Innovation, Sustainability, Efficiency, Community

Digital Engagement for Targeting the Limited Income Customer

Tuesday, June 26, 2018
SEEL Presenter’s

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Agenda

– Who is SEEL
– Customer Engagement Methods
– Smart Phone Usage
  • Case study
– Digital Engagement Today
  • Demo
Family of Companies

Detroit, Michigan
- Energy Efficiency & Optimization
- Turnkey Operations
- Pilot Management
- Residential Audit Programs
- Multifamily Program Management
- Contact Center Management
- Outreach & Community Partnership Management
  - Customers
    - DTE Energy
    - Ameren Illinois
    - Georgia Power
    - LG&E KU
    - ComEd
    - Entergy Mississippi
    - City of Detroit
    - Thumb Electric Cooperative
    - Wyandotte Municipal Services

Detroit, Michigan
- Warehouse & Distribution
- Inventory Management
- Sorting & Repacking
- Sub - & Final Assembly
- Sequencing
- Quality Inspection & Testing
- Transportation Management
- Domestic & International Logistics
- Freight Forwarding
- Project Management
- Global Tracking & Tracing (web-based system)

Tupelo, Mississippi
- Quality & Containment
- Inspection
- Sorting
- Re-work
- Sequencing
- Inventory Management
- Warehousing & Distribution

Detroit, Michigan
- Human Resources Management
- Payroll Services
- Real Estate Services
- Staffing Services – Automotive, Energy, and Customer Service
- Security Management

Customers
- APMM
- General Motors
- Nissan
- Toyota

Customer
All MCLJasco Companies

Customers
- Consumers Energy
- DTE Energy
- US Census

Detroit, Michigan
- Consolidation
- Deconsolidation
- Logistics
- Repackaging – Kitting
- Inventory Management
- Cross Docking
- MRO Fulfillment
- Shuttling
- Switching
COMPANY OVERVIEW

– Established in 2009, as an energy efficiency implementation and management contractor
– 100% Service Disabled Veteran Owned (SDVOSB) and MBE Certified
– Seven offices in five states: Kentucky, Michigan, Illinois, Georgia, and Mississippi

MISSION STATEMENT

While supporting our clients and delivering stellar customer service, SEEL is committed to providing energy and sustainability management services that effect change in the communities we service.
PROGRAM EXPERIENCE

- **Income Qualified Programs**: LG&E and KU, DTE Energy, Georgia Power
- **Single Family and Multifamily Programs**: Entergy Mississippi, Georgia Power, DTE Energy
- **Lighting and Appliance Programs**: DTE Energy
- **Appliance Recycling Programs**: Ameren Illinois, DTE Energy, Thumb Electric, Wyandotte Municipal Services
- **Small Business Programs**: DTE Energy, ComEd

EXPERTISE

**OVER 175,000 INCOME QUALIFIED AUDITS AND WEATHERIZATION’S**

- Focuses on engaging hard to reach and historically underrepresented customers
- Deep Community Engagement
- Effective Collaboration with Energy Partners
- Superior Customer Satisfaction Ratings
- Dedicated Call Center
- Nationwide Recycling Initiatives
Utility Customer Engagement Methods
The History of Messaging

Messaging Through Time

2003 – Myspace is launched.
2003 – Skype video calling software is launched.
2004 – What would become the largest social networking site in the world, Facebook is launched.
2005 – YouTube, the video sharing site, is launched.
2006 – Twitter is launched.
2007 - iPhone is launched.
2010 - Instagram is launched. iPad is created.
2011 - Snapchat is launched.
Case Study: The Factor of Trust

Five Groups of Americans ranging from most to least engaged with information

- The Wary
- The Doubtful
- The Eager and Willing
- The Confident
- The Cautious and Curious
## Case Study: The Factor of Trust

