



PPL Electric Utilities

The presentation will begin shortly!

HOME ENERGY AUDITING



Hap Haven
PPL Pilot Manager

CHOOSING THE RIGHT ENERGY AUDIT

Thank you for coming today. Remember, this is an overview!

- 60 second summary of today's topic.

- **What is Building Science** and why is it so important?
- **Virtual vs In-Home Energy Audit** - which is best for you?

- What is the PPL Residential Energy Efficiency program? Incentives?

- Q and A at the end – please type into the box
- No need to take notes – we'll send you the PDF

60 SECOND REVIEW

What is an energy audit or assessment?

It's an assessment of your home shell and mechanical systems and

- how you use them.
- understand which ones are under-performing
- understand how air, heat and moisture move around your home.

It's an assessment that becomes the foundation for a **REPORT** listing the major issues found and what it takes to solve those problems.

60 SECOND REVIEW

What's the difference between an in-home energy audit and a virtual home energy assessment?

It's the difference between visiting a doctor in the office and making a Teladoc phone call.

Both have value. Both can solve your home's problem.

IN-HOME AUDIT + A HOUSE DOCTOR

A face-to-face conversation plus

Hands-on measurement of your mechanical and structural systems

VIRTUAL ASSESSMENT + A HOUSE DOCTOR

This relies on your ability to describe the problem on the phone.

It's a preliminary consultation to focus your thinking.

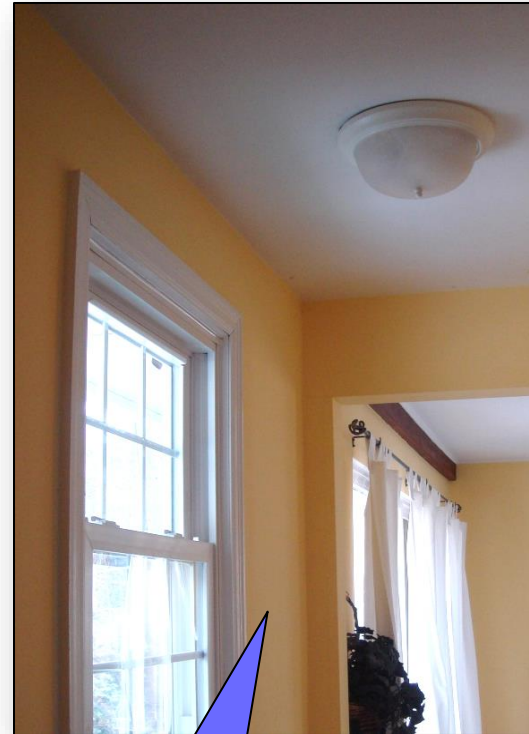
DIFFERENT FOR A REASON

Virtual Assessments

are about obvious problems:

- Broken heaters, AC, etc.
- Kitchens over vented crawlspaces
- Broken windows
- Etc. . . Etc. . .

In-Home Auditing can find hidden problems and show you a solution.



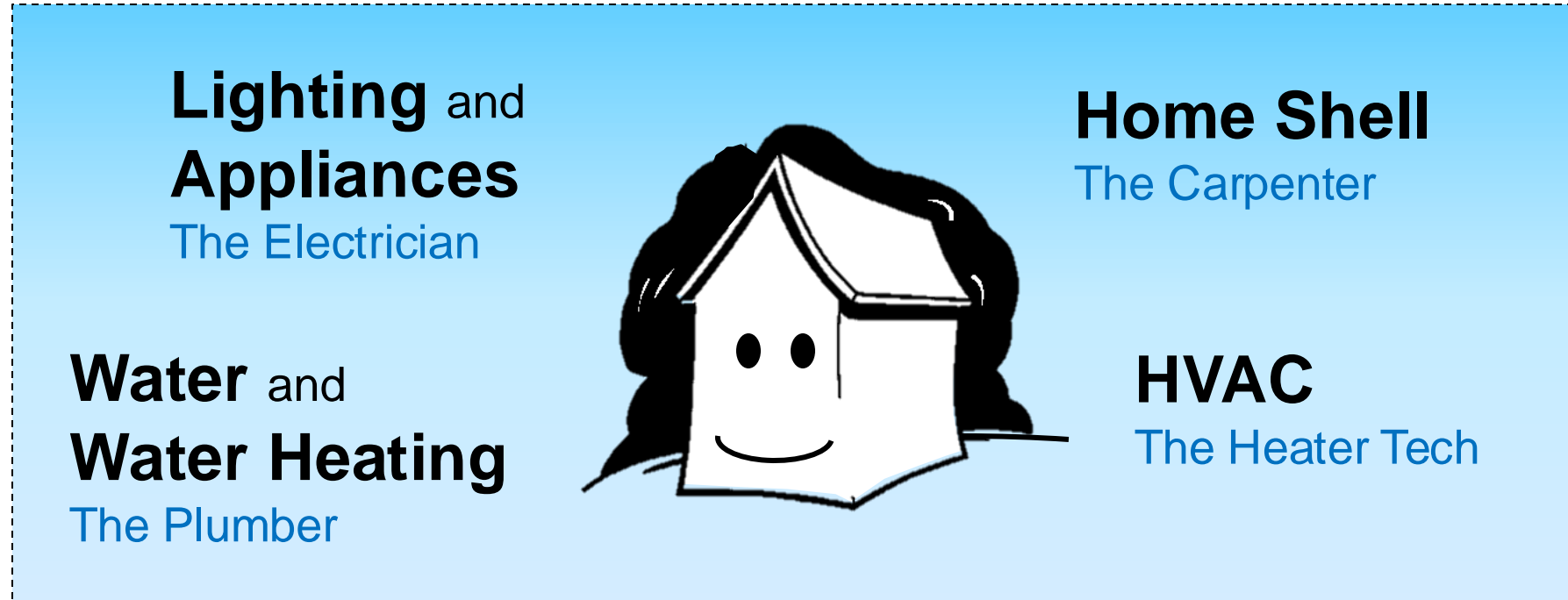
No problem here.



Infrared shows you the problem

EVERY HOME HAS THE SAME SYSTEMS

And every system has a trade associated with it.



