
WEBINAR
Heat Pumps:
Finding HVAC Experts
and Unlocking Rebates
December 11th
RESILIENT
CENTRAL
COAST
POWERED BY
Ecology
Action
3C-
REN

Agenda

Submit questions anytime through the Q&A button!

- 6:30-6:35: Resilient Central Coast resources
- 6:35-6:55: Heat pump overview, finding qualified contractors
- 6:55--7:10pm: Critical planning decisions
- 7:10-7:20pm: Accessing rebates
- 7:20-7:30: Q&A

Goals & Metrics

Activate 500,000 residents on the central coast by 2030
to take climate action and better prepare for climate change impacts

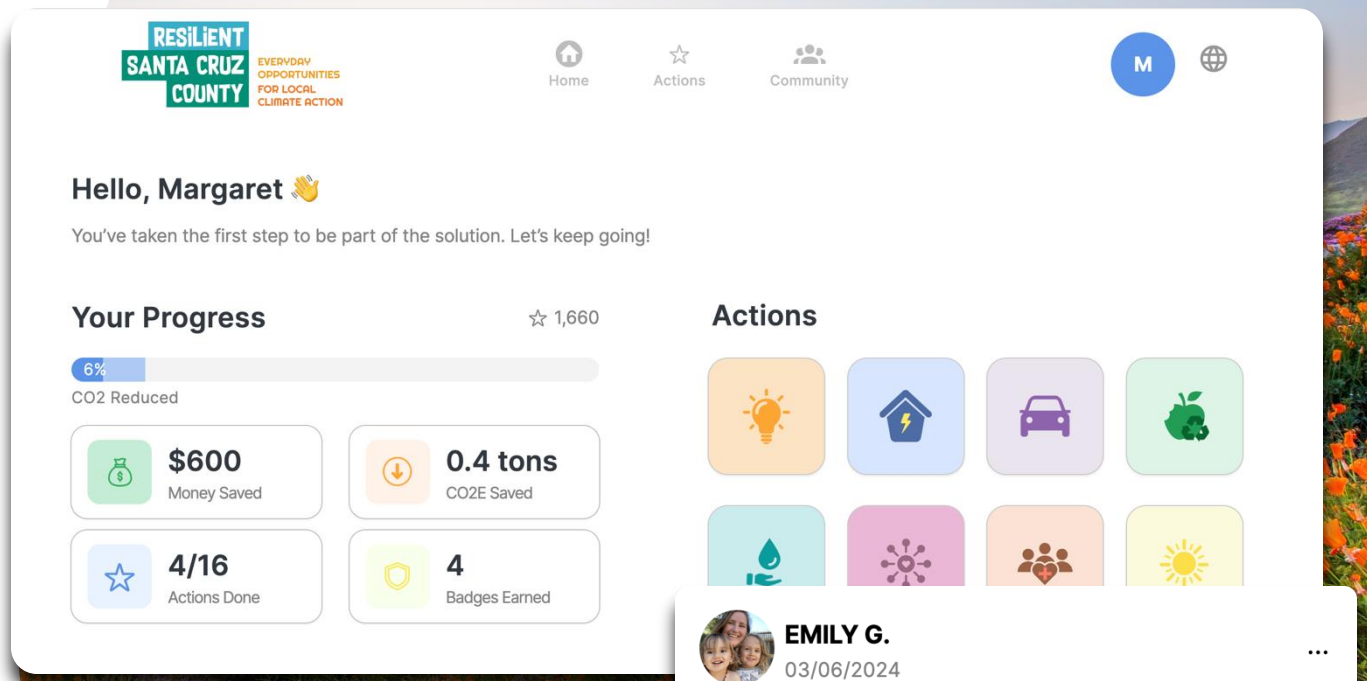
RESILIENT CENTRAL COAST

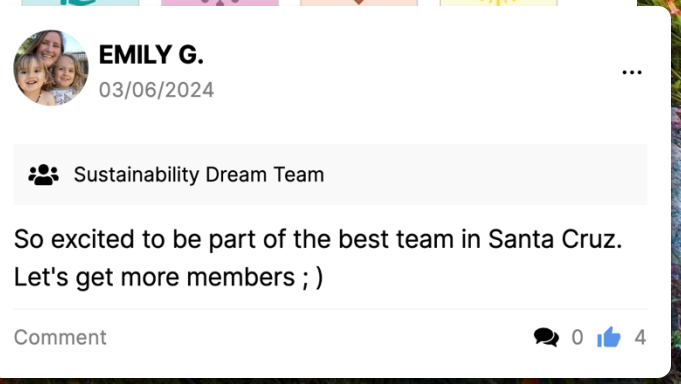
Currently, 3000+ households participating!

- **10,000 climate actions committed/completed**
- **313 metric tons of CO2 reduced**
- **760,000 gallons of water saved**
- **61,000 KWh saved**
- **$114,000 in utility savings**
- **25 partners across 6 counties help drive this initiative!**

Platform Highlights

- Nearly 100 household actions, Eng/Sp
- Robust carbon calculator
- Local- and household-specific metrics
- Immediate feedback about savings while connecting with others
- Upcoming events and learning opportunities
- Matches residents to rebates





Join the platform

- Select your County on the landing page: resilientcentralcoast.org
- Enter email, city & household name
- Complete profile survey (anytime)

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How to find a good HVAC contractor

And how to work with them to get the best results

electrifynow.net

Go Electric! - benefits for homeowners

Lower energy bills
Cleaner indoor air
More comfort
Increased safety
Lower air pollution and carbon pollution

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Electricity
3-6 Tons CO2e/yr

Gas Car
4–8 Tons CO2e/yr

Gas Furnace
4–8 Tons CO2e/yr

Gas Water Heater
1–3 Tons CO2e/yr

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Why HVAC contractors?

Every home is unique
Heat pumps come in lots of variations
Not all contractors are experienced and enthusiastic about heat pumps
A good contractor will ensure you get the best solution for your home

Today:
How to find qualified installers
What to expect them to do
How to compare quotes

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Heat Pump Components

Lots of variables…

Outdoor Unit

Efficiency, Size, Noise, Capacity,
Staged vs Variable Speed,
Temperature Operating Range