<table>
<thead>
<tr>
<th>Relatively Engaged with Information</th>
<th>Demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Eager and Willing: They are active seekers. They express concerns about their online usage but they are anxious to improve their digital skills and information literacy.</td>
<td>52% of this group is made up of minorities. 31% are Hispanic; 21% are black. Some 38% are white.</td>
</tr>
<tr>
<td>The confident: They combine a strong interest in information, high levels of trust in information sources, and self-assurance that they can navigate the information themselves.</td>
<td>This group is heavily white, and well educated. 31% are between 18 and 29.</td>
</tr>
<tr>
<td>The cautious and Curious: They have a strong interest in news and information, a lot of tech access, but they do not have high levels of trust in information. They report significant levels of stress over trying new things.</td>
<td>Mostly Mirrors the demographic of the general population.</td>
</tr>
<tr>
<td>The Doubtful: They are leery of information sources and low interest in updating their digital skills.</td>
<td>Mostly middle-aged and white.</td>
</tr>
<tr>
<td>The Wary: They have the lowest level of trust in information sources. They also have the lowest broadband of smartphone adoption.</td>
<td>Heavily male (59%) and one-third are ages 65 or older.</td>
</tr>
</tbody>
</table>
Normal technology use is determined by accessibility. These graphs depict the unrelenting desire for technological advances in every day life, and the need for businesses to rely on these resources to better assist customers.

The demand for online services in America.

The variety of devices in American households.
Younger adults are using online streaming services as their go-to platform for watching television. About six-in-ten Americans ages 18 to 29 (61%) report that online streaming is the primary way they watch television, according to *Center survey data* from August of last year.

Based on a survey of 1,519 smartphone owners between the ages of 18 and 34 who were asked to keep a detailed diary of all of their online and offline video interactions--suggests that watching video on smartphones is "far less distracted than it is on TV." Specifically, watching video on TV was the sole activity for Millennials for just 28% of the time. (The rest of the time they were watching TV was spent multi-tasking--eating, texting, chatting to a friend, or even cooking.) In contrast, watching mobile video was the sole activity for over half (53%) of respondents.
Low Income Technology Usage

What does this mean for low income families?

What are the numbers of low income families that use technology (More specifically smart phones) regularly?

64% of lower-income Americans now own a smartphone. One-in-five adults whose annual household income falls below $30,000 are smartphone-only internet users, (Meaning that, they use their cellphones as their primary source for internet).

Results: Research shows that Low Income families are likely to use smart phones (And other digital technology) regularly. Ie: Marketing and working through apps and other digital engagement resources will not limit low income families from participation or services.
Poll the Audience

What engagement methods do you use?
Smart Phone/Tablet Usage
OVERALL MESSAGE OF THIS SECTION

– Utilities need to engage all customers through digital channels with a focus on mobile apps and platforms
– This could be the only way to reach low income customers
  • Bill pay centers are going away
  • Addresses and landlines are constantly changing with this customer segment
  • Smart phones are prevalent among the low income community, even if internet is not available in their home
Poll the Audience

Who has a smart phone or tablet?
Poll the Audience

Is your smart phone or tablet your primary internet source?
How often are you on your phone each day?
Text SEEL to 797-979
Interaction – utilize ubiquitous keywords, such as Program Name, Organization Name, INFO, etc. to connect with customers/clients. These keywords can be texted to the selected short code and provide instantaneous interaction with customers.

Merchandising – offer unique programs to customers with short lead time and little cost.

Engagement – utilize SMS effort to get customers to engage by downloading the application.

Branding – build the brand by leveraging a sophisticated and low cost mechanism to promote utility/program.

Market Testing – real-time evaluation of messages and offers via direct advertising that can be measured.

Targeting – industry promotions that enable micro-targeting by NAICS, SIC or other classification.
– Content is King
  • Key Messages
  • Identified Target Audience(s)
  • Engaging/Personable
  • Up-to-date
  • Relevant/Targeted
Digital Engagement Elements

– Gamification
  • The process of adding games or gamelike elements to something (such as a task) so as to encourage participation

– Why is gamification important?
  • Encourages participation
    – Customer Recognition
    – Feedback
  • Data Collection
    – Understanding Consumer Behavior
  • Learning Experience
    – Teach/modify behaviors

– Other Key Elements
  • Organizational buy-in
  • Commitment to updating content
THE SEEL ENERGY ECOSYSTEM

An Ecosystem is a complex network of interconnected business entities and systems that interact as a community within a physical or digital environment in order to create value. SEEL’s approach enables increased energy efficiency performance by connecting our multifaceted platform – storage, program management, analytics and merchandising capability – to Customers, Trade Allies and Business Partners.

