

# DIY Toolkit “Earth Day” Webinar

*County of Santa Barbara Libraries*

April 21, 2022





## DIY Home Energy Savings Toolkits

KITS ARE AVAILABLE FOR FREE AT YOUR LOCAL LIBRARY. LEARN WHAT'S IN IT, HOW TO USE IT, AND OTHER RESOURCES TO HELP YOU ON YOUR SUSTAINABILITY JOURNEY!



### Lower Your Energy Bills, Improve Your Home

3C-REN and the Santa Barbara County Library have partnered to bring you the DIY Home Energy Savings Toolkit. The toolkit includes tools, equipment and a guide to help you save energy and increase the comfort of your home.

The kit includes items for you to keep like LED light bulbs, outlet gaskets, weatherstripping, and water leak detection dye tablets; and tools you'll return like an infrared laser thermometer and a Kill-A-Watt meter.

Join this event for a demo of the kit, to ask your questions, and to learn about other sustainability programs in our area.

April 21<sup>st</sup> at 6:00PM  
(via Zoom)

### ABOUT THE PRESENTER

#### Serena Gu

Serena is a CivicSpark Americorps Fellow working with 3C-REN's Home Energy Savings Program in home energy education and community outreach.



**There will be time in the middle for questions.**

Feel free to type any questions you may have into the chat!



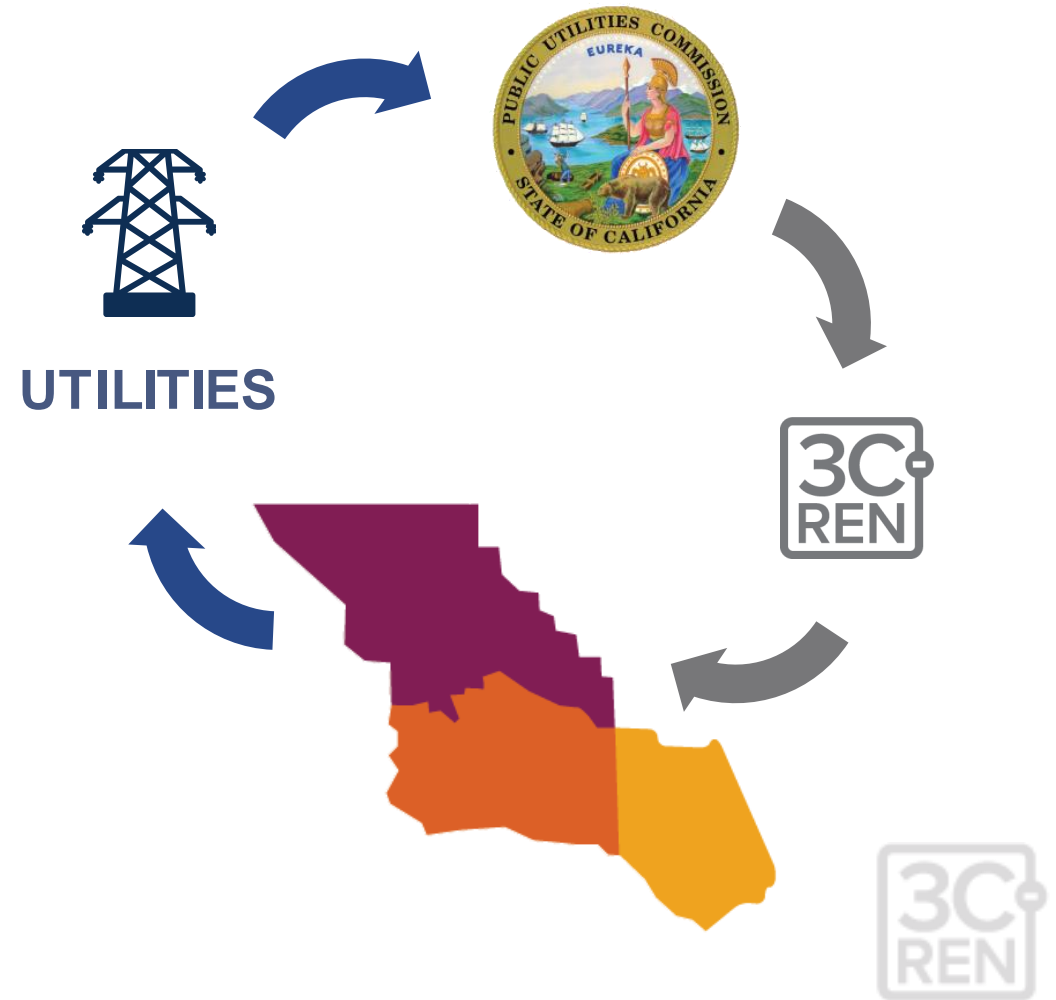
# 3C-REN: Tri-County Regional Energy Network

