

November 16th, 2021

CUSTOMIZED HOME ENERGY SAVINGS MADE EASY WITH HOME ENERGY SQUAD

Plymouth Environmental Academy

Stacy Boots Camp

Outreach Manager

CEE's nonprofit mission

The Center for Energy and Environment promotes energy efficiency to strengthen the economy while improving the environment.

We provide practical energy solutions for homes, businesses, and communities.

WE STAND FOR

- ✓ Collaboration
- ✓ Expertise
- ✓ Science

- ✓ Community
- ✓ Integrity
- ✓ Equity

•• At our core



PROGRAMS

We cut energy waste while improving comfort in homes, commercial buildings, and communities.



CONSULTING

We help building owners and entire communities achieve long-term, energy-saving solutions.

RESEARCH

We identify and explore cost-effective, efficient technologies and ideas through field analysis, modeling, and stakeholder engagement.



POLICY

We strive for high-impact, pragmatic solutions guided by a public interest ethic.



LENDING

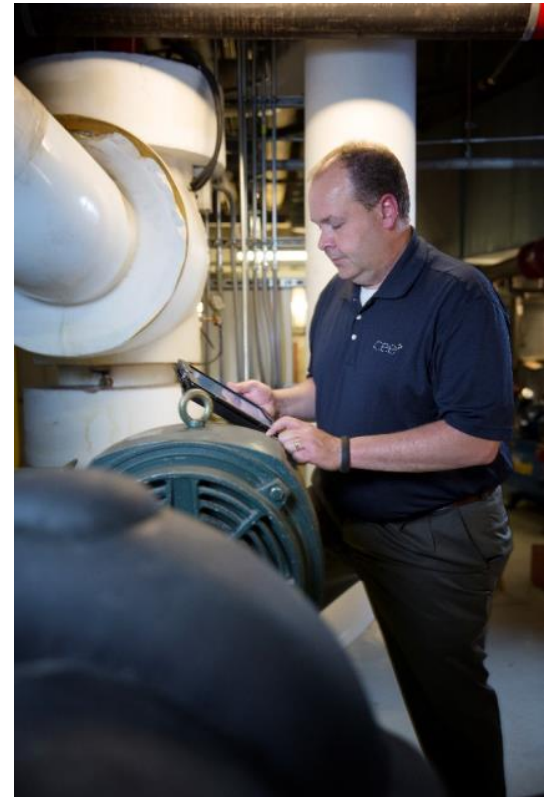
We empower people to make upgrades on energy efficiency and comfort in homes or businesses.

•• Engineering for Efficiency

Saving energy also means saving money

Our engineers work to get clients the biggest cost savings and quickest return on investment

- New buildings
- Existing buildings
- Ongoing attention
- Sample building types:
 - Municipal buildings
 - Schools
 - Ice arenas
 - Correctional
 - Manufacturing
 - Large facilities



•• One-Stop Efficiency Shop (Lighting and HVAC)

- Free energy assessment
- Report with recommendations, estimated project costs, and savings
- Substantial **rebates up to 60%** of the project cost
- Special low interest loans
- Connection to qualified contractors
- Completion of all program paperwork



Free Smart Thermostat Program

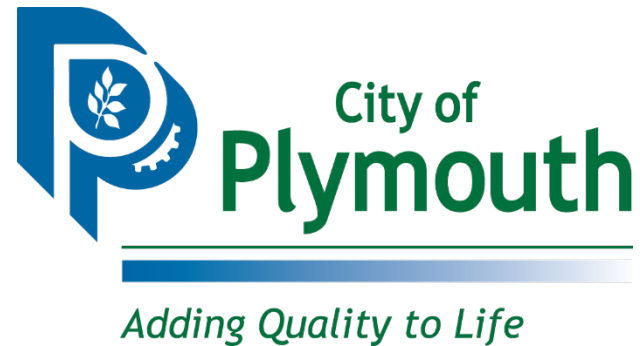
- Easy way to save on energy bills
- One-Stop technician will replace existing thermostats with Wi-Fi enabled smart thermostats at no charge
- Business is enrolled in Xcel's Energy's AC Rewards for Business Program
- Business receives annual bill credits of \$25 per thermostat installed



Learn more at mncee.org/smart-thermostat

Home Energy Squad

for Single Family, Townhomes, Condos, Duplex, Triplex, Fourplex



The City of Plymouth pays half the cost of Home Energy Squad visits to encourage residents to participate and make their home more efficient.

❖ Energy Efficiency Benefits

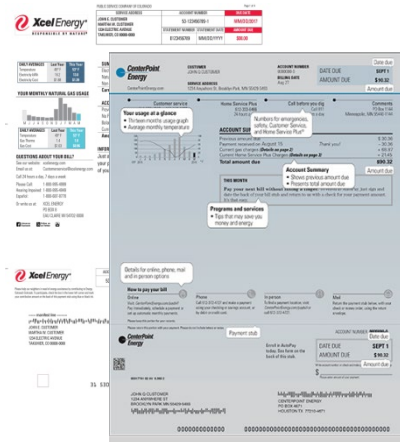
Reduce utility bills



Reduce your impact on the environment



Increase comfort



Increasing Efficiency Decreases Energy Costs





The average Minnesotan household spends
\$1,860/year
on natural gas and electric utilities.

• Energy Smart Home Recipe



Good Habits



Good Products



Good Investments

•• No Cost Saving Opportunities

TOLBY – Turn Off Lights Behind You



Turn off fans when you leave your room. Fans cool people, not rooms.