SEEL Platform and Program Management

- Workflow Management
- Secure Communication
- EE Merchandising

SMB Customers

Trade Allies

EE Suppliers

Encrypted Storage

Analytics Partners

Enterprise Social Software
Digital Demo
– Content Suggestions
  • Income verification forms
  • DIY videos
  • How to read my bill videos
  • Energy Efficiency programs
  • Customer case studies/videos
  • Collaboration rooms
    – Q&A with the utility
    – Webinars
SEEL’s In-Home Audit Tool

THE SEEL DIGITAL PLATFORM (SDP)

- Time saving audit tool
- Clear, informative audit report
- Ease of use energy savings modeling tool
- Secure application programming interface (API)
- Safe, secure data exchange between Snugg Pro and SDP
– Audit Inputs

Building

Year Built

1950

Conditioned Area

1,008 ft²

Area Includes Basement

Yes

Average Wall Height

8 ft

House Length

42 ft

House Width

24 ft

Floors Above Grade

1

Number of Occupants

2
Home Energy Score

- Offers homeowner an affordable, reliable, easy way to understand homes’ energy performance in a standardized “miles-per-gallon” report
- Synthesizes complex home energy data into meaningful information and advice
- Engages and educates customers about energy efficiency practices and principles
- Intended to motivate homeowners to invest in residential energy efficiency
  - Simple and action-oriented
  - Ability to document and track investments in energy efficiency
Your Home Audit

Don & Margery -

Thank you for inviting us to do an energy audit on your beautiful home! We’ve kept your concerns in mind during our inspection and testing. Let’s discuss the recommendations found in this report and see what works best for you.

Thanks,
Sandy
Concerns

Air Leaks
Air leaks have been noticed around the window frames, and especially around the front door.

Heating system is old
Furnace needs to be replaced for additional comfort and health & safety issues.

Kitchen gets too hot
The primary culprits are the large number of halogen can lights. Replacing these lights with new efficient bulbs will dramatically reduce the heat created by the lighting.
In-Home Reports

Solutions for Your Home

**Totals**

| Cost        | $11,625 |

**Estimated Savings**

- $3,587 per year
- This is an estimate of how much you could save starting in Year 1. Savings will only increase as energy prices rise over the years.

**Savings to Investment Ratio**

- Package SIR: 2.4
- There are many reasons to upgrade. An SIR greater than 1 pays for itself over the equipment lifetime.

**Impact of upgrades**

- Energy Reduction: 43%
- Carbon (CO2) Savings: 12 tons
- Equivalent cars removed from the road: 2.5/yr

<table>
<thead>
<tr>
<th>DETAILS</th>
<th>INSTALLED COST</th>
<th>APPROXIMATE ANNUAL SAVINGS</th>
<th>SIR *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seal Air Leaks</td>
<td>$1,015</td>
<td>$295</td>
<td>5.8</td>
</tr>
<tr>
<td>Attic Improvements</td>
<td>$1,907</td>
<td>$516</td>
<td>8.1</td>
</tr>
<tr>
<td>Seal Duct Work</td>
<td>$3,195</td>
<td>$1,098</td>
<td>6.9</td>
</tr>
<tr>
<td>Insulate Walls</td>
<td>$5,508</td>
<td>$420</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*SIR is the Savings to Investment Ratio. Simply put, if the SIR is 1 or greater, then the energy savings from the item will pay for itself before it needs to be replaced again. This metric is used to help prioritize the recommendations by financial merit.*
In-Home Reports

Seal Air Leaks

Good air-sealing and a continuous air barrier between the attic and the home’s conditioned (living) space are important, not only to save energy and reduce fuel bills, but also to prevent moisture problems in the attic.

Why it matters

Air sealing is typically the most cost effective improvement you can make to your home. To properly seal out air leaks, a large fan called a blower door is used to depressurize your house. This makes air leaks easy to find, so corrective measures can be taken. A good air sealing job will dramatically increase the comfort of your home and help you save significant energy.

Now & Goal

<table>
<thead>
<tr>
<th>DETAILS</th>
<th>NOW</th>
<th>GOAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Leakage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blower Door Reading</td>
<td>3028 CFM50</td>
<td>2540 CFM50</td>
</tr>
<tr>
<td>Conditioned Air Volume</td>
<td>2154 ft³</td>
<td></td>
</tr>
<tr>
<td>Wind Zone</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>N-Factor</td>
<td>14.99</td>
<td></td>
</tr>
<tr>
<td>Equivalent NACH</td>
<td>0.67 NACH</td>
<td>0.47 NACH</td>
</tr>
<tr>
<td>Effective Leakage Area</td>
<td>203.84 in²</td>
<td>142.71 in²</td>
</tr>
<tr>
<td>Equivalent ACH50</td>
<td>10.1 ACH50</td>
<td>7.07 ACH50</td>
</tr>
<tr>
<td>Kitchen Fan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathroom Fan 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASHRAE 62.2 Required mechanical ventilation rate</td>
<td>N/A CFM</td>
<td>N/A CFM</td>
</tr>
<tr>
<td>Minimum CFM50</td>
<td></td>
<td>2062 CFM50</td>
</tr>
</tbody>
</table>
Attic Improvements

The current level of insulation in the attic is low and uneven. Taking the R Value to a consistent 49 will vastly improve the comfort and efficiency of your home.