Indoor Air Handler

Size, Capacity,
Staged vs Variable Speed Fan,
Optional Heat Strips

Ductless Components

High wall,
Low wall,
Cassettes

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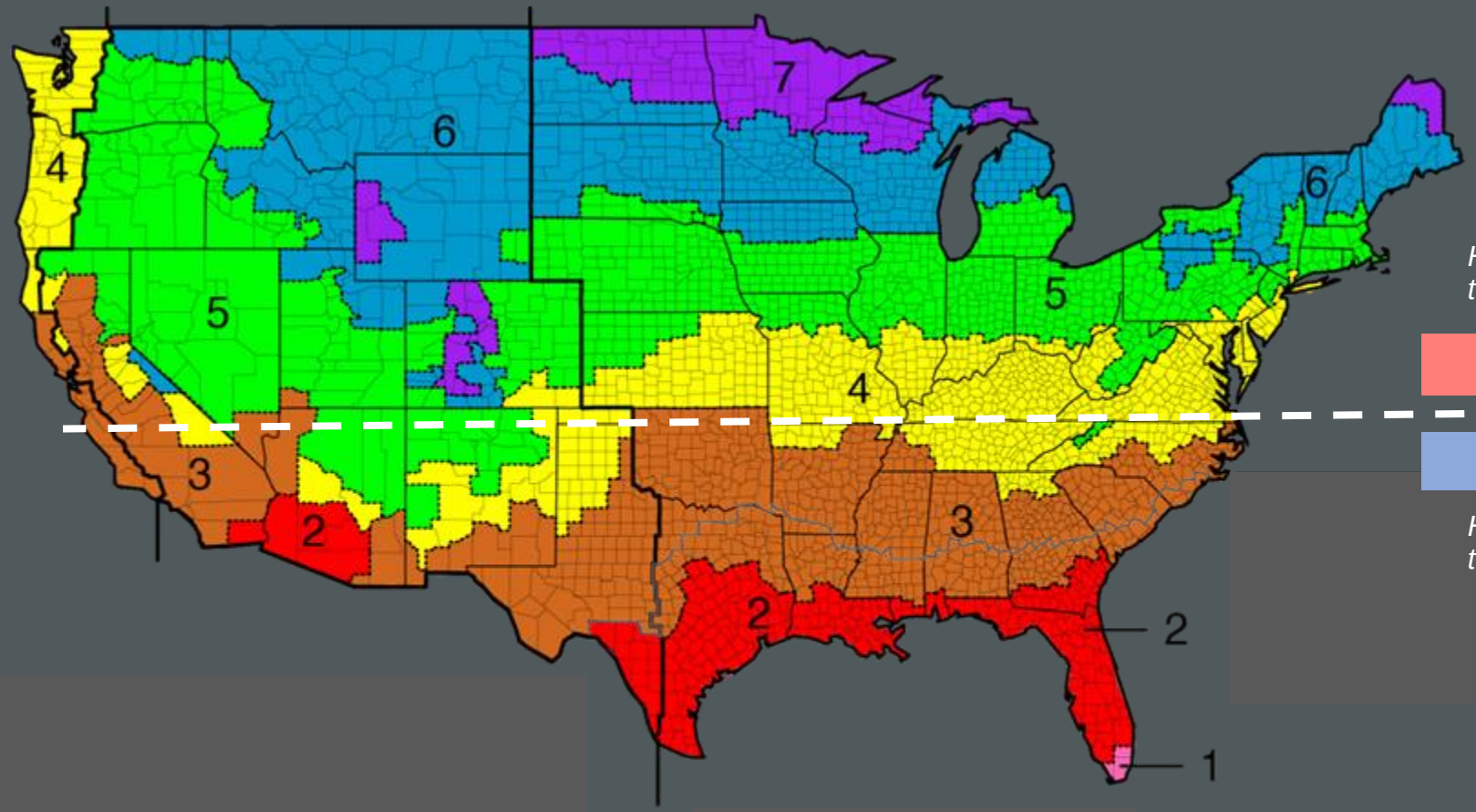
Heating versus Cooling Optimization



HVAC systems spend most of the time heating

Heating Dominated Areas

Cooling Dominated Areas

HVAC systems spend most of the time cooling

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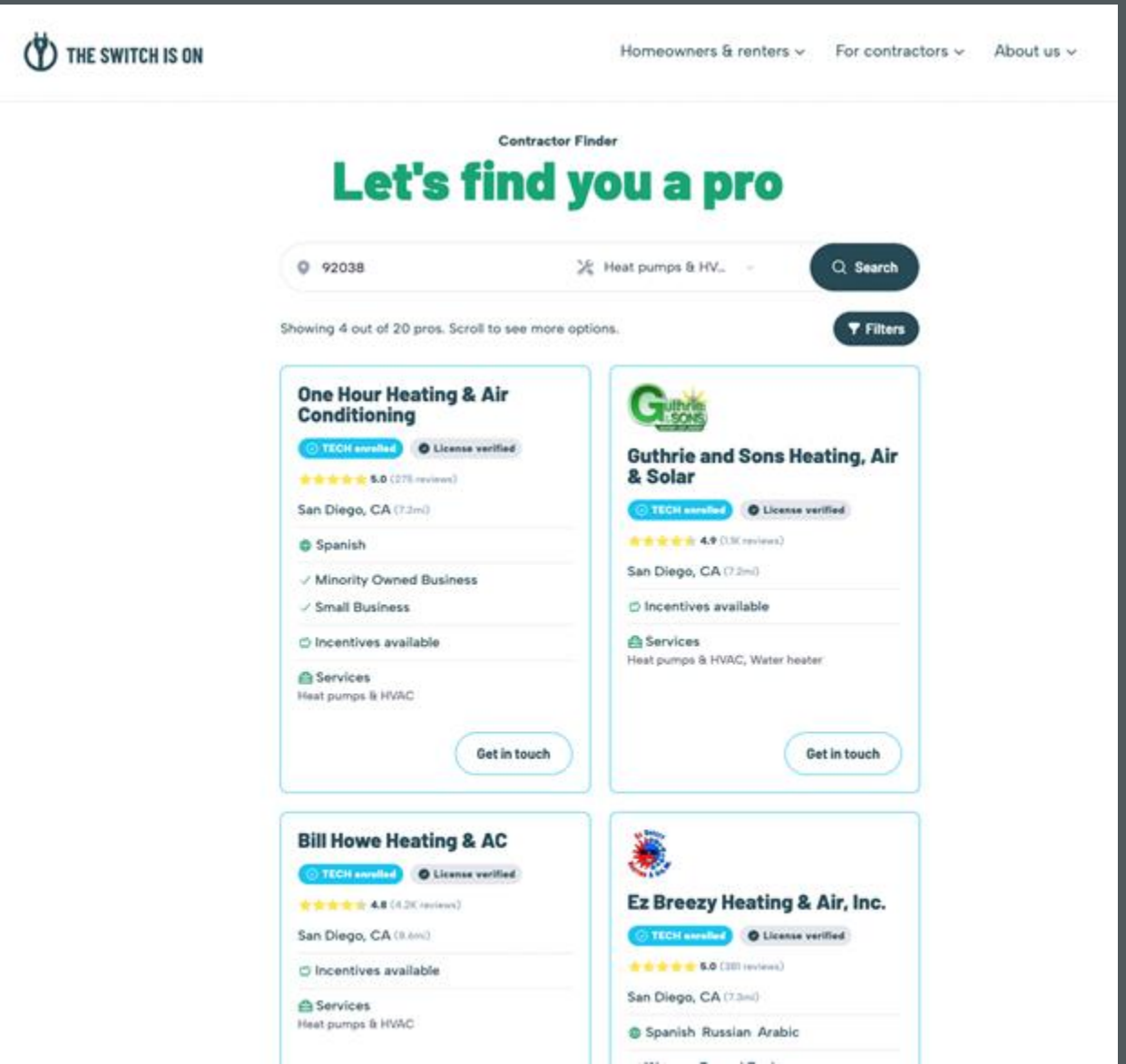
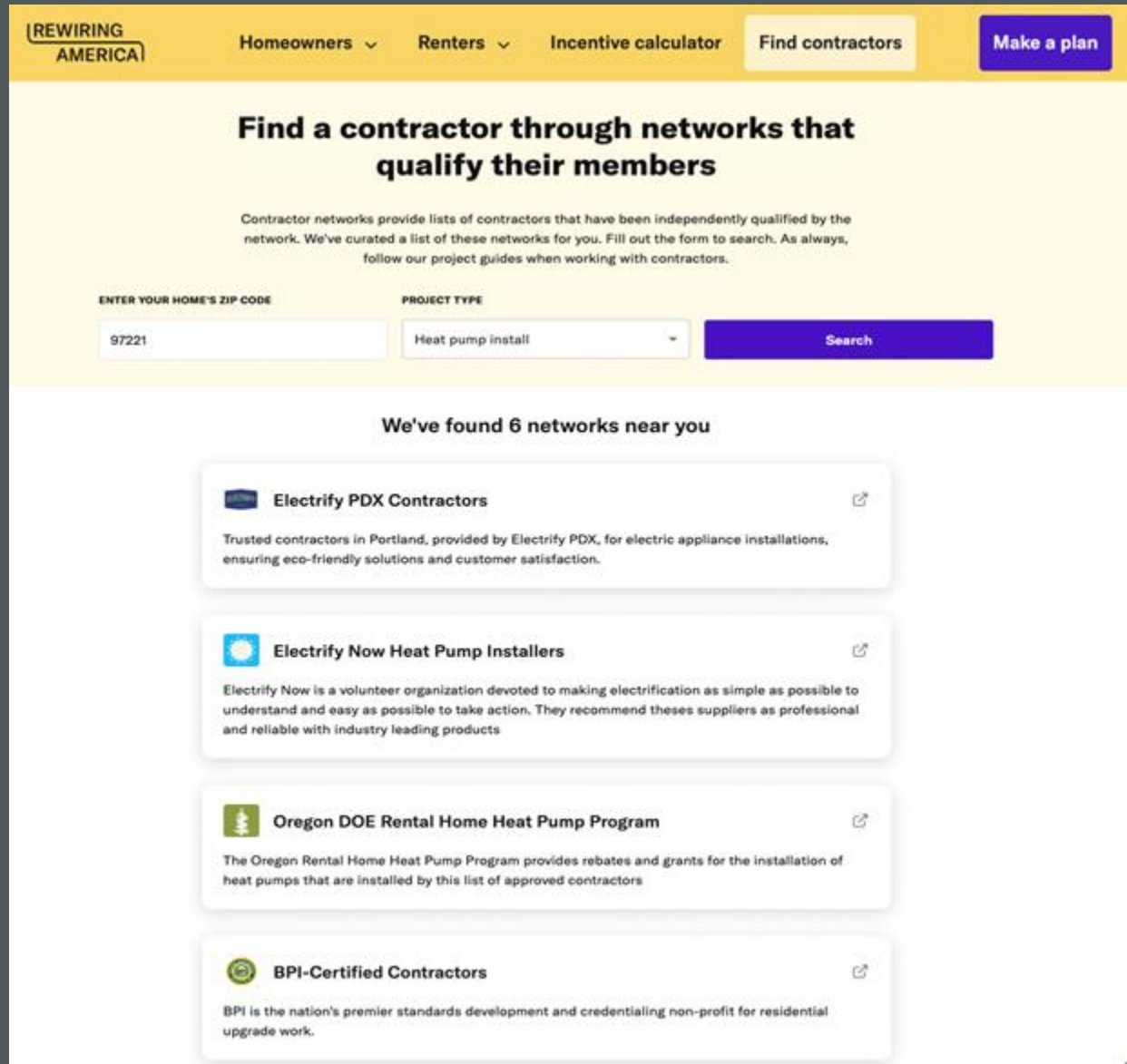
Get quotes from 3 contractors