Blinds and Curtains

Summer – close to keep cool

Winter – open to let in sunlight/heat



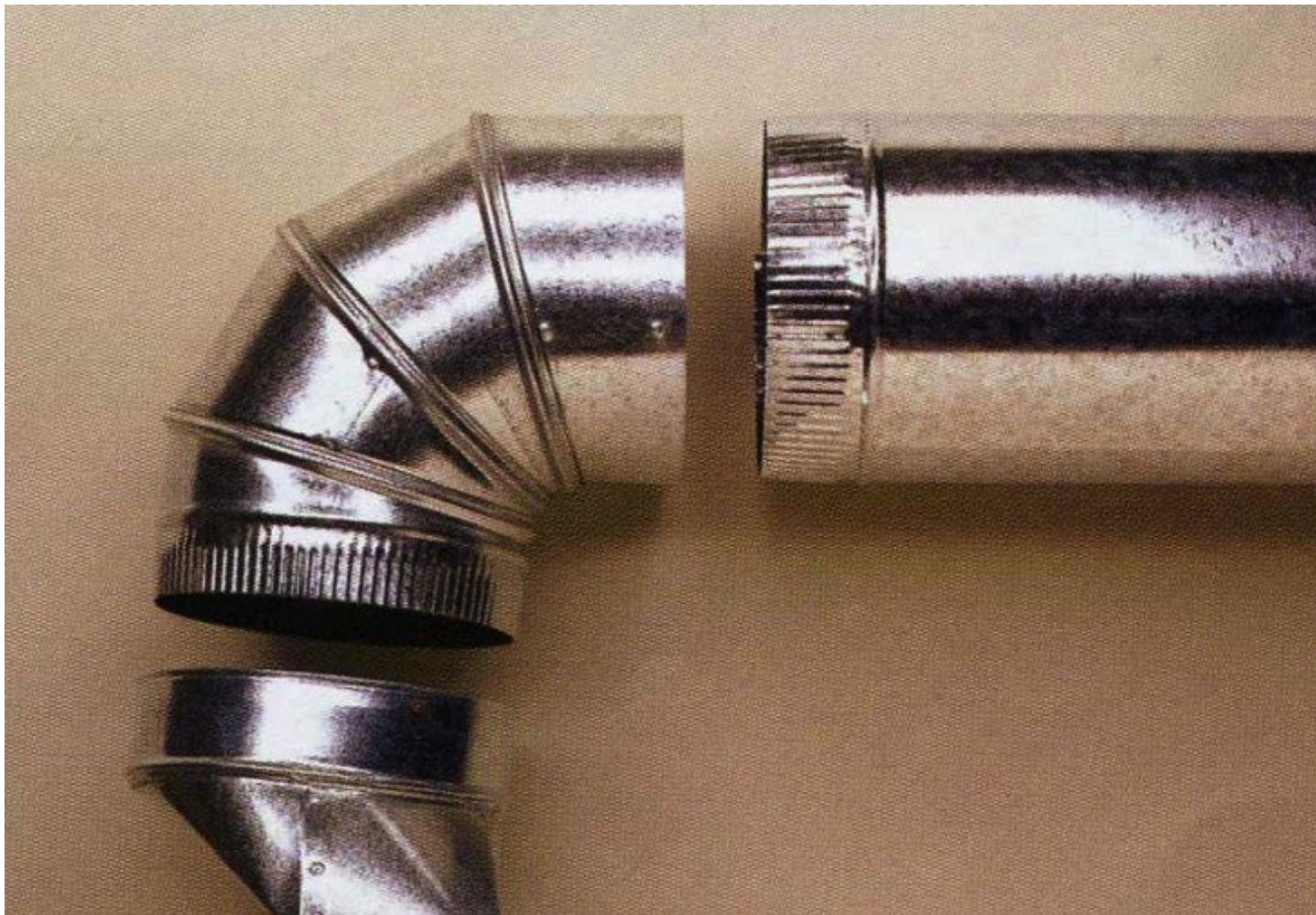
• Low Cost Saving Opportunities



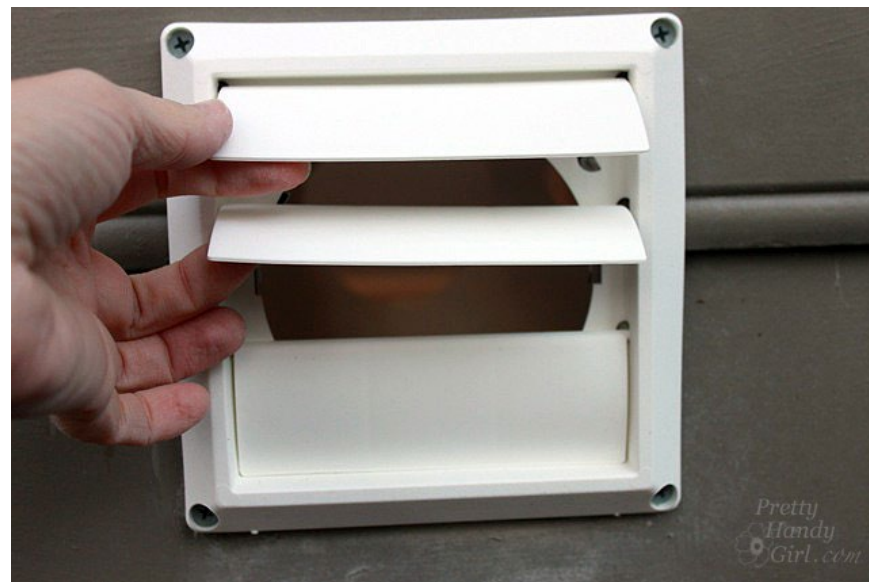
Smart Strips



❖ Clearing Out Dryer Vents



•• Checking Dryer Termination Points





55% Heating and Air Conditioning

15% Lights & Electronics

15% Appliances

15% Water Heating

❖ Furnace Filters



1 Month



**3 - 4
Months**



**6 - 12
Months**



• Heating System Efficiency

**Natural Draft
68-72% Efficiency**



**Induced Draft
80-83% Efficiency**



**Power Vent
90+% Efficiency**



**Sealed
Combustion
90-98% Efficiency**

•• Air Source Heat Pumps



- Can be used for heating or cooling
- Duct or ductless systems
- Consider if primary source of heat is a propane or electric baseboard heat.
- Installation costs range from \$3k-\$11k

