam, vapor barriers, etc... what type will you use in which areas of your home? While you can get different insulation products from various manufacturers, you must understand that even standard fiberglass batts are not all created equal. Some are certified by independent organizations like GREENGUARD. Others aren’t. Some help with moisture management. Others don’t. And to date, only one can be considered “green.” From CertainTeed, SMARTBATT™ with MoistureSense™ Technology helps control the moisture that can sweep into your walls, and in doing so, helps protect your home and family from the ravages of mold, mildew and rot.

5. You need it right the first time

- You always get what you pay for; you often get what you expect
- Don’t like the color of your walls? Easy enough to repaint. Don’t like that rug as much as you thought you would? Simple — get a new one. With many of the decisions you make building or remodeling your home, it’s not the end of the world if you find your choice was not quite right. But if you discover mold, noise, dryness or temperature problems after your walls are closed up, fixing them is going to be trouble. Big, expensive trouble.

We hope these tips have given you some food for thought. With just a little bit of knowledge, you’ll be able to make insulation choices that will create the comfort, efficiency and protection your family deserves.

To help you get started, let’s find out what you really know about insulation.

Take our quiz

Tip: It's easy! Most of the answers are right here in this article.
MOISTURE IS AFOOT.

Rainbows, babbling brooks, long hot baths … there’s no denying the glory of water – but it does have a dark side. Moisture in the air creeps unnoticed into the walls of your home where mold, mildew and rot can pose threats to the health of your family and your home.

That moisture is unavoidable – but it’s manageable. Thanks to CertainTeed, there’s now a very smart way to take control of the risks that moisture creates: SMARTBATT™ insulation with MoistureSense™ Technology.

MoistureSense™ – the brains behind SMARTBATT
SMARTBATT’s MoistureSense facing is a smart vapor retarder that adapts to the humidity in your walls.

Show me how it works

While you’re at it, check out our SMARTBATT web page for tools, resources and more information.

RELAX. COMPLETELY.

Think about it. Comfort is not just about the temperature in your home. It’s also about air quality, noise levels, drafts … and saving money on your energy bills.

Now think about the insulation going into your home … because it can have a huge impact on all of those.

CertainTeed insulation products are engineered to help you achieve Complete Comfort.

More comfort, more choice
Known for quality, known for innovation, CertainTeed offers the industry’s most comprehensive line of insulation products.

- Sustainable insulation™ fiberglass bats
- SMARTBATT™ – the industry’s only moisture-managing fiberglass bats
- MemBrain™ – the state-of-the-art smart vapor retarder
- CertaSpray™ spray foam insulation
- OPTIMA™ blow-in insulation
- InsulMax™ SP – blow-in attic insulation
- Hybrid solutions – advanced product combinations that provide superior thermal resistance, moisture management, an air-tight seal and outstanding noise reduction

Ask your builder or contractor which CertainTeed solution is right for your project.
Moisture is the enemy of a healthy home – it can lead to mold growth, health issues and even structural damage. SMARTBATT insulation with MoistureSense™ Technology knows that – you need to know that too.

SMARTBATT is the first and only insulation that helps protect your family and your home from moisture’s damaging effects. If you’re planning or have already started to remodel, renovate or build a home, you need to know about – and ask for – SMARTBATT.

Find out what makes it so smart.

Moisture management

Moisture will migrate into your walls. It’s unavoidable. Inside your walls, where you can’t see it happening, mold and mildew problems can start. Traditional vapor barriers intended to help control moisture can actually trap it inside your walls, creating a breeding ground for nastiness. SMARTBATT doesn’t.

When the humidity outside is low, SMARTBATT’s facing remains moisture tight to prevent the moisture generated by normal activities within your home, such as cooking, bathing and laundry, from seeping into your walls. When the humidity is high, it opens up to allow the moisture inside the walls to escape into the conditioned environment of your home.

For a healthier family

Mold and mildew can have a significant impact on the quality of the air inside your home – the air your family breathes every day. When mold spores make their way into your home, they can trigger asthma and allergic reactions, including eye irritation, runny noses, coughs and other respiratory symptoms. With SMARTBATT, you help reduce the risk of mold growth in your home and the risk of potentially serious health issues for those living in it.

For a healthier home

Persistent moisture inside your walls can cause wood framing to rot. With outstanding drying capabilities along with its MoistureSense facing, SMARTBATT can help reduce the risk of expensive structural damage to your home.
Gain a sustainable advantage

How SMARTBATT works to protect your home and family

At the core of SMARTBATT is a sustainable, integrated panel engineered for superior energy efficiency while reducing energy consumption. Unlike traditional polyurethane and foam insulation, SMARTBATT MoistureSense technology is a smart vapor barrier. It is applied to the wall surface to prevent and control moisture in the walls.

MoistureSense™ – The Smart Vapor Retarder and Air Barrier Film

There's a smart MoistureSense solution even if you're using unfaced or blown-in insulation. Installing MoistureSense along with either adds both continuous air tightness and adaptable moisture protection.

WHAT'S YOUR INSULATION IQ?

Test your knowledge by taking this fun little quiz.

Start quiz

TELL YOUR BUILDER OR CONTRACTOR YOU WANT SMARTBATT

Click a button below and we'll send an email for you saying when it comes time to choose insulation for your project, you choose SMARTBATT! Don't have a professional on your project? Feel free to pass it on.

Building a new home?

Email your builder

Remodeling your home?

Email your contractor

Resources and calculators
Results:

• Generated nearly 20,000,000 impressions and over 74,000 clicks to the brand’s website — for less than half of the cost of one small advertisement in some leading home renovation magazines (a savings of over 1400% in terms of CPM).

• The campaign’s click-through rate exceeded Google industry benchmarks for display advertising by over 500%.

• Our pre-roll video placement finished with a 76% completion rate vs. the average of 59%.
Gain a sustainable advantage

Discussion
Thank You!

Suzanne Shelton, CEO
Shelton Group
sshelton@sheltongrp.com
@sheltongrp
865-524-8385