- Three counties working together to improve energy efficiency in the region
- Services for –
  - **Building Professionals:** industry events, training, and energy code compliance support
  - **Households:** free and discounted home upgrades



# Bringing ratepayer dollars back to our communities

- Investing in local communities
- Strengthening our economy
- Building a robust workforce
- Creating a market for energy efficiency





ENERGY  
CODE  
CONNECT

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BUILDING  
PERFORMANCE  
TRAINING

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HOME  
ENERGY  
SAVINGS

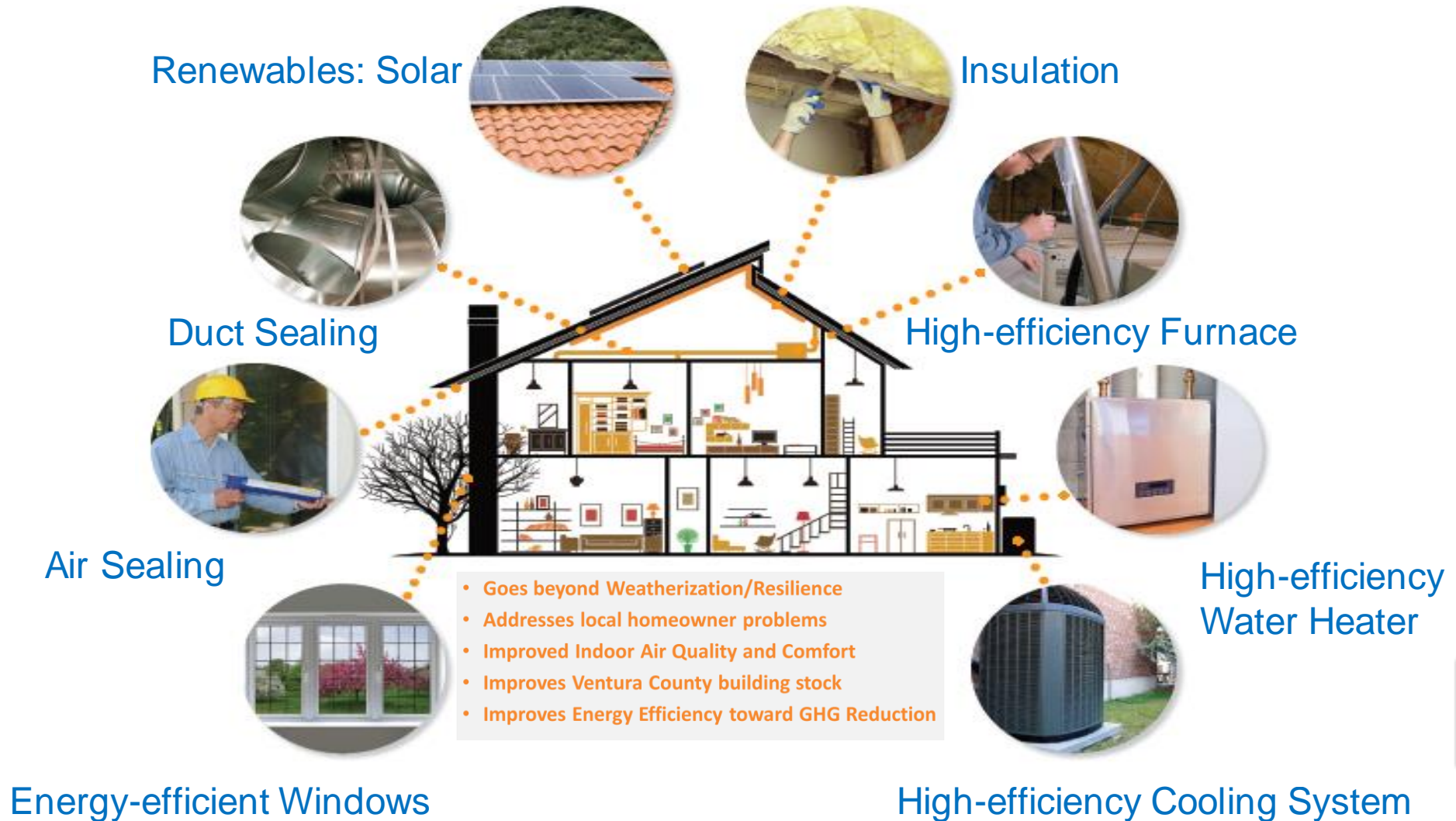
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# HOME ENERGY SAVINGS