Attic

Installed cost
$1,907

Energy Savings
Approx. $516

Why it matters
Adding insulation to your attic can lead to a significant reduction in your utility bills. This process is often combined with careful air sealing of the ceiling from the attic side to ensure the new insulation perform at its maximum level.

Now & Goal

<table>
<thead>
<tr>
<th>DETAILS</th>
<th>NOW</th>
<th>GOAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attic 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modeled Area</td>
<td>1197 ft²</td>
<td>1197 ft²</td>
</tr>
<tr>
<td>Insulation</td>
<td>5 R Value</td>
<td>49 R Value</td>
</tr>
<tr>
<td>Radiant Barrier?</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Has Knee Wall?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Knee Wall Area</td>
<td>45 ft²</td>
<td>45 ft²</td>
</tr>
<tr>
<td>Knee Wall Cavity Insulation</td>
<td></td>
<td>12.95 R Value</td>
</tr>
<tr>
<td>Cool Roof?</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Seal Duct Work

If ducts are located in an unconditioned space, such as a vented attic or vented crawlspace, they should be sealed and insulated to prevent heat loss due to air leaks and conduction and to provide some protection against harsh conditions.

### DUCTS

**Installed cost**
$3,195

**Energy Savings**
Approx. $1,098

**Why it matters**
If you have a forced air system for heating or cooling, sealing the connections and penetrations with mastic will ensure that all of the air makes it to where it was designed to go. This increases the efficiency of your heating and cooling system and improves comfort. If you have a boiler system for heating, insulating the pipes will increase the effectiveness of the system.

<table>
<thead>
<tr>
<th>DETAILS</th>
<th>NOW</th>
<th>GOAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ducts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duct Location</td>
<td>Attic (unconditioned)</td>
<td>Attic (unconditioned)</td>
</tr>
<tr>
<td>Duct Insulation</td>
<td>No Insulation</td>
<td>R-8 Duct Insulation</td>
</tr>
<tr>
<td>Duct Leakage</td>
<td>30% - Very leaky</td>
<td>Seal to 6% Leakage</td>
</tr>
<tr>
<td>Duct Efficiency</td>
<td>68.18%</td>
<td>88.43%</td>
</tr>
</tbody>
</table>
**Insulate Walls**

**Installed cost**  
$5,508

**Energy Savings**  
Approx. $420

**Why it matters**

Insulating your walls can lead to a significant reduction in utility bills. The installation is done by drilling small holes in the wall cavities either from the inside or outside and filling the space with cellulose, fiberglass, or even foam insulation. It's time to replace your exterior siding, then be sure to ask your contractor about adding a layer of rigid foam underneath the new sheathing of 1” or more.

**Now & Goal**

<table>
<thead>
<tr>
<th>DETAILS</th>
<th>NOW</th>
<th>GOAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Walls</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modeled Area</td>
<td>1887.64 ft²</td>
<td>1887.64 ft²</td>
</tr>
<tr>
<td>Siding</td>
<td>Wood/Fiber Cement siding</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>2x4 Frame</td>
<td></td>
</tr>
<tr>
<td>Cavity Insulation</td>
<td>7 R Value</td>
<td>13 R Value</td>
</tr>
<tr>
<td>Continuous Insulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modeled Area</td>
<td>629.21 ft²</td>
<td>629.21 ft²</td>
</tr>
<tr>
<td>Cavity Insulation</td>
<td></td>
<td>13 R Value</td>
</tr>
<tr>
<td>Continuous Insulation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Health & Safety

Install a Low Level Carbon Monoxide Monitor

CO detectors are highly recommended in homes with fuel-burning appliances. The detectors signal homeowners via an audible alarm when CO levels reach potentially dangerous levels.