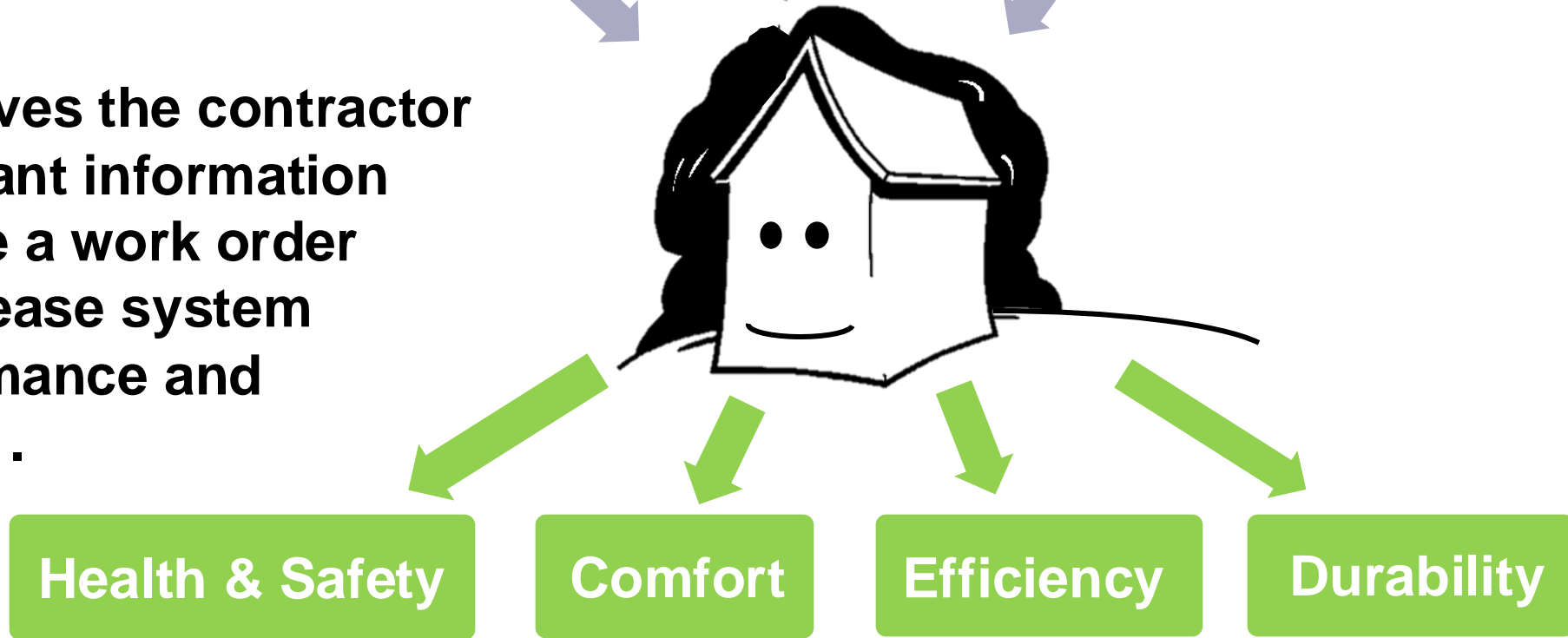
An energy auditor or assessor is trained to understand how these systems interact.
Think about the doctor example we just talked about.

UNDERSTANDING BUILDING SCIENCE

In **SIMPLE** terms, Building Science looks at the movement of:

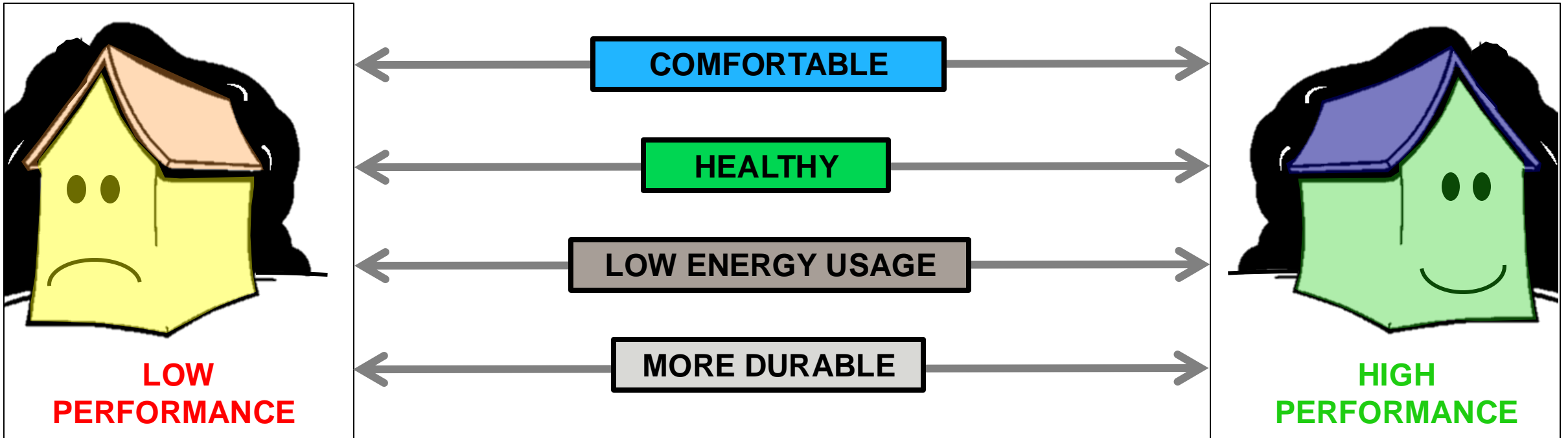
AIR **HEAT** **MOISTURE**

This gives the contractor important information to write a work order to increase system performance and your . . .



WHAT'S THE PROBLEM?

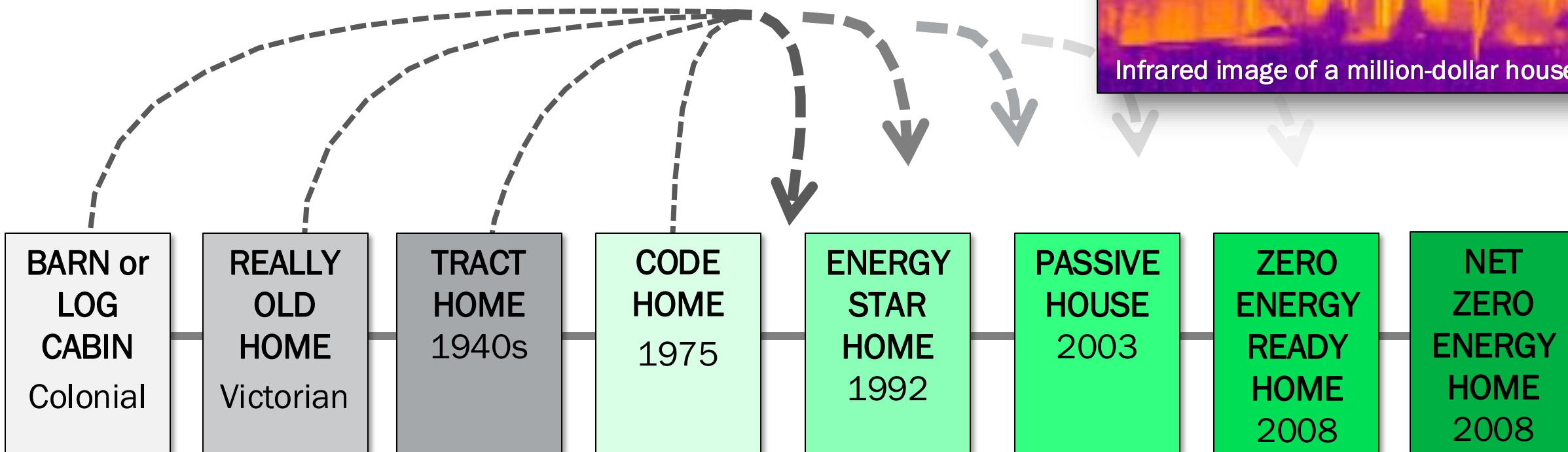
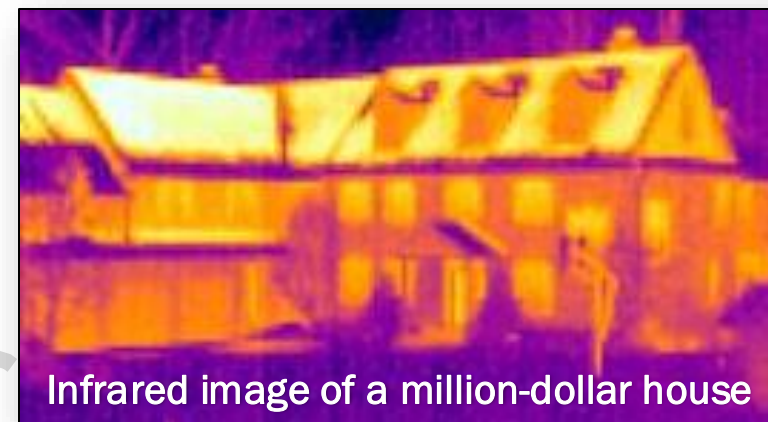
The auditor will ask you questions to understand the problem.