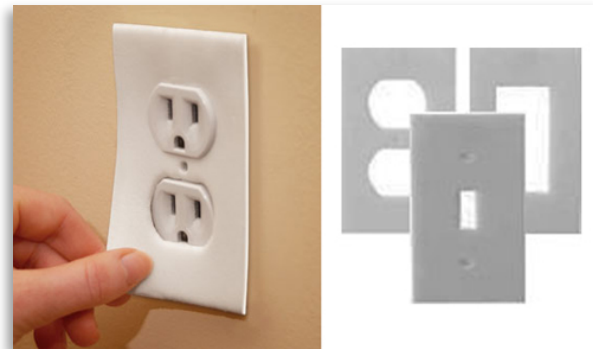


• Smart Thermostats

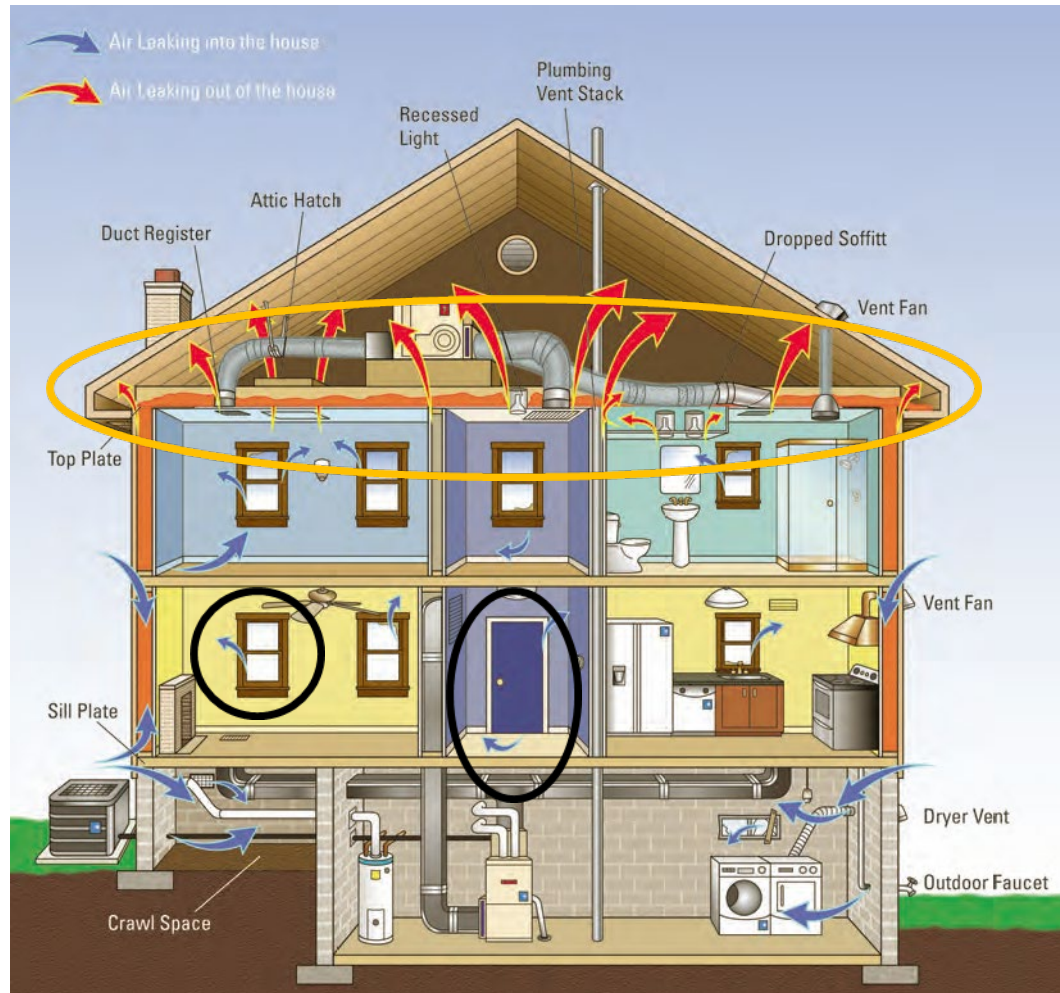
- Some are Wi-Fi capable
- Learn your preferences and try to push you to save more



• Making your Home More Comfortable



❖ Is Your Home Losing Energy?