MOLD & MOISTURE

Moisture control is the key to mold control. Molds need both food and water to survive; since molds can digest most things, water is the factor that limits mold growth. Molds will often grow in damp or wet areas indoors. Common sites for indoor mold growth include bathroom tile, basement walls, areas around windows where moisture condenses, and near leaky water fountains or sinks. Common sources or causes of water or moisture problems include roof leaks, deferred maintenance, condensation associated with high humidity or cold spots in the building, localized flooding due to plumbing failures or heavy rains, slow leaks in plumbing fixtures, and malfunction or poor design of humidification systems. Uncontrolled humidity can also be a source of moisture leading to mold growth, particularly in hot, humid climates.

ELECTRICAL

Have an electrician look at the wall plugs that are located near a water source, to see if a GFCI (ground-fault circuit interrupter) is recommended.

CAZ (combustion appliance zone) test results:

- Passed
- Failed
- Warning
In-Home Reports

Water Sense

About this section
Additional notes are miscellaneous items that deserve a mention in your home’s report. These mentioned items are not included in the cost or savings of your project.

Why it matters
On a national scale, if every home in the United States installed WaterSense labeled showerheads, we could save more than $2.2 billion in water utility bills and more than 260 billion gallons of water annually. In addition, we could avoid about $2.6 billion in energy costs for heating water. EPA.gov.

Save water and protect the environment by choosing WaterSense labeled products in your home.

Showering is one of the leading ways we use water in the home, accounting for nearly 17 percent of residential indoor water use—for the average family, that adds up to nearly 40 gallons per day.
**In-Home Reports**

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**Metrics**

<table>
<thead>
<tr>
<th>METRIC</th>
<th>BASELINE</th>
<th>IMPROVED</th>
<th>SAVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Energy Usage therms/year</td>
<td>352</td>
<td>352</td>
<td>0</td>
</tr>
<tr>
<td>Electric Energy Usage kWh/year</td>
<td>35,891</td>
<td>16,246</td>
<td>19,645</td>
</tr>
<tr>
<td>Total Energy Usage MMBtu/year</td>
<td>158.00</td>
<td>91.00</td>
<td>67.00</td>
</tr>
<tr>
<td>Fuel Energy Cost $/year</td>
<td>$255</td>
<td>$255</td>
<td>$0</td>
</tr>
<tr>
<td>Electric Energy Cost $/year</td>
<td>$6,554</td>
<td>$2,966</td>
<td>$3,588</td>
</tr>
<tr>
<td>Total Energy Cost $/year</td>
<td>$6,809</td>
<td>$3,221</td>
<td>$3,588</td>
</tr>
<tr>
<td>CO2 Production Tons/year</td>
<td>23.8</td>
<td>11.8</td>
<td>12.0</td>
</tr>
<tr>
<td>Payback years</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Total Energy Savings</td>
<td></td>
<td></td>
<td>43%</td>
</tr>
<tr>
<td>Total Carbon Savings</td>
<td></td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>Net Savings to Investment Ratio</td>
<td>SIR</td>
<td></td>
<td>2.4</td>
</tr>
<tr>
<td>Net Annualized Return MIRR</td>
<td></td>
<td></td>
<td>8.0%</td>
</tr>
</tbody>
</table>

**HEATING & COOLING LOAD CALCULATIONS**

- Heating Load Btu/hr: Base: 122,712, Improved: 57,650
- Cooling Load: Sensible Btu/hr: Base: 70,014, Improved: 33,723
- Cooling Load: Latent Btu/hr: Base: 1,533, Improved: 1,123
- Winter Design Temperature: Outdoor: 7°, Indoor: 70°
- Summer Design Temperature: Outdoor: 85°, Indoor: 75°

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**About the metrics**

These metrics are for the whole house in a pre and post-retrofit state. The 'Baseline' savings numbers will likely not be the same as the actual energy consumption of the home. These numbers are weather normalized and then projected based on the Typical Meteorological Year for the past 30 years (TMY30). In other words, this is the energy consumption of the home for a typical year, not the year that the utility bills were from.
## Tech Specs

### Property Details
- **Year Built:** 1928
- **Conditioned Area:** 2394 ft²
- **Includes Basement:** No
- **Average Wall Height:** 8.5 ft
- **Floors Above Grade:** 2
- **Number of Occupants:** 2
- **Number of Bedrooms:** 4
- **Type of Home:** Single Family Detached
- **Front of Building Orientation:** East
- **Shielding:** Normal
- **Tuck Under Garage:** Yes

### Thermostat
- **Programmable Thermostat Installed:** No
- **Heating Setpoint High:** 65-68 °F
- **Heating Setpoint Low:** 65 °F
- **Cooling Setpoint High:** 75 °F
- **Cooling Setpoint Low:** 75 °F