California: switchison.org

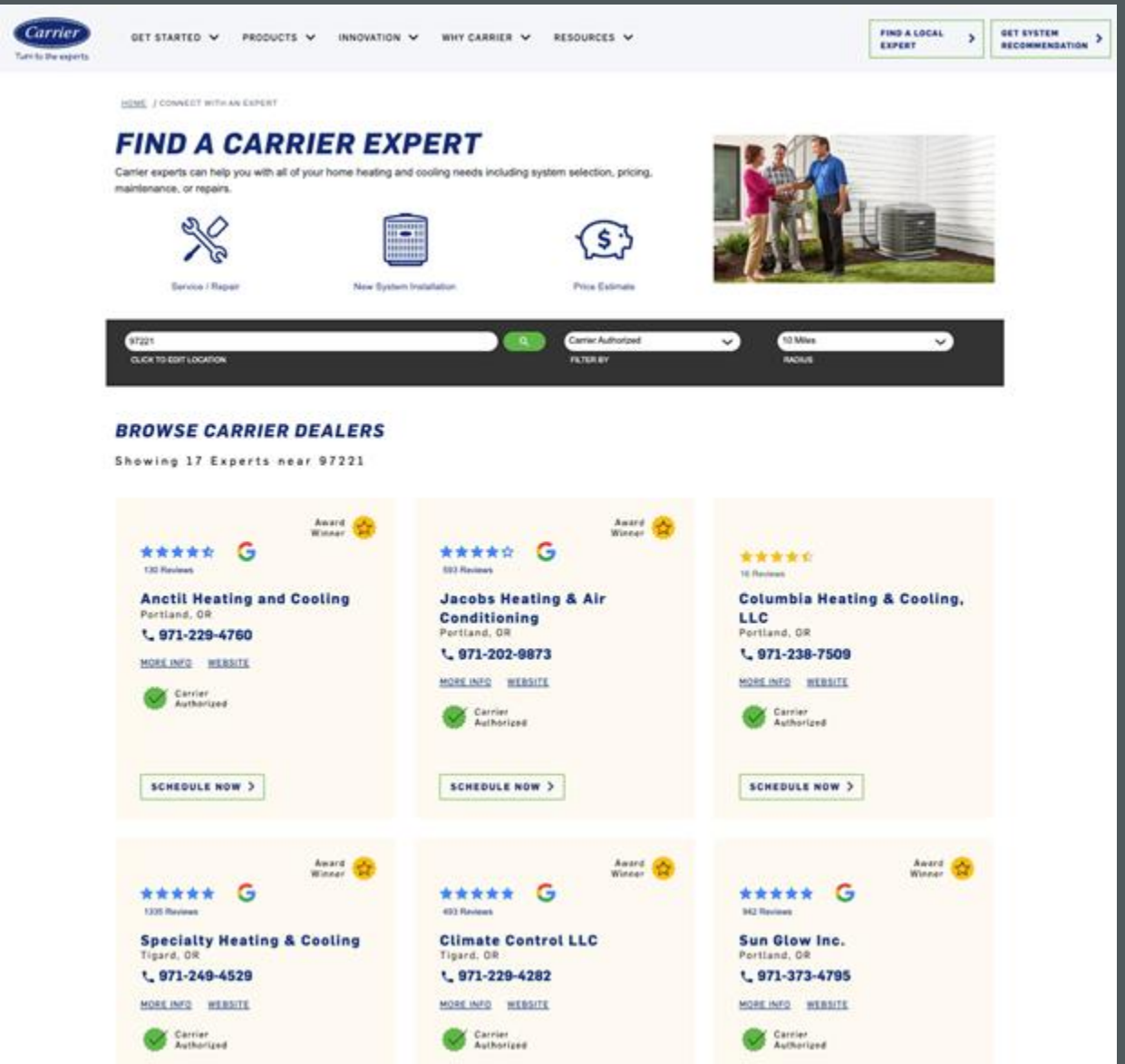
USA: homes.rewiringamerica.org



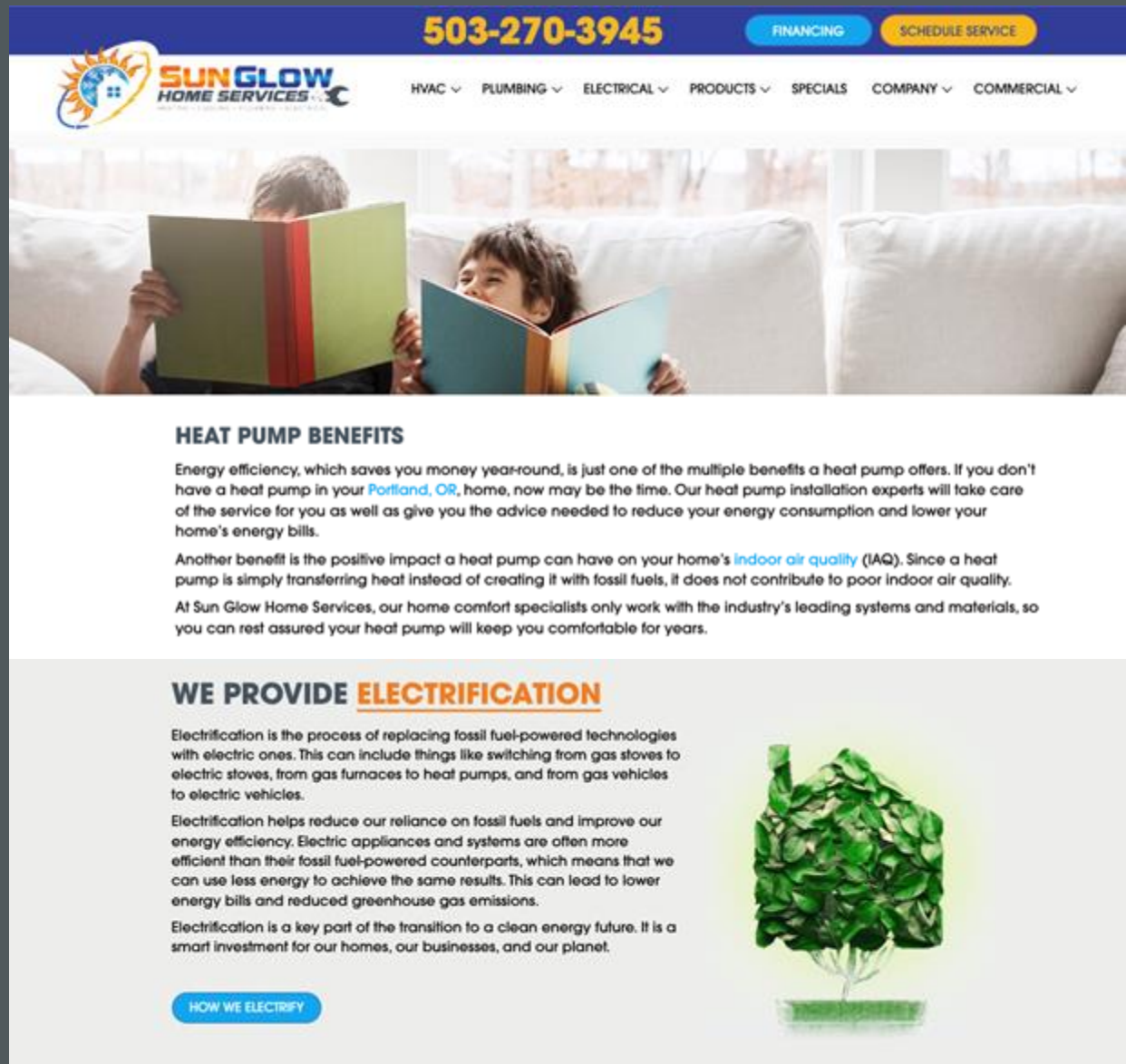


Get quotes from 3 contractors

Authorized Dealers



Website should promote HP benefits



Expect them to evaluate your home

Insulation
Ducts
Windows and Doors
Electrical Panel Capacity and Space for New Circuits
Current HVAC system

Tell them about your future plans

You might be able to save money by combining electrical work

Heat Pump Water Heater

Induction Range/ Cooktop

Electric Fireplace, HP Dryer

Electric Vehicle

Ask lots of questions

Get written answers so you can compare quotes

Where will the external unit be placed? How noisy is it in decibels? Will it have a 4” air filter?

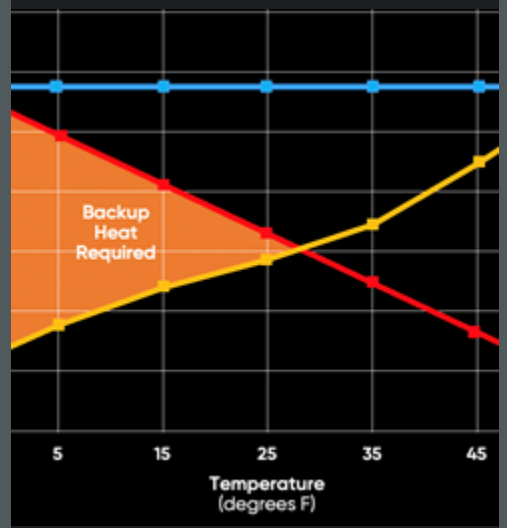
What are the efficiency ratings for the system?

HSPF2
Heating Seasonal Performance Factor 8.1+

SEER2
Seasonal Energy Efficiency Ratio (cooling) 15.2+

What is the coldest temperature the system will operate in? Will it need back-up electric heat?

Avoid gas backup
Mimimize electric backup



Will this system qualify for IRA tax credits and other incentives? Do you offer financing?

THE SWITCH IS ON

California Incentives

REWIRING AMERICA

Federal Incentives

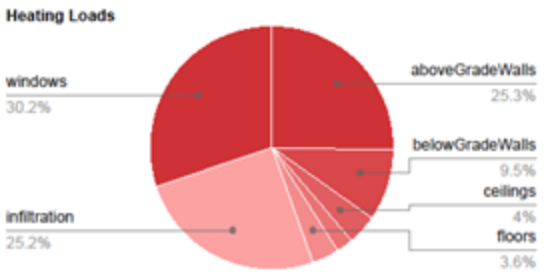
Could the Heat Pump be installed without upgrading my panel?

Ask to see a load calculation

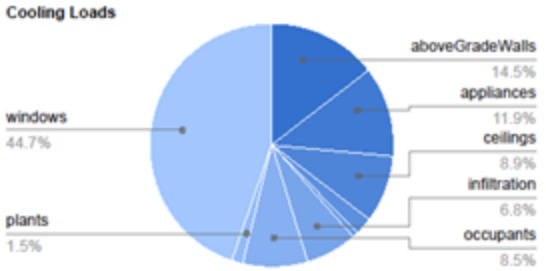
Make sure they did one….

HEATING AND COOLING LOADS