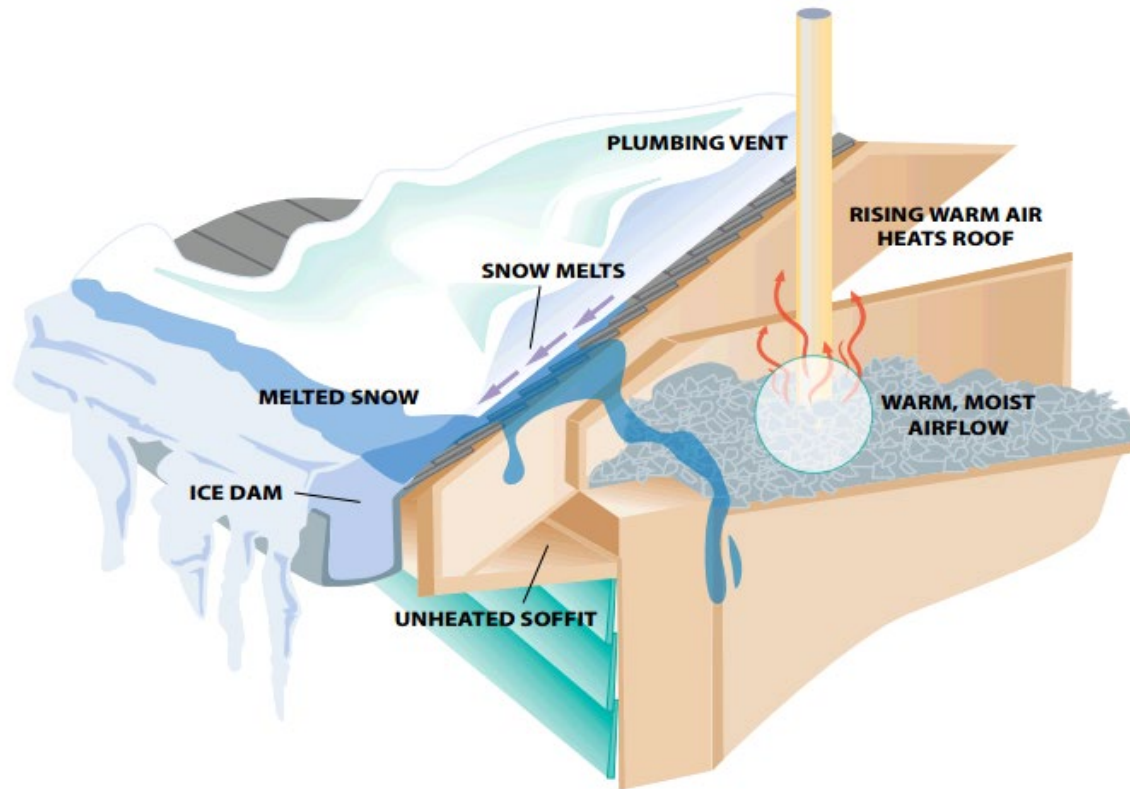


❖ Signs of air leakage



Dry, itchy skin, static electricity, frequent humidifier use

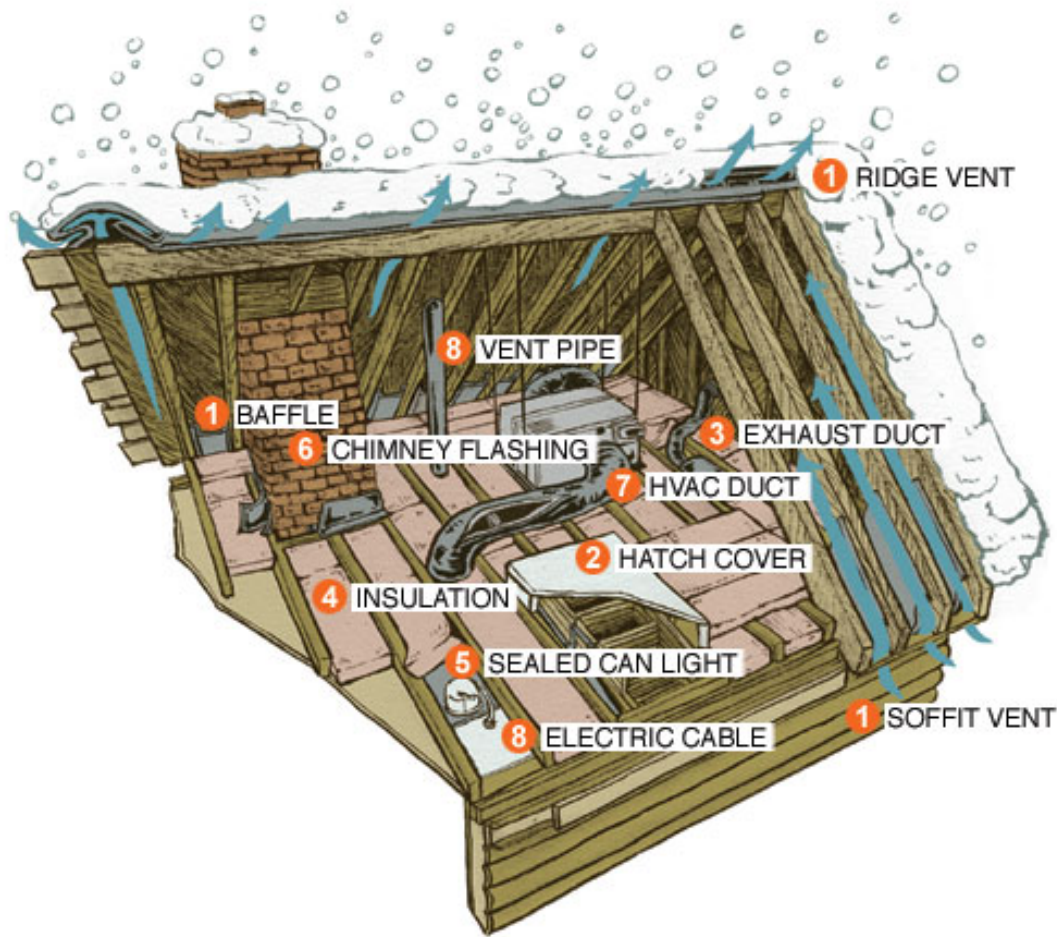
❖ Ice Dams



•• Open Attic Bypass



• Air Sealing