An energy auditor can help you understand the whys of a problem.

IT'S NOT ABOUT HOME STYLE

It's about the **SYSTEMS** and how well they perform.



The further you want to save, the more you'll have to pay.

LET'S LOOK AT AN EXAMPLE



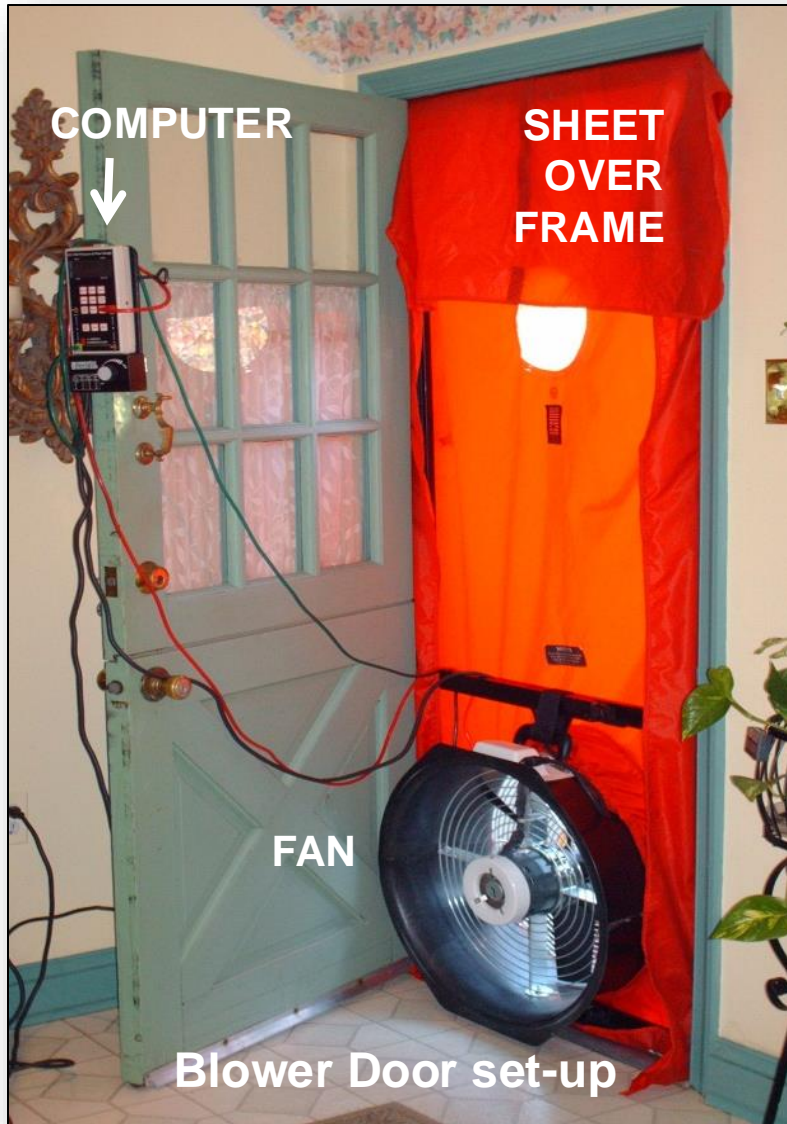
MULTIPLE SYSTEMS ARE FAILING



SHELL - The attic isn't air sealed or insulated well.

HVAC - The ducts aren't sealed or insulated well.

BLOWER DOOR ENERGY AUDIT



This tool helps you find the air leaks

The auditor uses the blower door to identify HOW leaky your house is, but also WHERE the leaks are located.

The computer measures pressure

And can be used all around the house to understand air (and moisture) flow.

Controlling the air leaks

Is the first step to reducing drafts, saving energy, lowering your utility bill and making your house more durable.