HEATING LOADS		
SECTION	AREA	HEAT LOSS
aboveGradeWalls	1,792.9	10,506
belowGradeWalls	566.4	3,948
ceilings	910	1,642
doors	48	925
floors	930.7	1,482
infiltration	0	10,488
skylights	0	0
windows	340	12,546
Totals		41,536



COOLING LOADS			
SECTION	AREA	SENSIBLE	LATENT
AEDExcursion	0	0	0
aboveGradeWalls	1,792.9	2,932	0
appliances	0	2,400	0
belowGradeWalls	566.4	0	0
ceilings	910	1,802	0
doors	48	474	0
floors	930.7	152	0
infiltration	0	1,364	0
occupants	0	920	800
plants	0	0	300
skylights	0	0	0
windows	340	9,009	0
Totals		19,053	1,100



OUTDOOR DESIGN CONDITIONS

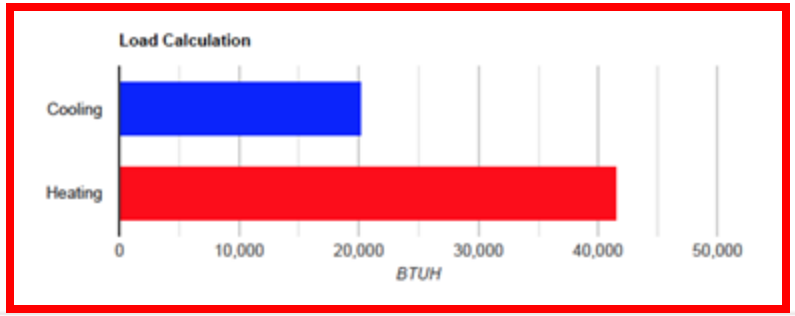
Weather station: Portland IAP

Summer Outdoor F:	87	Summer Indoor F:	75	Design Grains:	0	Daily Range:	Medium
Winter Outdoor F:	29	Winter Indoor F:	70	Cooling RH:	50	Elevation (Ft):	108

LOAD CALCULATION TOTALS

HVAC System: Central

Heated square footage:	2,252	Heating BTUH:	41,536
Cooled square footage:	1,458	Cooling BTUH:	20,153
Heated volume (above grade CF):	14,140	CFM:	962
Cooled volume (above grade CF):	12,551	Sensible cooling:	19,053
Exposed wall area (SF):	2,181	Latent cooling:	1,100
		SHR:	0.945



Approved ACCA MJ8 Calculations

Calculations are based on the ACCA Manual J 8th Edition and are approved by ACCA. All computed calculations are estimates on building use, weather data, and inputted values such a R-Values, window types, duct loss, etc. Equipment selections should meet both the latent and sensible gain as well as building heat loss.