### Heating & Cooling
- **Heating Design Load:** 122712 Btu/hr
- **Hvac:** 1
- **System Name:** Central
- **Equipment:** Central Heat Pump (shared ducts)
- **Upgrade action:** Replace with a newer model
- **Heat Pump Inverter:** Yes
- **% of Total Heating Load:** 100%
- **Heating Capacity:** 100000 BTU/h
- **Heating System Efficiency:** 8.2 HSPF
- **Heating System Model Year:** 1988

### Appliances
- **Range:** 1
  - **Range Fuel Type:** Natural Gas
- **Oven:** 1
  - **Oven Fuel Type:** Natural Gas
- **Clothes Dryer:** 1
  - **Dryer Fuel Type:** Electricity
  - **Type:** Top Load
  - **Integrated Modified Energy Factor:** 0.64 IMEF
  - **ENERGY STAR:** No
- **Dishwasher**
  - **Dishwasher Installed:** Yes
  - **Energy Factor:** 0.43 EF
  - **ENERGY STAR:** No
- **Refrigerators**
  - **Refrigerator:** 1
    - **Refrigerator Age:** 22-24
    - **Refrigerator Size:** 19-21
    - **ENERGY STAR:** No
- **Lighting**
  - **Usage:** 840 kWh/yr

### Doors
- **Door 1**
  - **Type:** Wood
  - **Area:** 21 ft²
  - **ENERGY STAR:** No
  - **U Value:** 0.46 U Value
- **Door 2**
  - **Type:** Wood with Storm
  - **Area:** 21 ft²
  - **ENERGY STAR:** No
  - **U Value:** 0.31 U Value

### Exterior Walls
- **Wall 1**
  - **Modeled Area:** 1887.64 ft²
  - **Insulated:** Yes
  - **Siding:** Wood/Fiber Cement siding
  - **Construction:** 2x4 Frame
  - **Cavity Insulation:** 7 R Value
  - **Continuous Insulation:** 0 R Value
- **Wall 2**
  - **Modeled Area:** 629.21 ft²
  - **Insulated:** No
  - **Cavity Insulation:** 0 R Value
  - **Continuous Insulation:** 0 R Value