OTHER ENERGY AUDITING TOOLS

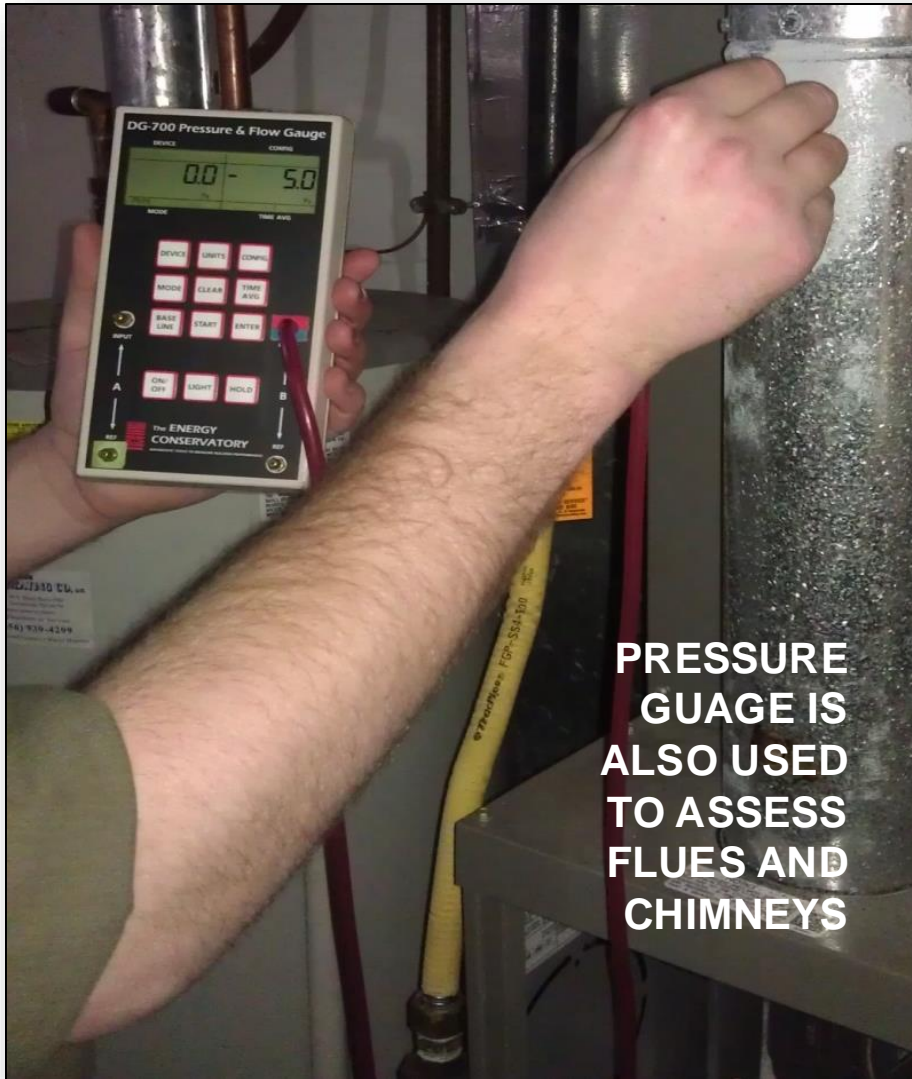
Different tools tell different stories

Tools can “illuminate” a problem

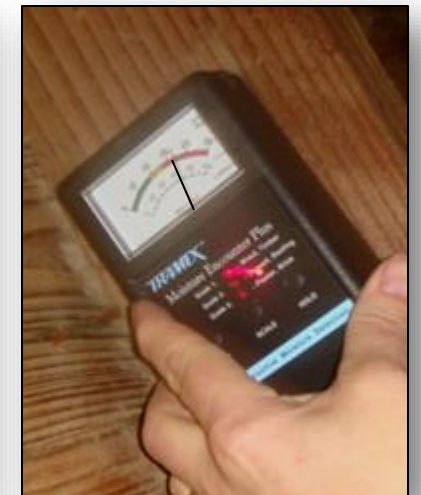
Combustion analyzer to assess the health of your heater

Smoke “pencil” to assess heater draft or air leaks around the house.

Moisture meter to analyze the source of water vapor or if wood is likely to rot.



**PRESSURE
GAUGE IS
ALSO USED
TO ASSESS
FLUES AND
CHIMNEYS**



TOOLS CAN GIVE YOU ANSWERS

This chimney is spilling combustion gasses. It may be:

- **Designed incorrectly,**
- **Blocked or**
- **House fans might be out-competing the flue. Pressure testing can “illuminate” the problem and suggest solutions.**



Back-drafting water heater



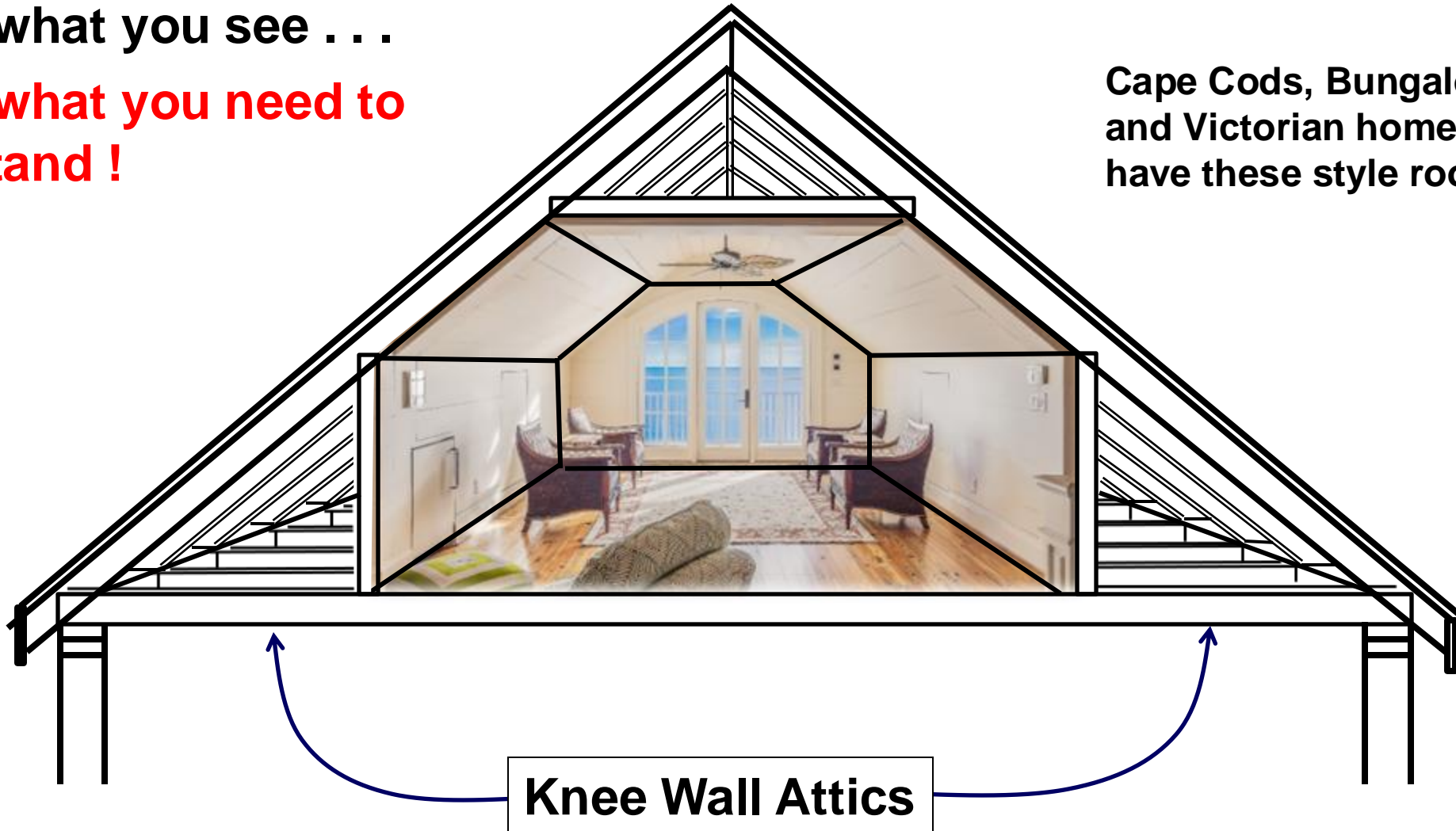
Caused by negative pressures in the kitchen

AUDITORS USE X-RAY EYES

This is what you see . . .