•• Attic Insulation



❖ Before and After



❖ Empty Wall Cavity

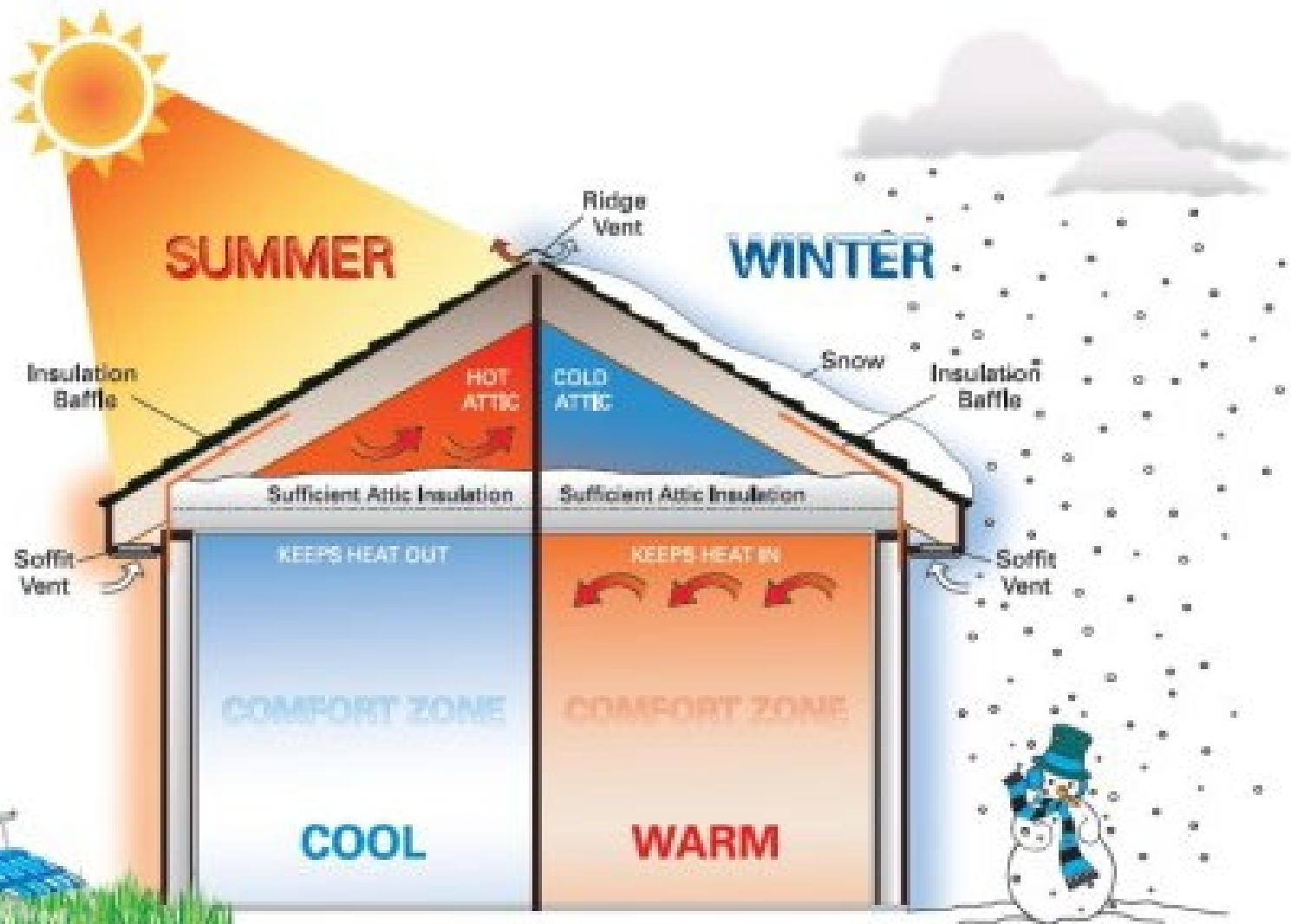


•• Wall Insulation

- Insulate to at least R-11
- Goal is to fill your wall cavity
- Hire a rebate eligible contractor