Powered by ACCA MANUAL J

Compare Quotes

Cost:	**Contractor A**	**Contractor B**	**Contractor C**
Total Install Cost	$21,406	$21,502	$23,505
- Incentives	- $2,000	- $1,000	- $1,000
- Promotions	- $2,500	- $1,600	- $3,000
- Federal Tax Credits	- $2,000	- $2,000	- $2,000
Total	**$15,906**	**$16,902**	**$17,505**
System Performance:	9.5	**10**	8.5
HSPF 2	15.5	**16**	16
SEER 2	65	68	73
Max Decibels			
Load Calc Results			
Max Heating Load (BTUs)	34,000 BTU	42,000 BTU	Did Not Provide
Max Cooling Load (BTUs)	17,500 BTU	20,000 BTU	Did Not Provide
System Size/Capacity			
Max Capacity (BTUs)	36,000 BTU	36,000 BTU	48,000 BTU
Size (1 ton = 12,000BTUs)	3 Ton	3 Ton	4 Ton
		Heat Strips	

Resources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Home
How To Electrify
Take Action / Resources
Electrify Stories
Webinars
Calculator
Facts
ABOUT - CONTACT
Take Action!
AVOID 3-6 TONS CO2/YR
SIGN UP FOR COMMUNITY SOLAR
AVOID 4-8 TONS CO2/YR
INSTALL A HEAT PUMP
AVOID 1-3 TONS CO2/YR
INSTALL A HEAT PUMP WATER HEATER
AVOID INDOOR AIR POLLUTION
SWITCH TO INDUCTION COOKING
MAKE A HOME ELECTRIFICATION PLAN
SAVE THOUSANDS OF DOLLARS
INCENTIVES
AVOID OVER 100 LBS CO2/YR
SWITCH TO ELECTRIC GRILLING
AVOID OVER 200 LBS CO2/YR
DITCH THE GAS POWER TOOLS
AVOID OVER 100 LBS CO2/YR
INSTALL AN ELECTRIC FIREPLACE
AVOID 3-6 TONS CO2/YR
INSTALL ROOFTOP SOLAR / STORAGE
AVOID 4-8 TONS CO2/YR
BUY AN ELECTRIC VEHICLE
HOW TO SURVIVE A POWER OUTAGE


How to find a good HVAC contractor
Upgrading your HVAC system is a big investment, and you want to hire a trustworthy contractor to do the work. The right HVAC contractor will ensure you get the best solution for your home and avoid problems like installing the wrong equipment or installing it incorrectly.
A good installer will have installed a lot of heat pump systems, and will be enthusiastic about their advantages. They will be able to specify the right system for your home, help with incentives and give you good advice about any weatherization or air sealing problems that you should address.
Tips for selecting a good contractor
Get quotes from three contractors
Get and compare three similar bids from reputable contractors so you can better assess quality and price.
Expect them to evaluate your home
They should assess your insulation, ducts, windows and doors, electrical panel capacity, & current HVAC system.
Ask lots of questions
Get written answers so you can compare approaches and expertise while you're comparing quotes. See the next page for a list of suggested questions.
Ask about incentives
Good contractors will be familiar with local, state and federal incentives that can save you thousands of dollars. Do your own incentive research as well to make sure you save the most.
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Finding Contractors
SwitchisOn.org
Available in California and Washington with a searchable database of electrification-friendly contractors.
Rewiring America
This national online tool links you to qualified contractor networks in your Zip Code.
Check contractor websites for positive messaging about heat pumps and electrification.
Tell them about your future plans
If you plan to make other upgrades, like installing a heat pump water heater, induction range, or EV charger, you may able to save money by combining the electrical work into a single project.


Questions to ask your HVAC contractor
Make sure you get the best solution for your home.
Will you assess the insulation and weatherization of my home?
If they don't look in the attic or crawlspace to assess the insulation of your home, and look for obvious air sealing problems, don't hire them.
Will you do a load calculation to determine the size system I need?
Ask to see it. If they can't show you a print-out of the calculation, they probably did not do one. If they didn't do a load calculation you shouldn't work with that contractor because they will not know how to properly size your equipment.
Are the ducts in my home operating effectively in all the rooms?
Make sure they inspect the ducts and ask them what they found. In many cases, simple fixes to existing ductwork can dramatically improve efficiency.
Where is the best place to locate the external unit?
You typically do not want this right outside of bedrooms or living areas if possible. External units come in different configurations and some are narrower so they can be used in smaller spaces or between buildings.
How noisy is the external unit?
Ask to see the loudness specs and compare them to other equipment to make sure you get a unit that is not too loud if that is a concern for you.
What is the efficiency of the system?
To compare systems, you will need to know the SEER rating for cooling and HSPF ratings for heating. The higher the numbers the more efficient the equipment is—that translates to better heating and cooling and lower operating costs. To ensure you can qualify for tax credits, your equipment must meet certain efficiency criteria—be sure to discuss this with your installer.
What is the coldest temperature that the heat pump will operate?
A high efficiency heat pump will operate down to 15 degrees and as low as minus 13 degrees. If it only operates effectively to 30 degrees or higher, that means you will need back up heating for those cold days. This can be avoided with more efficient equipment that is readily available.
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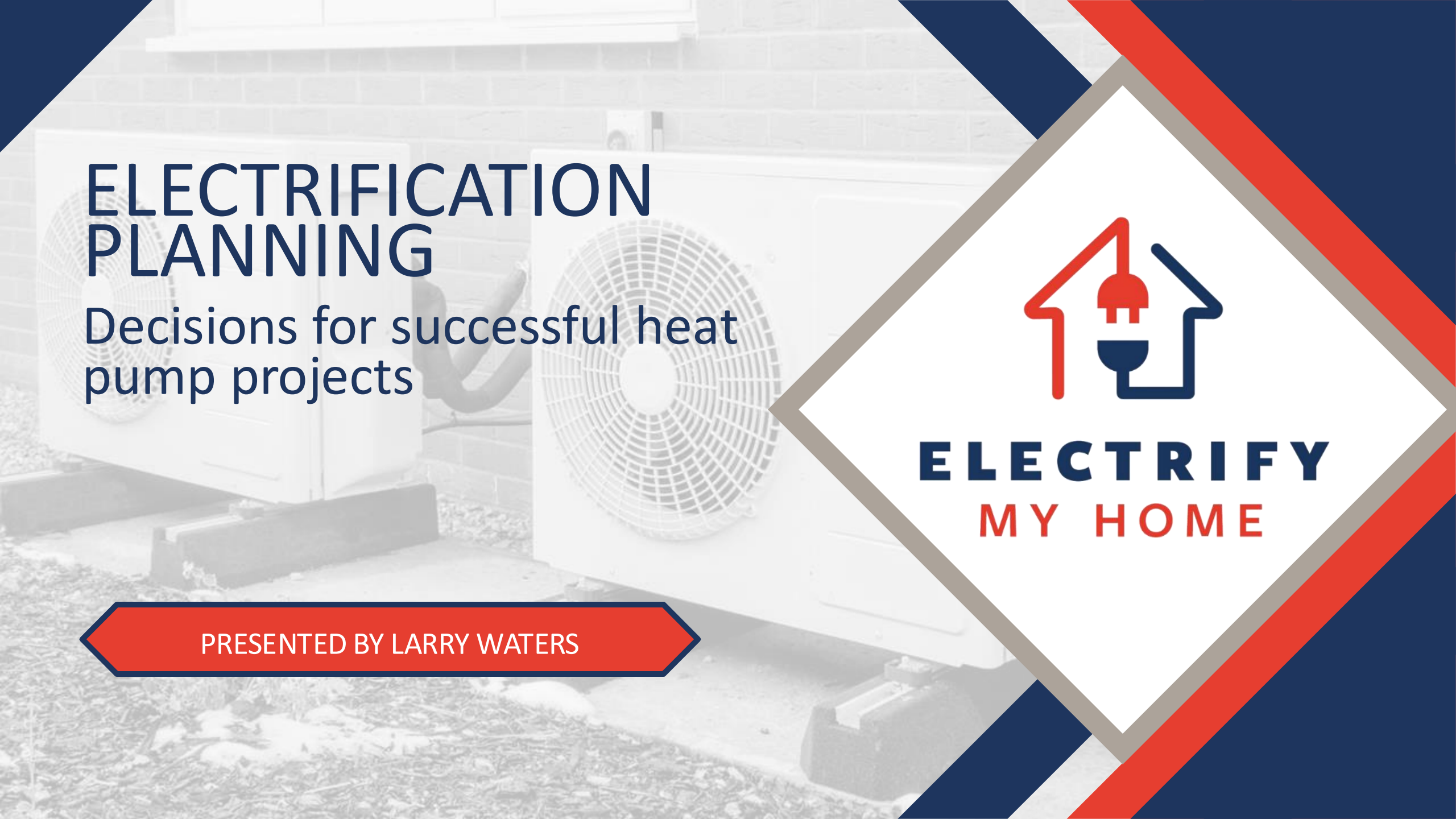