This is what you need to understand !

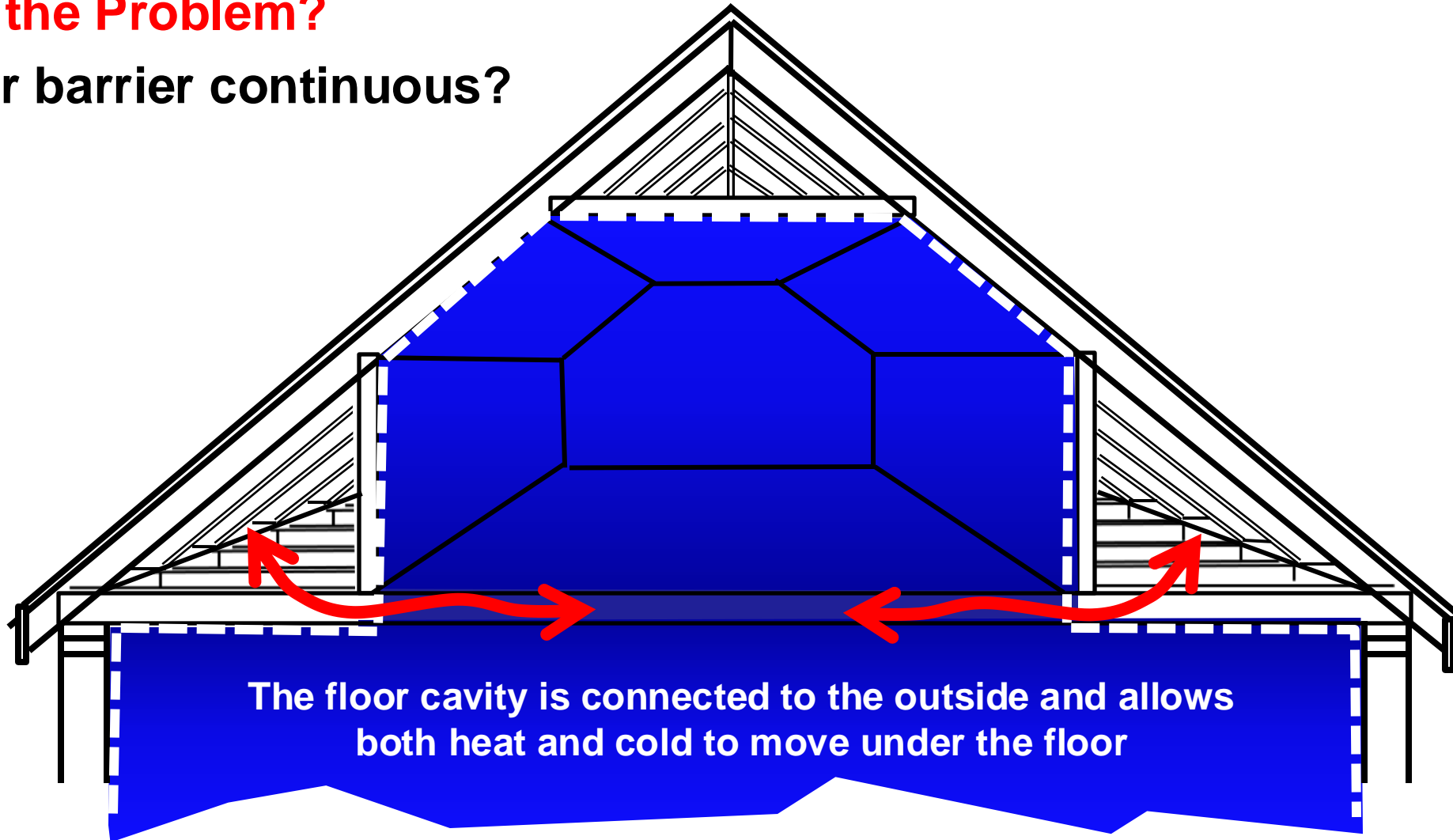
Cape Cods, Bungalows,
and Victorian homes all
have these style rooms.



THE BLUE IS CONDITIONED SPACE

What is the Problem?

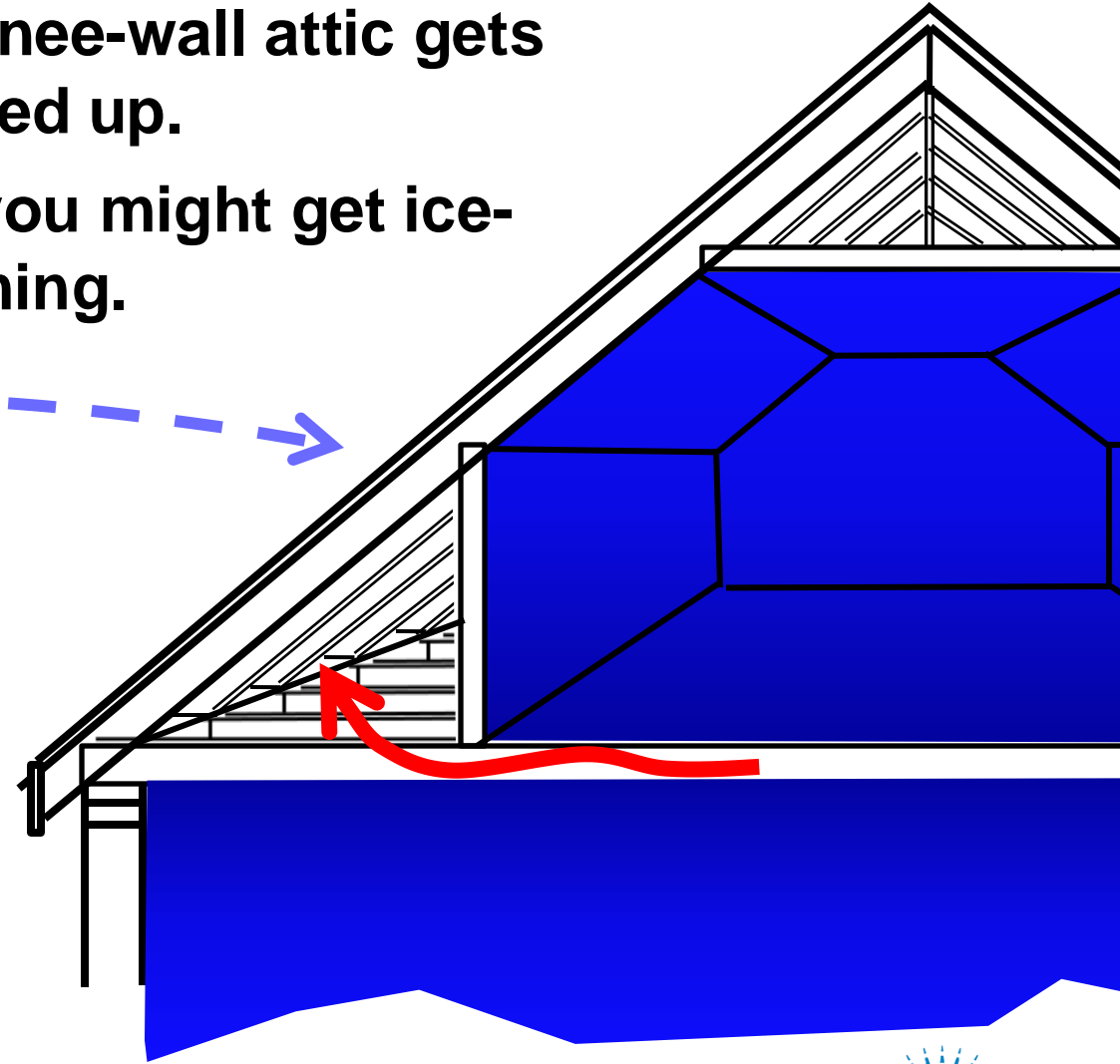
Is the air barrier continuous?