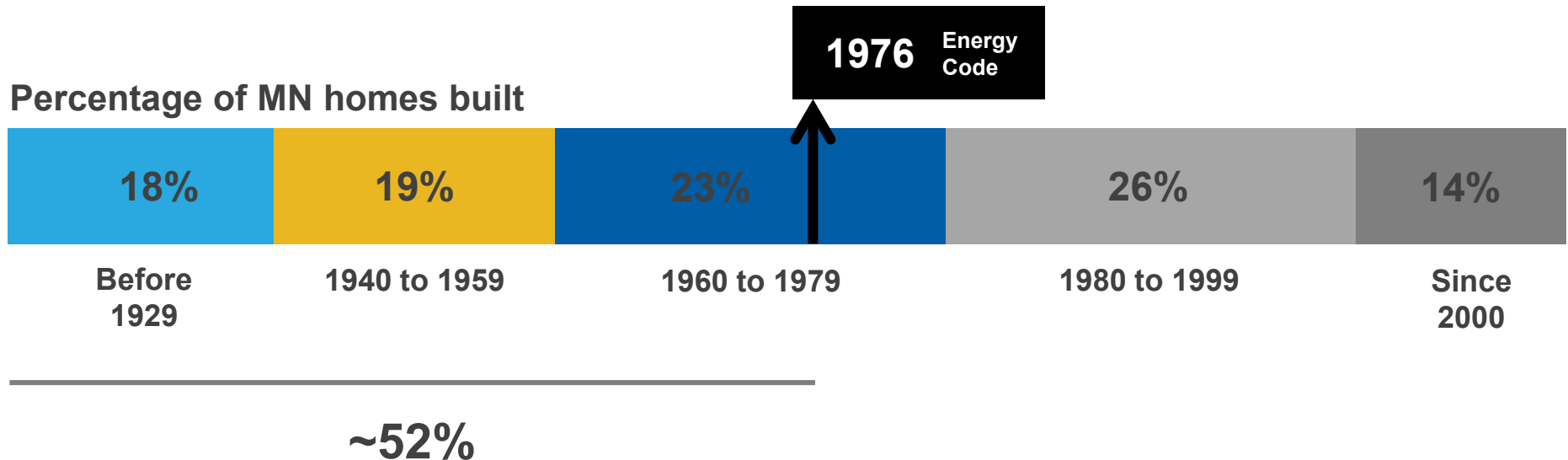
Home Envelope Works All Year Around

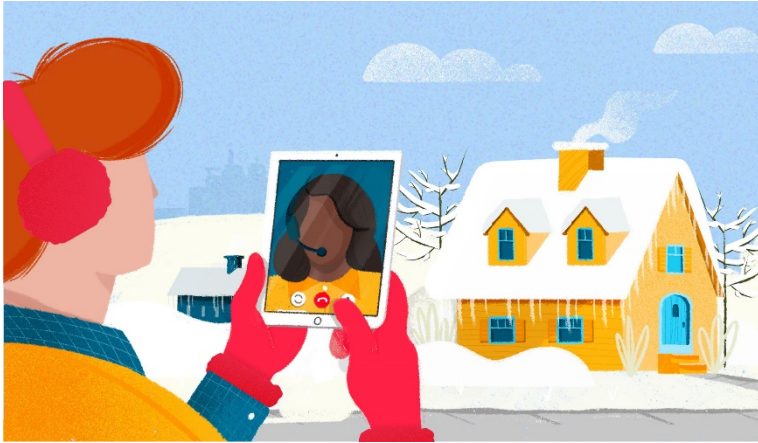


PROPERLY INSTALLED INSULATION MAKES IT LESS EXPENSIVE TO KEEP YOUR HOME IN THE COMFORT ZONE,



400,000+ Minnesota homes have inadequate insulation





Customized Energy Savings for Your Home

The visit may include:

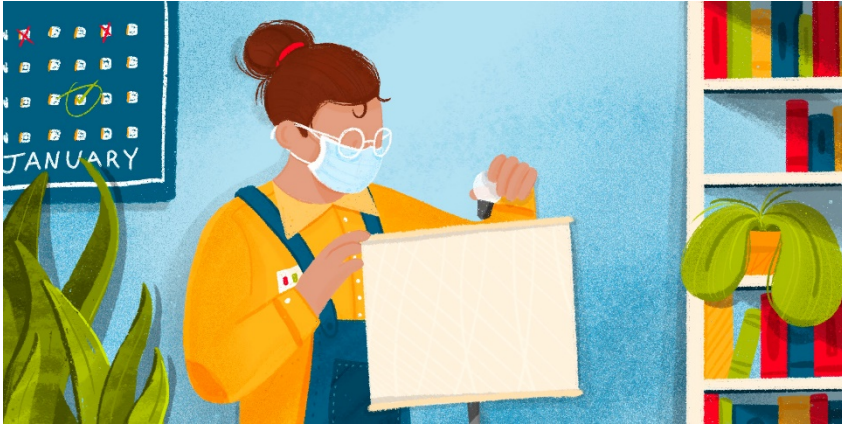
- Installations of products like door weather stripping, high-efficiency water fixtures, LED bulbs and a programmable or smart thermostat.
- A blower door test to measure your home for air leaks.
- An insulation inspection of your attic and walls using an infrared camera.
- A safety check of your home's heating system and water heater.
- Energy Fitness Plan with a list of recommendations, financing and rebate information.

•• Diagnostic Tests



- Checks for air leakage and areas to improve insulation
- Blower door test also helps to determine if there is adequate ventilation in the home.
- Combustion safety check on heating system and water heater

• Products Installed to Save Immediately



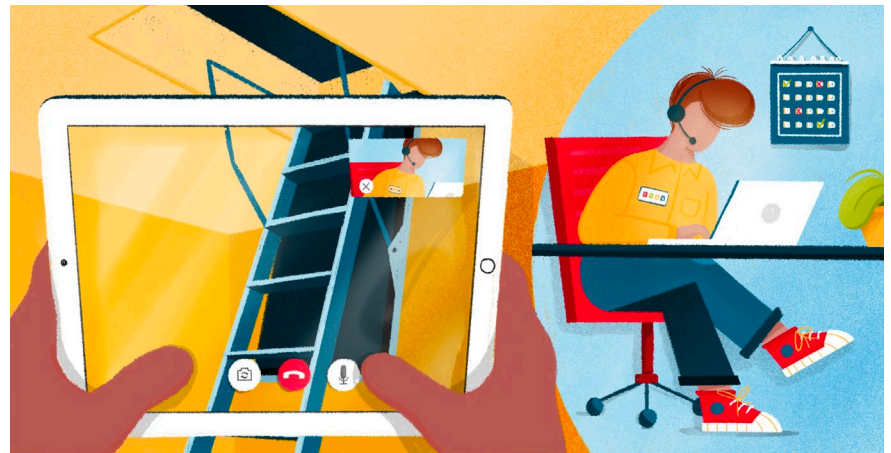
- LED bulbs
- High efficiency aerators and showerheads
- Attic hatch and door weatherstripping
- Programmable or smart thermostat

Xcel Energy electric customers with central AC are eligible for a free smart thermostat with AC Rewards enrollment.



•• Virtual Home Energy Squad Visit

- Video (or phone) consultation with an energy expert
- A customized report with recommendations and next steps, including in-person visit





ENERGY FITNESS PLAN



The Home Energy Squad is provided by [CenterPoint Energy](#) and delivered by the [Center for Energy and Environment](#), a Minnesota nonprofit.

This Energy Fitness Plan report summarizes findings and prioritizes the recommendations made by the energy expert(s) during your visit.



Contact your Energy Advisor at CEE with questions or for any help.

612-244-2484 or energyadvisor@mncee.org

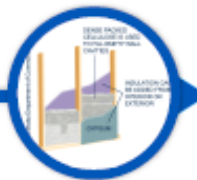


TODAY'S STEP

1 energy efficiency installs

TOP RECOMMENDATIONS

See report for details



INSULATE YOUR EXTERIOR WALLS



AIR SEAL AND INSULATE YOUR ATTIC

CUSTOMER:

ADDRESS

1234 Summit
Minneapolis, MN 55448

VISIT DATE

Oct 17, 2019

ENERGY EXPENSE

WALL INSULATION

3 points

SIDEWALL

You have 3 inches of insulation in your walls for a R11. You have 9.3 out of a recommended R11.

UPON REMODELING, CONSIDER ADDITIONAL WALL INSULATION

Additional wall insulation contractor can generally not be based on energy alone. However, consider additional upgrades as part of remodeling project.