ELECTRIFICATION PLANNING

Decisions for successful heat pump projects

PRESENTED BY LARRY WATERS

ELECTRIFY MY HOME

Electrify My Home – Electrification Pioneers

Our Mission:

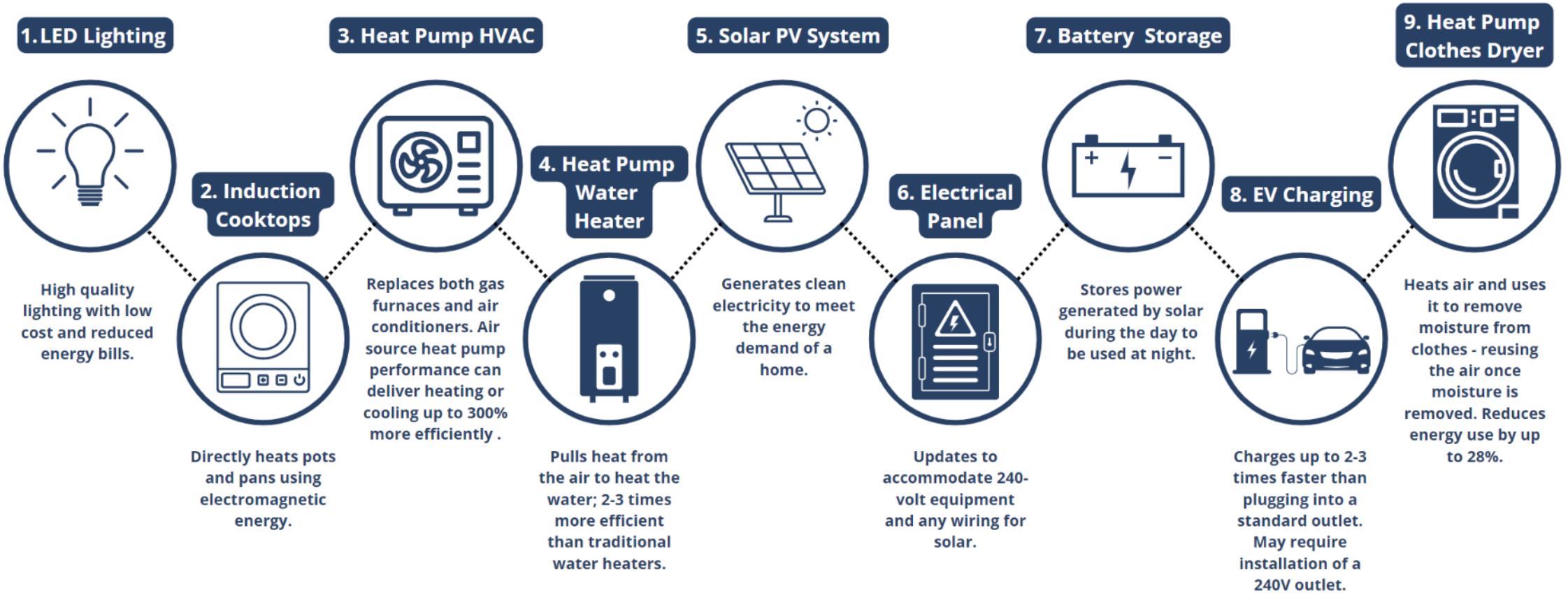
*To provide the **most efficient** cost-effective electrification solutions to California homeowners, to practice **good stewardship** of the electrical panel, and to **train and influence** other contractors to do the same.*

ELECTRIFY MY HOME

ORDER OF OPERATIONS

Essential planning steps to consider for a successful electrification journey

Start With The End In Sight!
Chart a Course & Plan Your Budget



TIMELINE:	Dec. '24	Dec. '24	Feb. '25	Jun. '25	Jun. '25	Jun. '25	Nov. '25	Jan. '26	Jan. '26
COST:	$250	$2,800	$19,500	$7,800	$19,150	$5,300	$18,300	$2,750	$850

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#1 - Fix Safety Issues (Part 1)

- Carbon Monoxide, Gas Leaks, Pressure Problems
- Identify – BPI Analyst
- May impact your electrification plan

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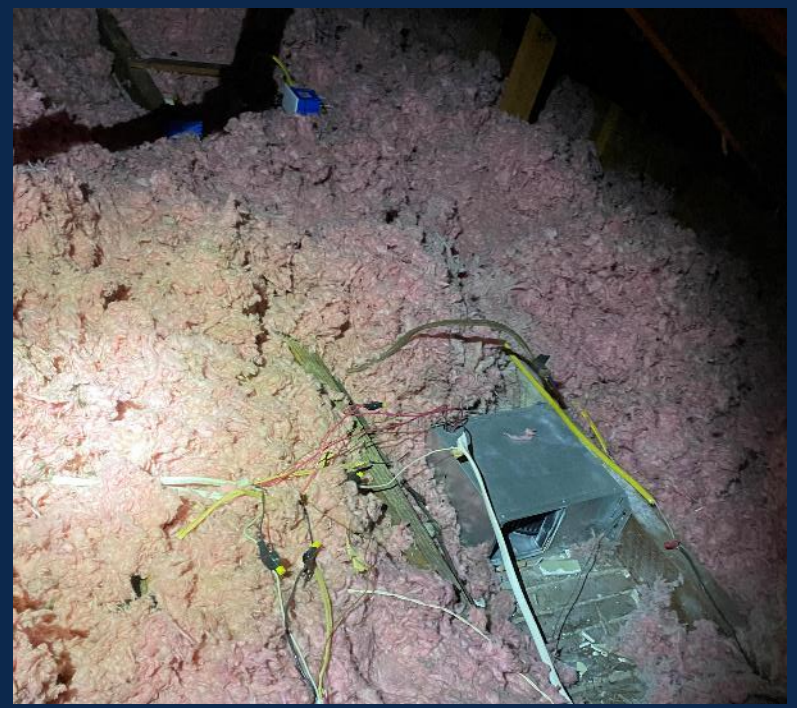
#1 - Fix Safety Issues (Part 2)