### Attic & Vaulted Ceiling
In-Home Reports

Tech Specs

<table>
<thead>
<tr>
<th>Component</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attic</td>
<td>1</td>
</tr>
<tr>
<td>Modeled Area</td>
<td>1197 ft²</td>
</tr>
<tr>
<td>Insulation Depth</td>
<td>1-3</td>
</tr>
<tr>
<td>Insulation</td>
<td>Fiberglass or Rockwool (batts or blown)</td>
</tr>
<tr>
<td>Insulation R Value</td>
<td>5</td>
</tr>
<tr>
<td>Radiant Barrier</td>
<td>No</td>
</tr>
<tr>
<td>Has Knee Wall</td>
<td>Yes</td>
</tr>
<tr>
<td>Knee Wall Area</td>
<td>45 ft²</td>
</tr>
<tr>
<td>Knee Wall Cavity Insulation</td>
<td>0 R Value</td>
</tr>
<tr>
<td>Knee Wall Continuous Insulation</td>
<td>0 R Value</td>
</tr>
<tr>
<td>Cool Roof</td>
<td>No</td>
</tr>
<tr>
<td>Foundation - General</td>
<td></td>
</tr>
<tr>
<td>Foundation: Basement</td>
<td>50%</td>
</tr>
<tr>
<td>Foundation: Crawlspace</td>
<td>50%</td>
</tr>
<tr>
<td>Foundation Above Grade Height</td>
<td>2 ft</td>
</tr>
<tr>
<td>Foundation - Basement</td>
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</tr>
<tr>
<td>Modeled Basement Floor Area</td>
<td>348.5 ft²</td>
</tr>
<tr>
<td>Basement Wall Insulation</td>
<td>None or Bare Walls</td>
</tr>
<tr>
<td>Basement Wall Cavity Insulation</td>
<td>0 R Value</td>
</tr>
<tr>
<td>Basement Continuous Wall Insulation</td>
<td>0 R Value</td>
</tr>
<tr>
<td>Basement Rim Joist</td>
<td>Same as Basement</td>
</tr>
<tr>
<td>Basement Treatment: Wall</td>
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</tr>
<tr>
<td>Basement Heating: Incidental-Desired (e.g. leaky ducts)</td>
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</tr>
<tr>
<td>Basement Heating: Incidental-Desired (e.g. leaky ducts)</td>
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<tr>
<td>Foundation - Crawlspace</td>
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</tr>
<tr>
<td>Modeled Crawl Floor Area</td>
<td>348.5 ft²</td>
</tr>
<tr>
<td>Crawl Space Type</td>
<td>Unvented - Unconditioned Crawl</td>
</tr>
<tr>
<td>Crawl Space Insulation</td>
<td>Crawlspace is uninsulated</td>
</tr>
<tr>
<td>Crawl Cavity Insulation</td>
<td>0 R Value</td>
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<tr>
<td>Modeled Floor Area</td>
<td>500 ft²</td>
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<td>Floor Cavity Insulation</td>
<td>7 R Value</td>
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<tr>
<td>Floor Continuous Insulation</td>
<td>0 R Value</td>
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<tr>
<td>Windows - Window 1</td>
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<tr>
<td>Window Area: North</td>
<td>107.86 ft²</td>
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<tr>
<td>Window Area: East</td>
<td>143.82 ft²</td>
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<tr>
<td>Window Area: South</td>
<td>107.86 ft²</td>
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<tr>
<td>Window Area: West</td>
<td>143.82 ft²</td>
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<tr>
<td>Type: Single pane</td>
<td>Vinyl</td>
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<tr>
<td>Energy STAR:</td>
<td>No</td>
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<tr>
<td>U-Value:</td>
<td>0.89 U Value</td>
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<tr>
<td>Solar Heat Gain Coefficient</td>
<td>0.64 SHGC</td>
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<tr>
<td>North Overhang Depth</td>
<td>2 ft</td>
</tr>
<tr>
<td>East Overhang Depth</td>
<td>2 ft</td>
</tr>
<tr>
<td>South Overhang Depth</td>
<td>2 ft</td>
</tr>
<tr>
<td>West Overhang Depth</td>
<td>2 ft</td>
</tr>
<tr>
<td>Exterior Treatment: North</td>
<td>No Treatment</td>
</tr>
<tr>
<td>Exterior Treatment: East</td>
<td>No Treatment</td>
</tr>
<tr>
<td>Exterior Treatment: South</td>
<td>No Treatment</td>
</tr>
<tr>
<td>Exterior Treatment: West</td>
<td>No Treatment</td>
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<tr>
<td>Air Leakage</td>
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<tr>
<td>Blower Door Reading</td>
<td>3628 CFM50</td>
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<tr>
<td>Conditioned Air Volume</td>
<td>21546 ft³</td>
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<td>Wind Zone: 2</td>
<td>14.99</td>
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<td>Equivalent NACH</td>
<td>0.67 NACH</td>
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<td>Effective Leakage Area</td>
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<td>Equivalent ACH50</td>
<td>10.1 ACH50</td>
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<td>Water Heating - Water Heating 1</td>
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<tr>
<td>Fuel: Natural Gas</td>
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<tr>
<td>Type: Tank Water Heater</td>
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<tr>
<td>Age: 21-25</td>
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<tr>
<td>Location: Garage or Unconditioned Space</td>
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<tr>
<td>Temperature Settings: High (140-150°F)</td>
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<tr>
<td>Efficiency Settings:</td>
<td>No</td>
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<tr>
<td>Energy Factor: 58 EF</td>
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<tr>
<td>Pool &amp; Hot Tub</td>
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</tr>
<tr>
<td>Pool: No</td>
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</tr>
<tr>
<td>Hot Tub: No</td>
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<tr>
<td>Utilities</td>
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<tr>
<td>Utility Price: Natural Gas: 0.72 $/Therm</td>
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<tr>
<td>Utility Price: Propane: 2.87 $/Gallon</td>
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<tr>
<td>Utility Price: Fuel Oil: 4.3 $/Gallon</td>
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<tr>
<td>Utility Price: Electricity: 0.18 $/kWh</td>
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<tr>
<td>Utility Price: Wood: 0 $/cord</td>
<td></td>
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<tr>
<td>Utility Price: Pellets: 0 $/Ton</td>
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<tr>
<td>Utility Bills:</td>
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<tr>
<td>Electric</td>
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<tr>
<td>Electric Utility Provider Name</td>
<td>Easter</td>
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<td>Electric Account Number</td>
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<tr>
<td>Fuel</td>
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<tr>
<td>Fuel Utility Provider Name</td>
<td></td>
</tr>
<tr>
<td>Fuel Account Number</td>
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</tbody>
</table>
Tech Specs

Contractor Contact Information
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sandy@snugghome.com

About This Report
Report Date: March 15, 2017
Job ID: 46777

Report & modeling software: Snugg Pro™ 5.0
Glossary

Annual Fuel Utilization Efficiency (AFUE) - The measure of seasonal or annual efficiency of a residential heating furnace or boiler. It takes into account the cyclic on/off operation and associated energy losses of the heating unit as it responds to changes in the load, which in turn is affected by changes in weather and occupant controls.