A variety of systems impact **efficiency, air quality, comfort & safety:**



# What is in each tool kit?





# Toolkit Contents: Stuff to Keep

- “Stuff to Keep” are items patrons can take from the toolkit and install in their homes.



## Stuff to Keep: Energy-Saving Equipment



### 4 Light-Emitting Diodes (LEDs) bulbs

Replace the standard bulbs in your high-use light fixtures with these energy-saving LEDs.



### Weatherstripping

Apply weatherstripping around your doors and windows to help seal air gaps. Please return what you don't use.



### Outlet Gaskets

Outlets are a hidden source of heat loss—install these gaskets to seal the gaps!



### Low-Flow Showerhead

Save water and stay comfortable with this new showerhead.



### Rubber bands

Wraps around the pliers to help prevent scratching the aerators or showerhead during installation.



### 2 Low-Flow Faucet Aerators

Install one (1.0gpm) in your bathroom and one (1.5gpm) in your kitchen to help save water. Will fit most faucets (might not fit some specialty ones).



### Water Leak Detection Dye Tablets

Drop in your toilet tank to identify leaks. (Keep out of reach of children—Do not eat!)



### Water Flow Rate Bag

Find your true flow with this great rate bag!



# Light Emitting Diodes (LEDs)

- Lighting can account for 22% of home's electrical.
- LEDs are up to 70% more efficient than regular incandescent bulbs.
- Use 10% of energy an incandescent bulb uses.
- Up to 3 times longer life span than incandescent!



# Let's compare some light bulbs...

- Incandescent: cheap, do not have a long life span, least efficient
- CFLs are efficient but take longer to brighten up due to the mechanism (not the most ideal and to get your money's worth)
- LEDs: are cost effective and most efficient in saving energy
  - Aside from bright white light, it also comes in multiple colors!



# Weatherstripping Foam Tape

- Improving the insulation of your home can save you up to 20% of heating/cooling costs.
- Heat/air circulation can easily be lost to the outside environment. Sealing gaps is the most effective way to save on heating/cooling.
- A well insulated home saves you money and is more comfortable





# Where else can you use the foam tape?



- Left: Heater closet needs to be air tight to the house
- Right: Access door to the attic (can find in the hallways/room's closet)
  - Prevent dust/debris flow and air circulation from the attic



# Air Leakage Issues



- (Disclaimer: additional consultation may be needed)
- Seal entrance to attics to prevent particles from entering home.
- Left: Attic
  - Nails that hold the frame are not sealed properly are gaps
- Right: Where the dry wall meets need to be air sealed
  - Holes where wires go in are not air sealed

# More air leakage issues



- 1<sup>st</sup>/2<sup>nd</sup>: Can light fixtures should not be touching insulation (can get very hot)
- 3<sup>rd</sup>: Tenmat covers over the light can
  - Oversize cover allows room for air while not touching the can (and won't burn)
  - This is so when you use AC/Heater, no air escaping into attic

# Outlet Gaskets

- Reduce infiltration
- Prevent air leaks that can result from poor wall insulation
- Save money and energy to make sure that air/heat is not being lost to other factors.