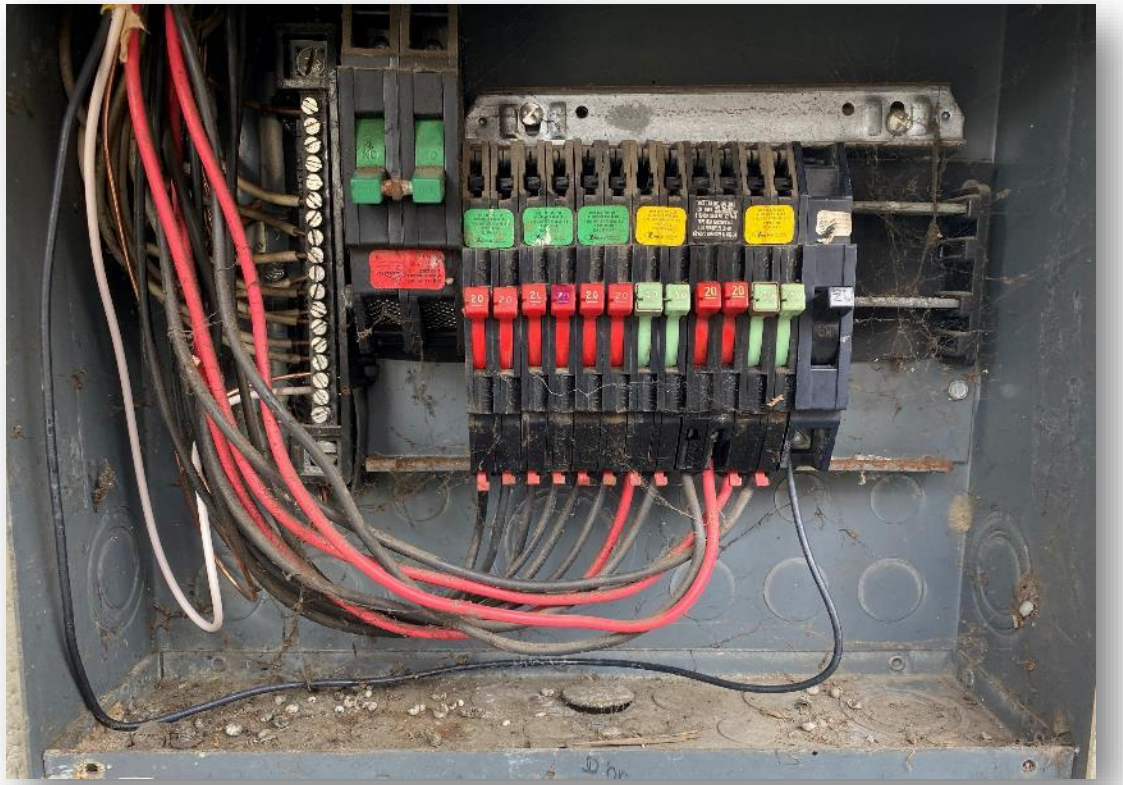
- Asbestos
- Mold/Organic Growth
- Rodents
- Wiring Hazards
- Ventilation Issues



#2 – Electrical Panel Assessment

Important Questions To Ask:

- What's the incoming service?
- How big is your main panel?
- How old is your panel?
- Evidence of burning/arcing?
- Is there space (physical & capacity)?
- Do you have subpanels?



Outcomes of This Exercise:

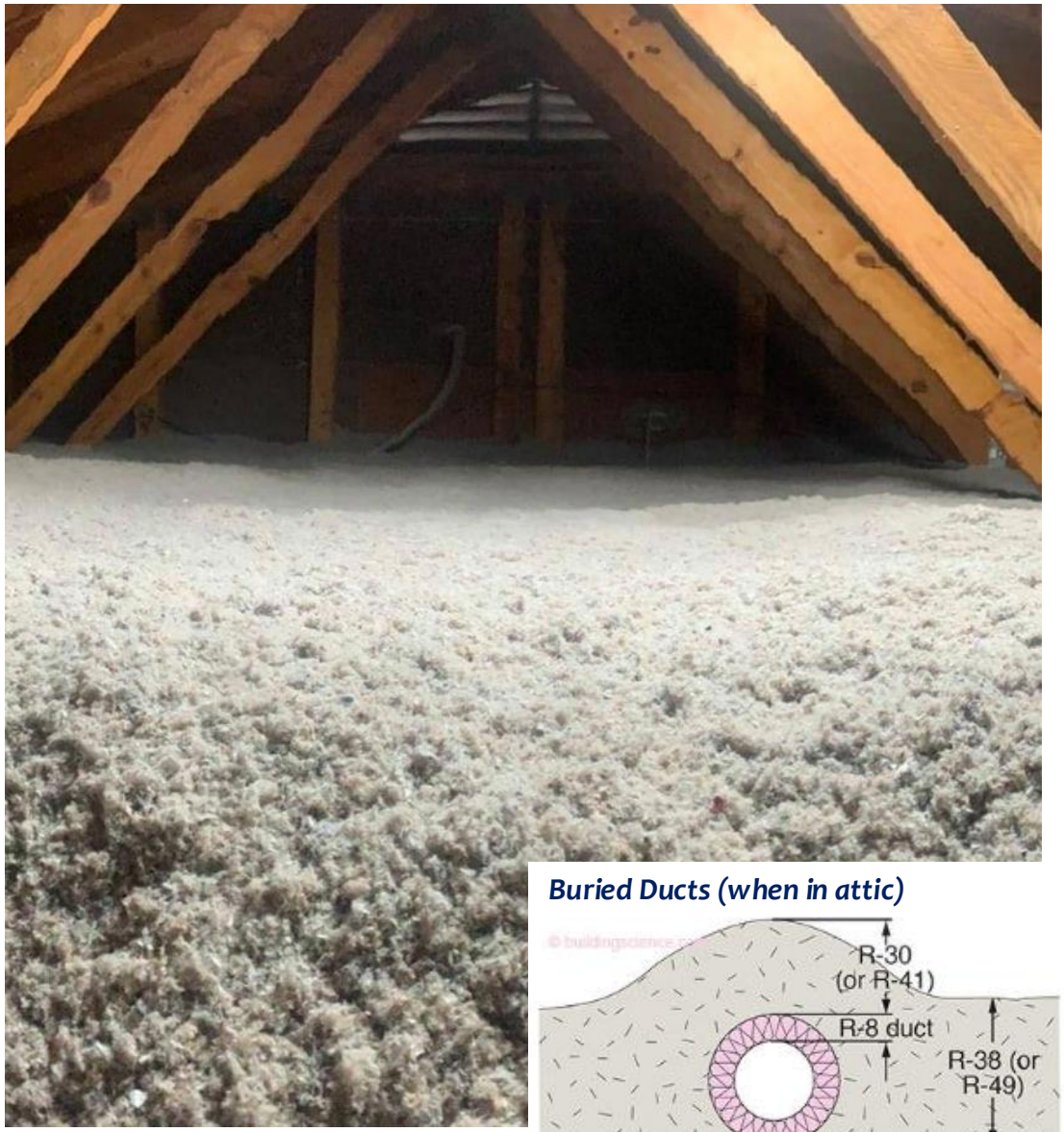
- Planned panel upgrade
- Additional attention to efficiency to minimize loads

#4 – Address Your Ductwork

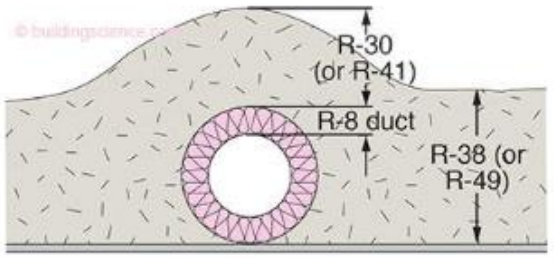
Why Aren't Systems Efficient? DISTRIBUTION, NOT SEER!