AIR SEAL AND INSULATE ATTIC HATCH

A common weak point in the home's thermal boundary is attic access. Your access hatch lets warm air from your home escape into your attic. To prevent this, an insulation contractor can air seal and insulate your hatch using rigid foam insulation board, caulking or other materials to create a tight seal.

INSULATE YOUR EXTERIOR WALLS

It appears that there is little insulation present in the walls. Notice how the wood framing is actually warmer than the surrounding wall cavity? An insulation contractor can insulate exterior walls by blowing in dense-packed cellulose. Doing so can greatly reduce heat loss and improve indoor comfort levels and lower your monthly energy bills. Insulated walls often mean that your home is quieter too.

REBATES



Your Energy Advisor is here to help you earn the [Whole Home Efficiency Rebate](#) from Xcel Energy. Complete at least one Comprehensive Insulation project and two other rebate projects. Contact your Advisor with questions by phone or by email: 612-244-2484 or energyadvisor@mncee.org.



STEP 1

Complete at least one comprehensive insulation project.

2

STEP 2

Complete at least two other qualifying projects.

3

STEP 3

Contact your Energy Advisor to schedule your free inspection.



See Xcel Energy's [website](#) for details. Be sure to use a [rebate-eligible](#) contractor for this work.

LIMITED TIME BONUS: Complete your projects and your free inspection by November 30, 2019 and Xcel Energy will increase your entire Whole Home Efficiency Rebate by 25%!

REBATE	AMOUNT	NOTES
Comprehensive Attic Air Sealing and Insulation	30% of project cost, up to \$300	
Comprehensive Wall Insulation (at least 75% of exterior walls)	30% of project cost, up to \$300	
Air Leakage Reduction (25-29%) Air Leakage Reduction (30% and above)	\$150 \$200	
Boilers 95%, 90% or 84%	\$400, \$300 or \$125	
15+ SEER / 11+ EER / 9+ HSPF Ductless Mini-split Heat Pump	\$200	
0.90 EF Tankless / 0.70 EF Storage / 0.67 EF Storage Gas Water Heater	\$250, \$175 or \$100	

CUSTOMER:

Jennifer Staples

ADDRESS

123 Main Street
St. Paul, MN 55101

VISIT DATE

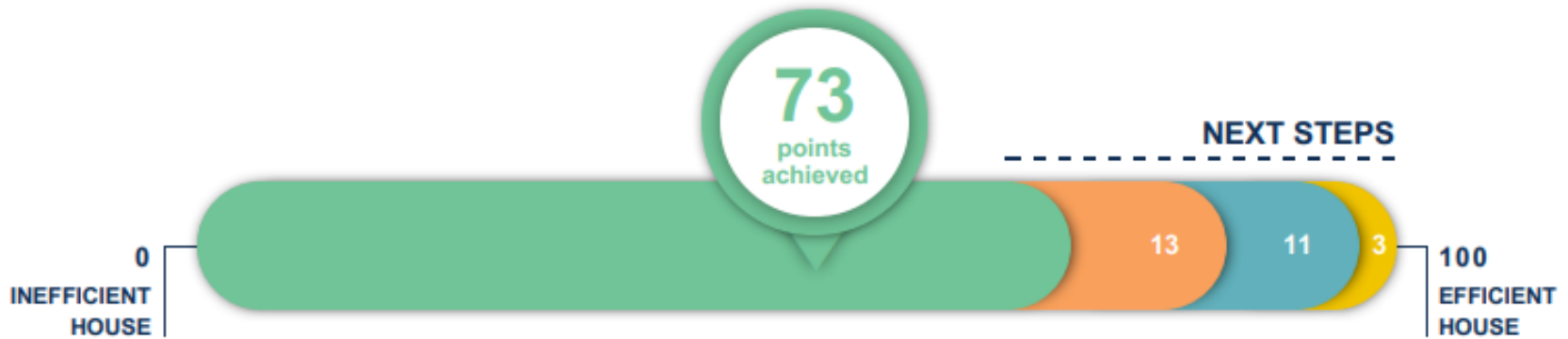
Apr 12, 2019

ENERGY AUDIT

Bruce Langston



Understanding Your Next Steps



ACHIEVED	NEXT STEPS <i>by priority</i>	COST (\$) <i>estimated</i>	REBATE (\$) <i>estimated</i>
<ul style="list-style-type: none"> ■ Windows meet minimum efficiency standards 80% AFUE heating system efficiency Partial attic insulation and air sealing Partial exterior wall insulation 	<ul style="list-style-type: none"> ■ Replace your boiler with a 91% AFUE efficient model ■ Air seal and insulate your attic ■ Insulate your exterior walls upon remodeling 	<p>7000 - 10000</p> <p>1121 - 1346</p> <p>-</p>	<p>500</p> <p>336</p> <p>-</p>