# Water Flow Rate Bag



- Are you using too much water?
- Especially important in California where we experience yearly wildfires and droughts.
- Use the Flow Rate Bag as a tool to identify if faucets aerators or shower heads need to be replaced.
- Measure the rate that water flows from faucets and shower heads.
- Low-Flow Fixtures:
  - Bathroom sink: 1.0gpm
  - Kitchen sink: 1.5 gpm
  - Showerhead: 2.0 gpm

(refer to Guidebook)



# Low Flow Shower Head & Faucet Aerators

- Reduce water waste

## Additional Tools:

- Rubber bands → prevent scratching the shower head/ aerators during installation
- Plumbing tape → prevents leaks in faucets and showerheads





# Water Leak Detection Dye Tablets



- Drop tablets in toilet tanks to identify leaks
- A running toilet can waste as much as 200 gallons of water per day!
  - Average American uses 17 gallons of water for an 8 minute shower. 200 gallons of wasted water equates to 11 showers.
- Waterwise toilet has 2 different flush settings.



# Any questions?

We will also have time at the end for any additional questions.



# Toolkit Contents: Stuff to Bring Back

- “Stuff to Bring Back” are tools patrons will need to return to the Library.
- Each toolkit contains one of each of these tools.
- All toolkit contents are listed in the Guidebook (pg.5).

## Stuff to Bring Back: Cool Tools



### Kill-A-Watt® Meter

This tool measures how much energy your appliances and equipment use.



### Infrared Laser Thermometer

This tool finds heat loss in trouble spots like windows, vents, and door jambs.



### Refrigerator Thermometer

This tool lets you check the temperature of your refrigerator and freezer.



### Thermometer

Checks the temperature of your hot water supply.



### Pliers

Use these pliers to replace old showerheads and faucet aerators.



### Pipe Thread Seal Tape (plumber's tape)

This tape prevents leaks in your faucets and showerheads. Use what you need and return the rest.

# Thermometer

- Heating water accounts for up to 50% of natural gas use in a home.
- Check temperature of hot water supply (set at 120°)
  - 140°/above can cause burns or death
- Insulate tank and water pipes to help conserve energy.



# Save Water and Energy



- Save water and energy that goes into water heating.
- Alternative options:
  - Tank-less water heater
  - Electric heat pump water heater (takes heat from the surrounding air)



# Kill-A Watt Meter



- Consumer electronic products accounts for up to 15% of electronic consumption in a typical California household.
- Small appliances can use energy even when turned off- as much as 75% may be used in standby or off mode!
  - Known as “vampire”/”phantom” loads- eliminating them is a great way to save energy
- Measure energy in both operating and standby modes
- Use for small and large appliances.



# Kill-A Watt Meter



- Left: New refrigerator
- Right: Outdoor pond

# Kill-A Watt Meter



- Left: Refrigerator label to find out how old the appliance is
  - Good idea to replace refrigerators that are ~10yrs/older
- Right: Can use to measure different appliances



# Infrared Laser Thermometer



- Detects heat gain and loss in areas that have poor insulation.
- Note the temperature differences- that is energy not being used efficiently for your home needs!
- A comfortable home is well insulated- cool in summer, warm in winter.

# Let's compare some temperatures...



Take a guess at what's being observed in one/both photos. Drop your answer in the chat box!







Take a guess at what's being observed in one/both photos. Drop your answer in the chat box!



# Get Involved

## Events and Training

[3c-ren.org/events](https://3c-ren.org/events)



## Energy Code Coach

[3c-ren.org/codes](https://3c-ren.org/codes)  
805.220.9991



## Home Energy Savings

[3c-ren.org/home](https://3c-ren.org/home)  
805.541.3806



# COMING SOON: Induction Cooktop

- Performs induction cooking by creating heat through magnets.
- Up to 80% more energy efficient compared to traditional ranges.
- Water can boil in less than 1 minute!





**Thank you!**

For more info:  
[3c-ren.org](https://3c-ren.org)

For questions:  
[info@3c-ren.org](mailto:info@3c-ren.org)



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