YOU SEE IT IN THE WINTER . . .

Warm air escapes into the knee-wall. The knee-wall attic gets warmed up.

And you might get ice-damming.



1ST STEP TO GETTING ANSWERS

VIRTUAL ENERGY ASSESSMENT

Your choice – a voice or video call with an Energy Advisor
Free for electric heating or central air customers and comes
with a free energy savings kit mailed to your home.

Call 877-486-9204 to schedule

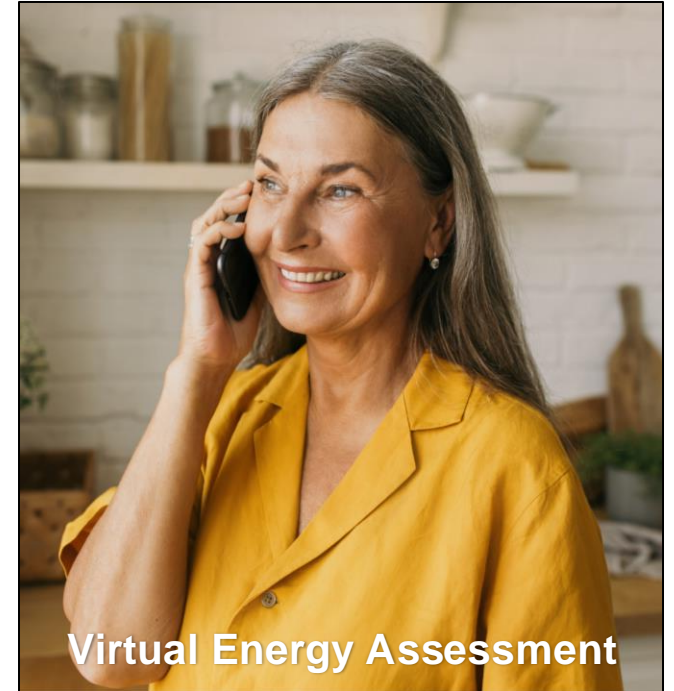
IN-HOME ENERGY AUDIT

\$350 rebate for electric heating and central AC customers

\$200 rebate for electric heating or central AC customers

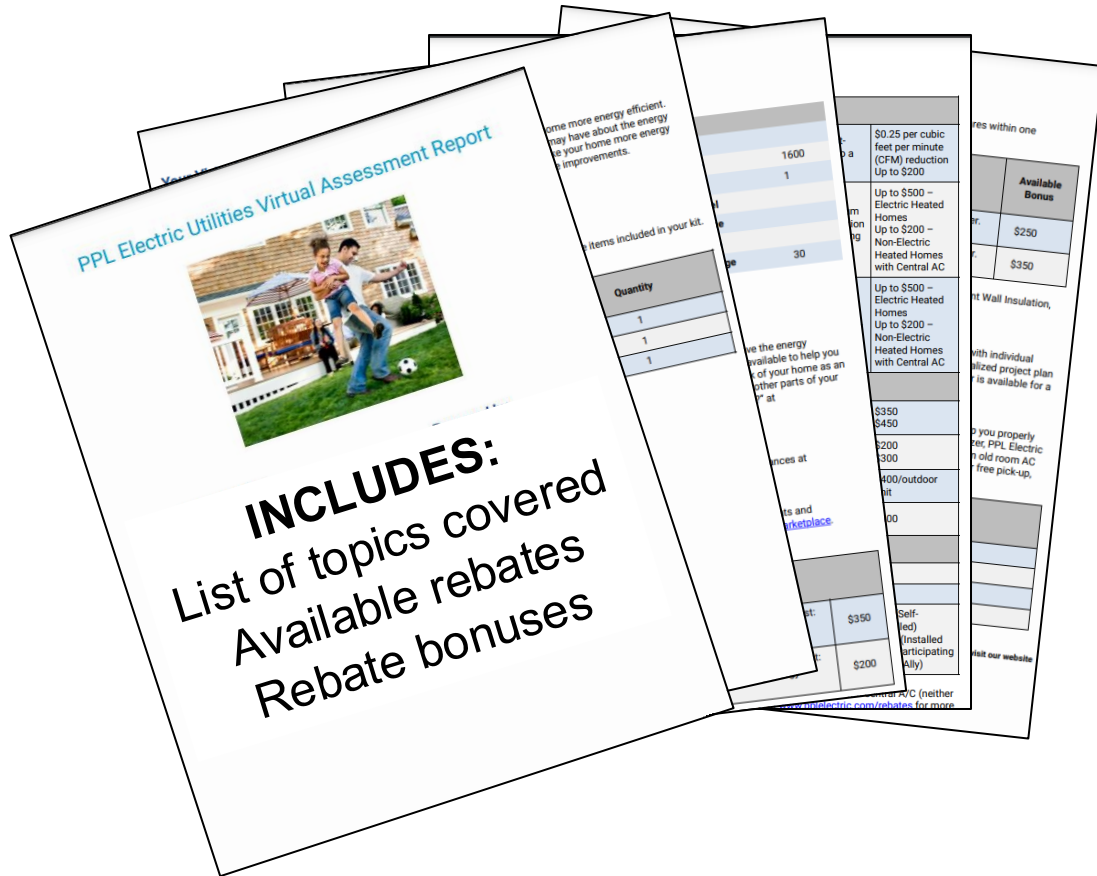
Check with your independent auditor if the assessment is free
before you schedule an appointment.