• Insulation Quote



Homeowner Information

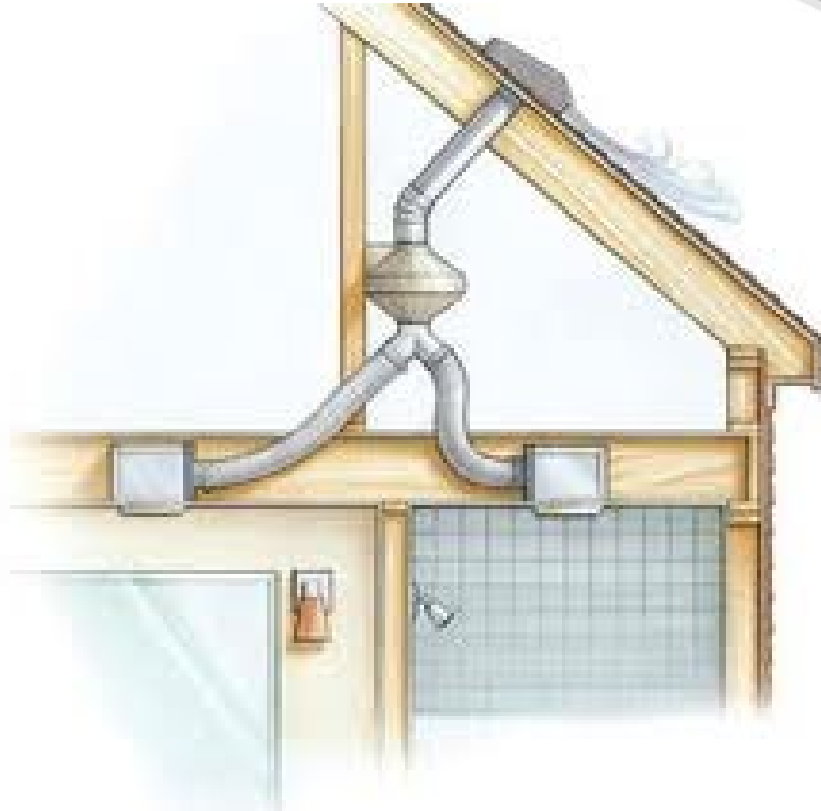
Fourth Ave Apartments
187 Sesame St, Minneapolis, MN 55414
612-222-2222



Technician: Stacy Camp Yr. Built: 1947 Sq Ft: 2300 Cfm 50: 4000 Date:

INSULATION QUOTE		UNITS	QTY	COST
Attic Insulation				
Insulate & weatherstrip existing attic ceiling/wall access	each	1		
Seal all attic bypasses: flue/chimney/plumbing stack/top plates/elec./fans	total	1		
Seal below kneewall (rigid barrier)	lf	70		
Dense Pack under floor and blow insulation over floor to achieve R50	sf	450		
total				
Insulate kneewall/built-ins to R30 with fiberglass batts and house wrap -	sf	350		
Re-insulate areas after air sealing	sf	150		
Dense pack slants to capacity	sf	325		
Install new roof vent - grey	each	2		
Remove and reinstall existing vent -	each			
Install vent chutes	each	50		
			Subtotal	\$3,645
Exterior Wall Insulation				
Dense pack masonite sided walls from the exterior	sf	1142		
			Subtotal	\$1,827
Additional Items (Required)				
Exterior lead safe work - pre-1978 homes	each	1		\$235
Conduct water heater and/or furn/boiler spillage test when work is complete	each	1		\$35
Conduct house air leakage test when work is complete	each	1		\$80
			Subtotal	\$350
Notices				
NOTES: Estimate scheduled with contractor for wall insulation quote.				
			Total	\$5,822
			Estimated CenterPoint Rebate*	\$500
			Total After Rebates	\$5,322

•• Ventilation



- Manage indoor moisture and odors
- Helps maintain a healthy home

• Signing up for a Home Energy Squad visit

To schedule:

Call 651-328-6220 or
visit mncee.org/hes



Energy Saver visit
only \$50
(normally \$100) for
Plymouth residents

Free Visits for Income Qualified Households

2022 Income Guidelines

Household Size	Three Month Maximum	Annual Income
1	\$8,809	\$35,237
2	\$11,520	\$46,080
3	\$14,230	\$56,922
4	\$16,941	\$67,765
5	\$19,651	\$78,607
6	\$22,362	\$ 89,450
7	\$22,870	\$ 91,483
8	\$23,378	\$ 93,515

•• Energy Advisor Service

The Energy Advisor Service can be your guide to a more efficient home:

- Review your audit report
- Listen to your goals
- Identify the highest impact project plan
- Connect you to high quality contractors
- Ensure you earn the best rebate
- Connect you to low interest financing options

energyadvisors@mncee.org or 612-244-2484

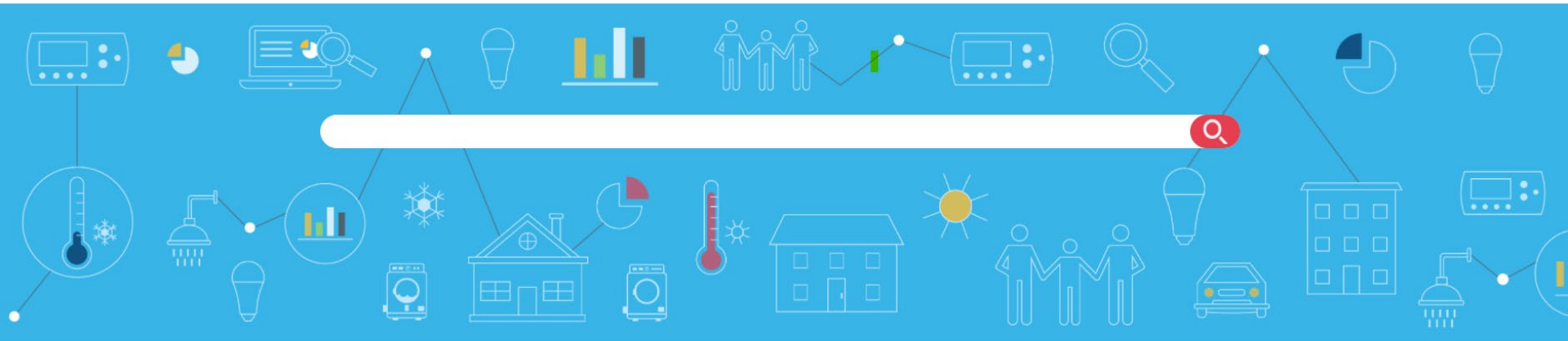


A Helpful Resource to Learn More

homeenergyhub.org

Center for Energy and Environment's
home energy hub

Improve Health Learn Innovate Contact



Home Energy Hub

Learn how to make your home more efficient and comfortable.



THANK YOU!

Stacy Boots Camp
612-244-2429
sbootscamp@mncee.org