Annualized Return - The return on investment provides over a period of time, expressed as a time-weighted annual percentage. This is the equivalent annual interest rate you would get if you put the same amount of money spent on the energy upgrade into a savings account.

Asbestos - Asbestos is a mineral fiber that has been used commonly in a variety of building construction materials for insulation and as a fire-retardant, but is no longer used in homes. When asbestos containing materials are damaged or disturbed by repair, remodeling or demolition activities, microscopic fibers become airborne and can be inhaled into the lungs, where they can cause significant health problems.

British Thermal Unit (Btu) - The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit equal to 252 calories.

Carbon Monoxide (CO) - A colorless, odorless but poisonous combustible gas with the formula CO. Carbon monoxide is produced in the incomplete combustion of carbon and carbon compounds such as fossil fuels (i.e., coal, petroleum) and their products (e.g., liquefied petroleum gas, gasoline), and biomass.

Cashflow - When financing energy efficiency improvements, cashflow is the difference between the average monthly energy savings and the monthly loan payment.

Combustion Appliance Zone (CAZ) - A contiguous air volume within a building that contains a combustion appliance such as furnaces, boilers, and water heaters; the zone may include, but is not limited to, a mechanical closet, mechanical room, or the main body of a house, as applicable.

Compact Fluorescent Light bulb (CFL) - A smaller version of standard fluorescent lamps which can directly replace standard incandescent lights. These highly efficient lights consist of a gas filled tube, and a magnetic or electronic ballast.

Cubic Feet per Minute (CFM) - A measurement of airflow that indicates how many cubic feet of air pass by a stationary point in one minute.

Carbon Dioxide (CO2) - A colorless, odorless, noncombustible gas that is present in the atmosphere. It is formed by the combustion of carbon and carbon compounds (such as fossil fuels and biomass), it acts as a greenhouse gas which plays a major role in global warming and climate change.

Energy Efficiency Ratio (EER) - The measure of the energy efficiency of room air conditioners; cooling capacity in Btu/hr divided by the waste consumed at a specific outdoor temperature.

Energy Factor (EF) - The measure of efficiency for a variety of appliances. For water heaters, the energy factor is based on three factors: 1) the recovery efficiency, or how efficiently the heat from the energy source is transferred to the water; 2) stand-by losses, or the percentage of heat lost per hour from the stored water compared to the content of the water; and 3) cycling losses. For dishwashers, the energy factor is the number of cycles per kWh of input power. For clothes washers, the energy factor is the cubic foot capacity per kWh of input power per cycle. For clothes dryers, the energy factor is the number of pounds of clothes dried per kWh of power consumed.

Heating Seasonal Performance Factor (HSPF) - The measure of seasonal efficiency of a heat pump in the heating mode. It takes into account the variations in temperature that can occur within a season and is the average number of Btu of heat delivered for every watt-hour of electricity used.

Heat Recovery Ventilator (HRV) / Energy Recovery Ventilator (ERV) - A device that captures the heat or energy from the exhaust air from a building and transfers it to the supply fresh air entering the building to preheat the air and increase overall heating efficiency while providing consistent fresh air.

Light Emitting Diode (LED) Lighting - An extremely efficient semiconductor light source. LEDs present many advantages over incandescent light sources including lower energy consumption, longer lifetime, improved physical robustness, and smaller size.
In-Home Reports

Home Energy Score

**ADDRESS:**
15 Glenwood St
Albany, NY 12203

**HOME SIZE:**
2,394 square feet

**YEAR BUILT:**
1928

**AIR CONDITIONED:**
Yes

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The **Home Energy Score** is a national rating system developed by the U.S. Department of Energy. The **Score** reflects the energy efficiency of a home based on the home's structure and heating, cooling, and hot water systems.

Learn more at [homeenergyscore.gov](http://homeenergyscore.gov)

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OFFICIAL ASSESSMENT | Assessor ID TST-Snugg | Assessed on Mar 14, 2017 | Label ID# 148091 | v2016
Why Does It Matter
Q&A