<https://www.pplelectricsavings.com//ppl/homeequipment/contractor/>

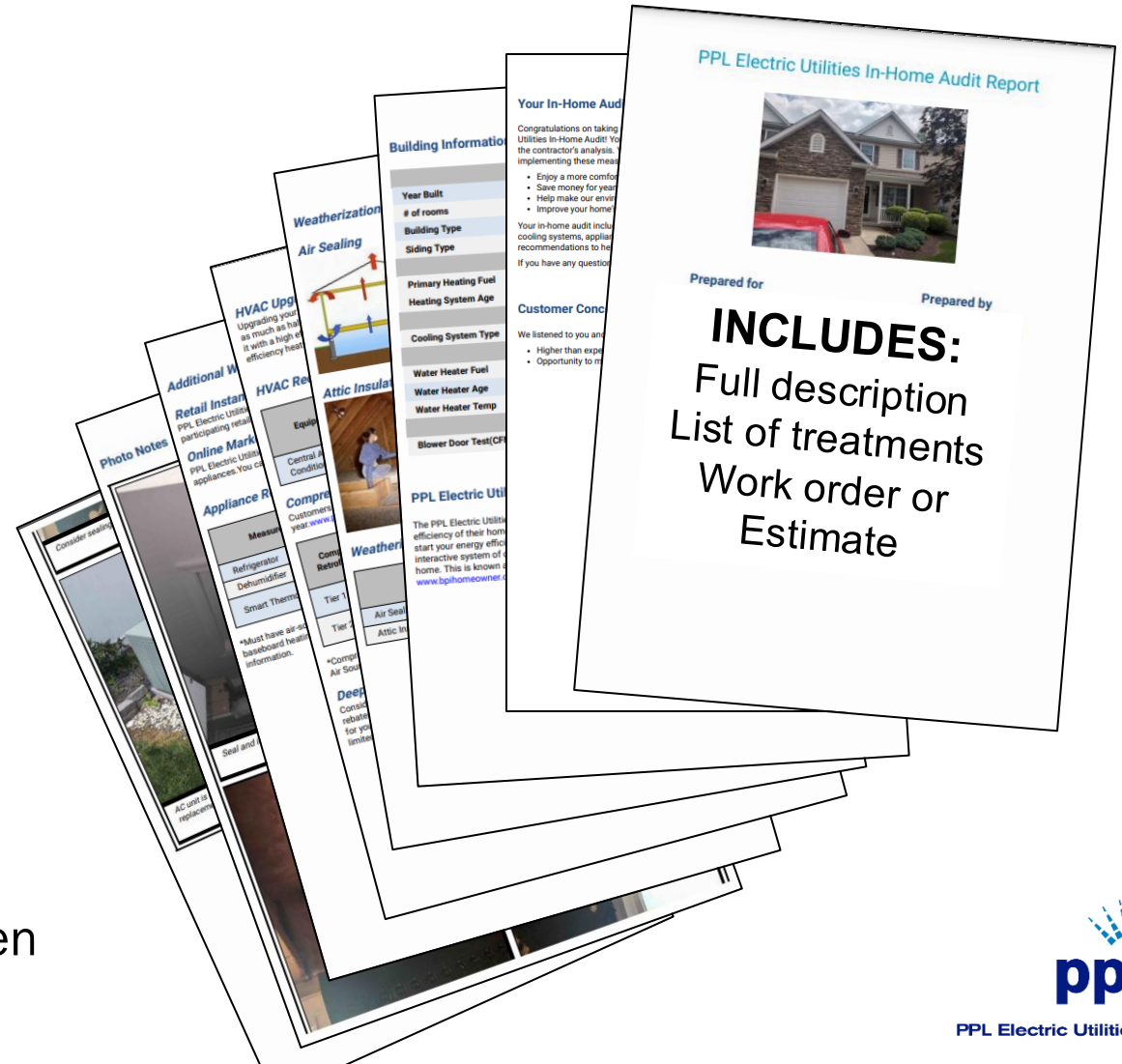


THE AUDIT - ASSESSMENT INFORMATION

PHONE ASSESSMENT FOLLOW-UP



RECORD OF THE IN-HOME AUDIT



You qualify for a free energy kit when you get any energy audit.

ENERGY EFFICIENT HOME REBATES

<https://www.pplelectric.com/rebates>

Single Weatherization Upgrades	Rebate	Notes	SHELL SYSTEM
Attic Insulation (electric heat)	\$500	75% of cost up to a max of \$500	
Attic Insulation (central A/C, non-electric heat)	\$200	75% of cost up to a max of \$200	
Basement Wall Insulation (electric heat)	\$500	75% of cost up to a max of \$500	
Basement Wall Insulation (central A/C, non-electric heat)	\$200	75% of cost up to a max of \$200	
Air Sealing	\$200	Air infiltration reduction (@ CFM50) x \$0.25 up to a max of \$200	
Single Efficient Equipment Upgrades	Rebate	Notes	MECHANICAL SYSTEM
Smart Thermostat (self-install)	\$50	ENERGY STAR® certified	
Smart Thermostat (professional install)	\$100	ENERGY STAR certified. Must be installed by a PPL Electric Utilities qualified contractor.	
Heat Pump Water Heater	\$400	Universal Energy Factor (UEF) ≥ 3.3	
Air Source Heat Pump	\$350	≥ 15.2 HSPF2, ≥ 11.7 EER2, ≥ 7.8 HSPF2	
Air Source Heat Pump	\$450	≥ 16.3 SEER2, ≥ 12.9 EER2, ≥ 8.2 HSPF2	
Ductless Mini-Split Heat Pump	\$400 (per outdoor unit)	≥ 15.2 SEER2, ≥ 11.7 EER2, ≥ 7.8 HSPF2	
Central Air Conditioner	\$200	≥ 15.2 SEER2, ≥ 12 EER2	
Central Air Conditioner	\$300	≥ 16.3 SEER2, ≥ 12.9 EER2	

PPL BONUS REBATES

Comprehensive Retrofit Bonus 1 (\$250)

(2 major treatments installed within 12 months) (1 weatherization upgrade + 1 other major upgrade)

Comprehensive Retrofit Bonus 2 (+\$100 or \$350 total)

(3 major treatments installed within 12 months) (Bonus Tier 1 + 1 or more additional major upgrades)

Deep Energy Retrofit Bonus (\$500)

(3 major treatments installed at the same time)

(In-Home audit + 3 treatments with at least 1 shell and 1 mechanical treatments)

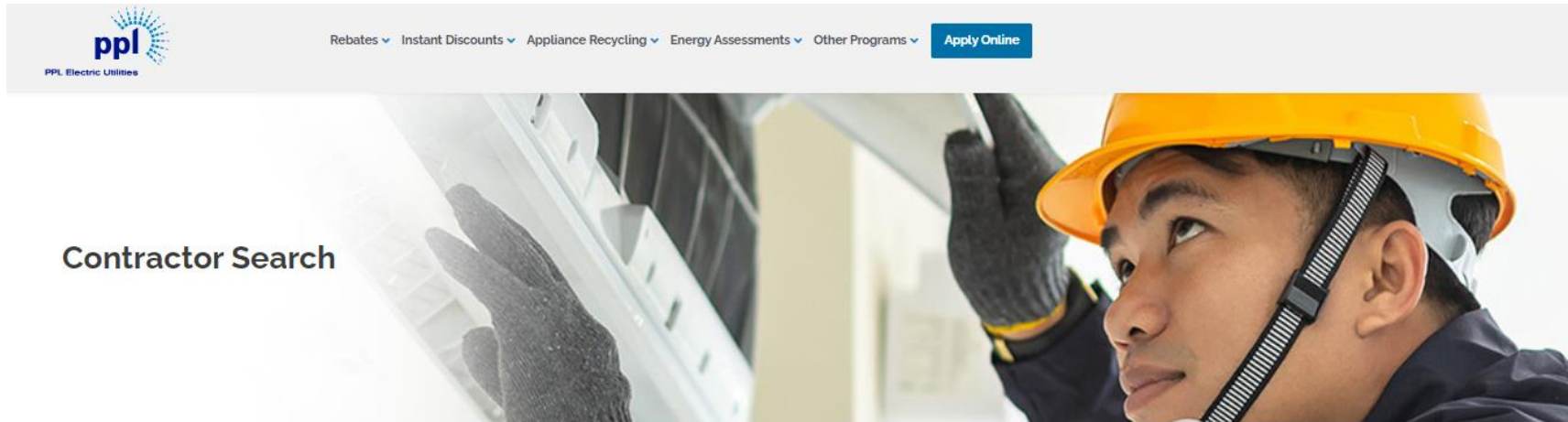
(Cannot be used with Bonus 1 or 2)

DER Bonus webpage: <https://pplelectric.com/retrofit>

CONTRACTORS

Log onto the PPL Electric Utilities website for more program information or to identify a Trade Ally you'd like to hire.

<https://www.pplelectricsavings.com//ppl/homeequipment/contractor/>



The Trade Allies below are qualified to provide In-home Energy Audits and the Deep Energy Retrofit Bonus.

**Advanced Efficiency Worx
Energy Services Group
MT Weatherization**

support@aeworxpa.com
info@energysvc.com
ACastles@tennygroup.com

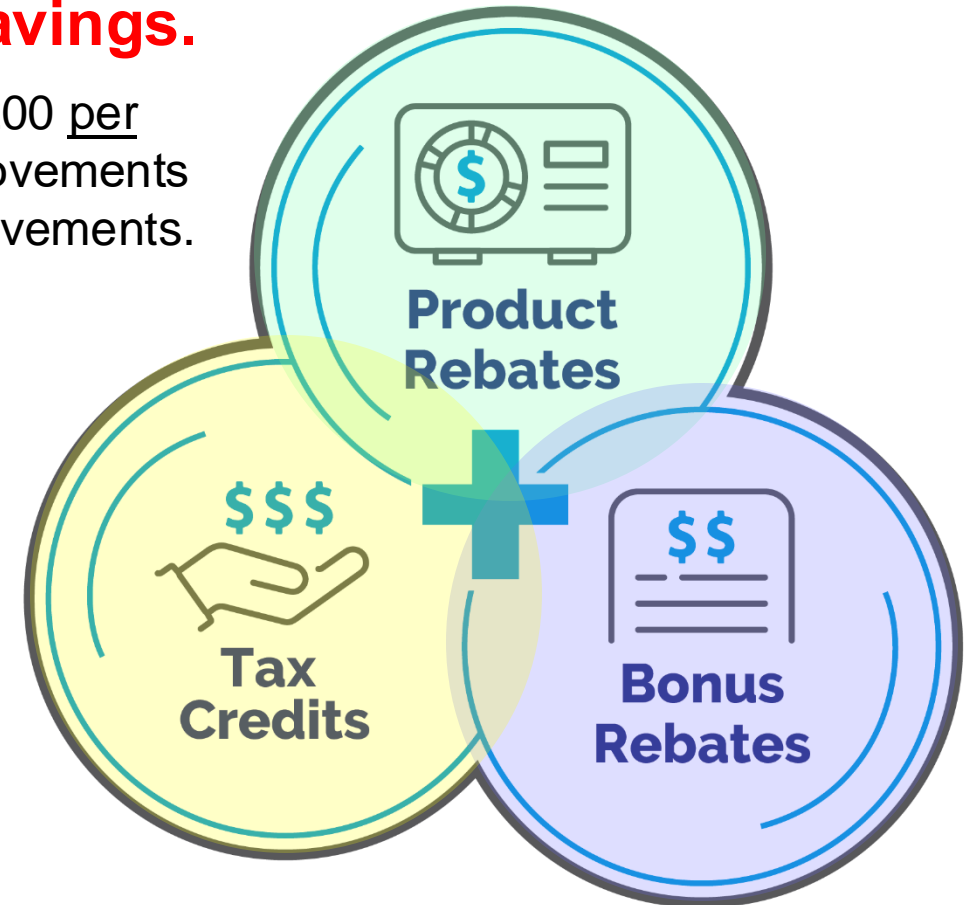
BUNDLE YOUR SAVINGS

Final Note: Don't forget to bundle your savings.

You may qualify for federal tax credit is a maximum of \$3,200 per year from two different “buckets”. Up to \$1,200 home improvements and up to \$2,000 for higher performance mechanical improvements.

<https://www.EnergyStar.gov/about/federal-tax-credits>

Example: Air sealing and Insulation
(30% up to \$2,000 for federal tax credit)
(\$400 – PPL rebate)



QUESTIONS and COMMENTS ?

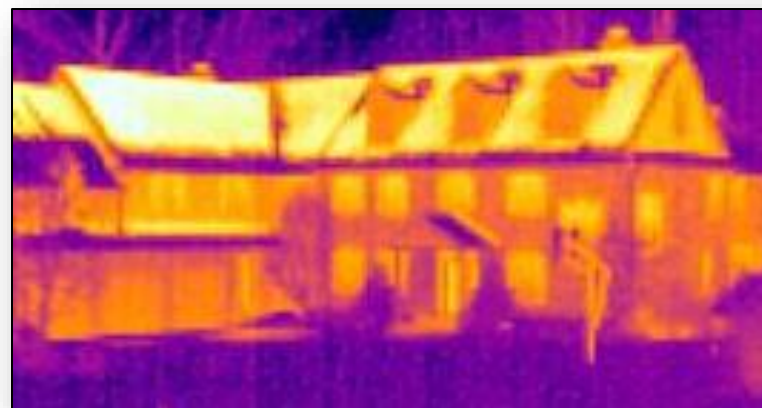
Please type them into the questions box





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Thank you for coming today



Hap Haven
Hap.Haven@CLEAResult.com