- Very low air flow
- Duct leaks: 30% on old systems
- Duct conductive losses
- Size always matters (equipment size, duct size, grille size, etc.)
- Air delivery problems
  - Not enough air
  - Not enough air speed
  - Air blowing on occupants

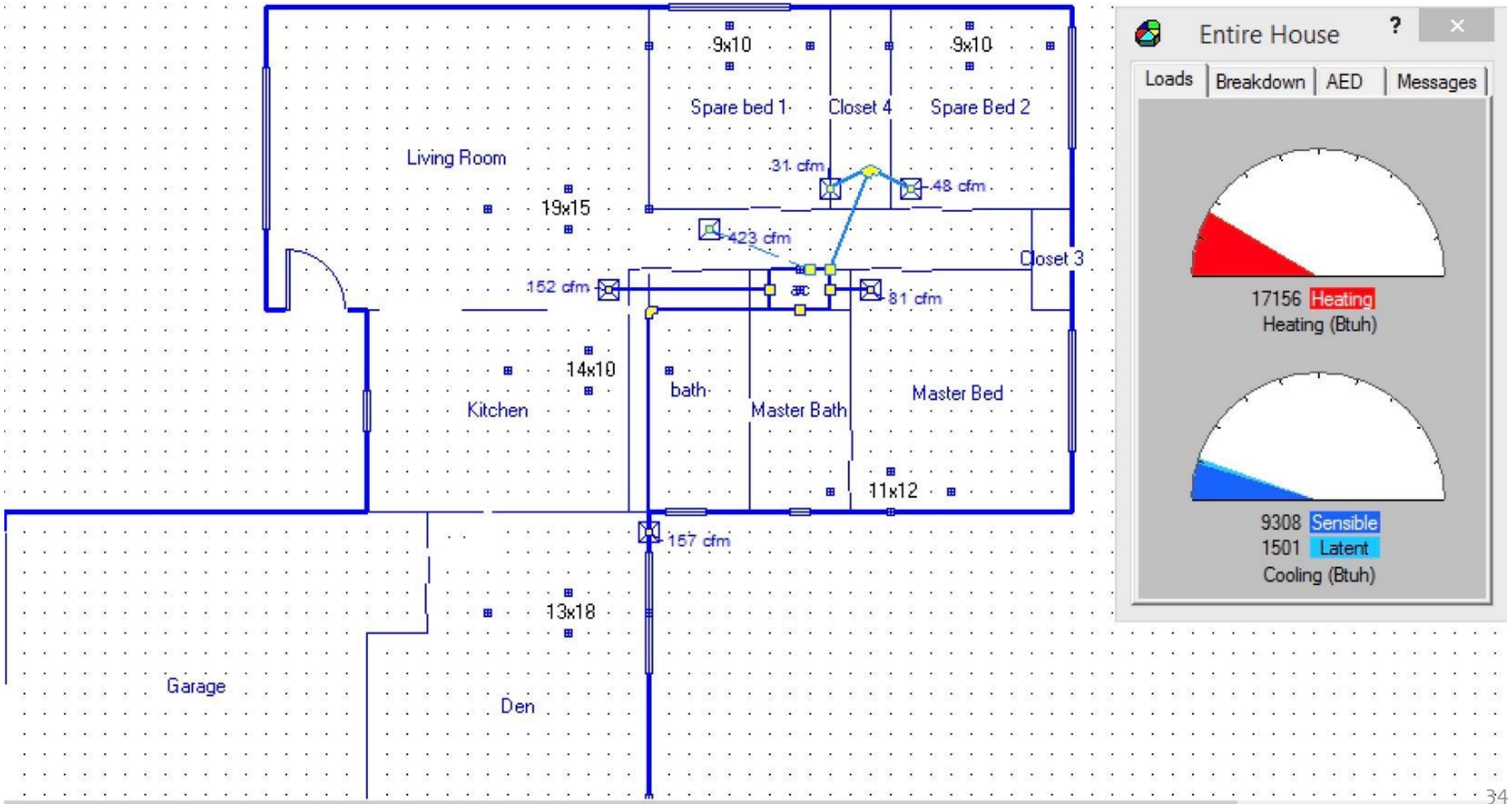
#5 – Improve Your "Envelope" (Air Sealing & Insulation)



Buried Ducts (when in attic)



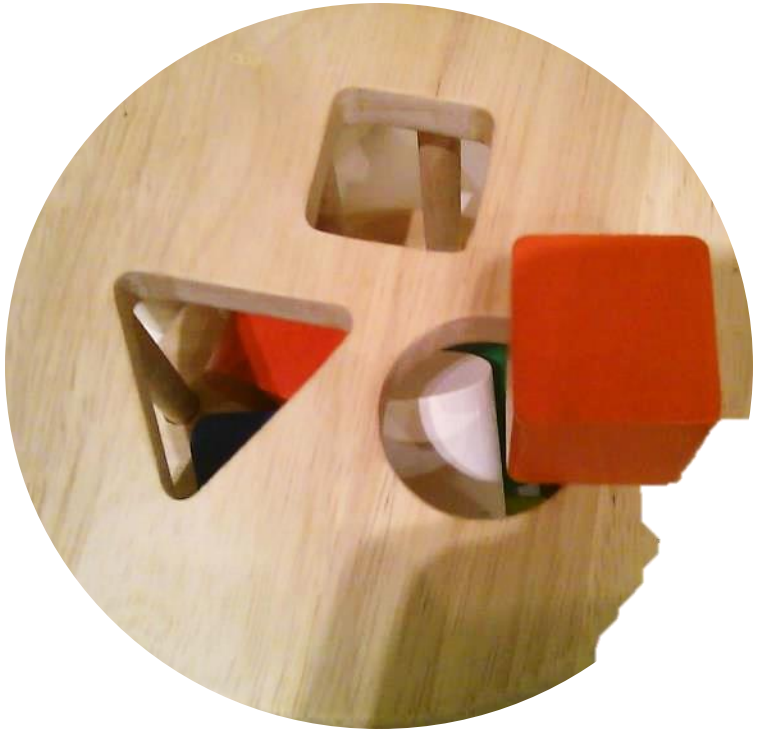
#6 – Perform an HVAC Load Calculation



Trying to “Plug & Play” Heat Pumps Can be Disastrous

Things we must keep in mind:

- Velocity
- Low temps
- Air blowing on occupants
- Sizing
- Panel Planning
- Educating customers
- Wrong registers



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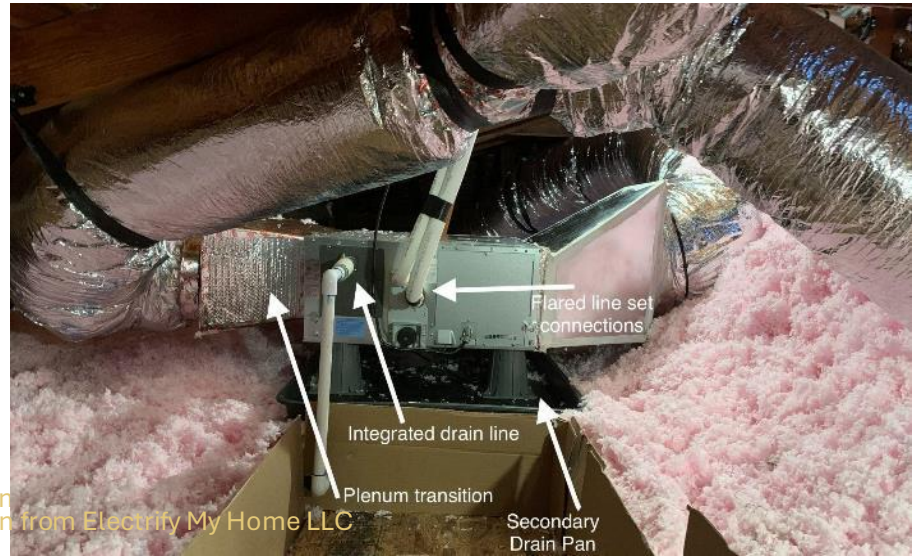
Good Workmanship Saves Money In the Long Run



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“Right sized” Heat Pumps Bring BIG Benefits

1) Better Comfort
2) Quiet
3) Enviro. Friendly
4) Safer
5) Indoor Air Quality

Questions?

Larry Waters | 707-840-3411
electrifymyhome.com | info@electrifymyhome.com

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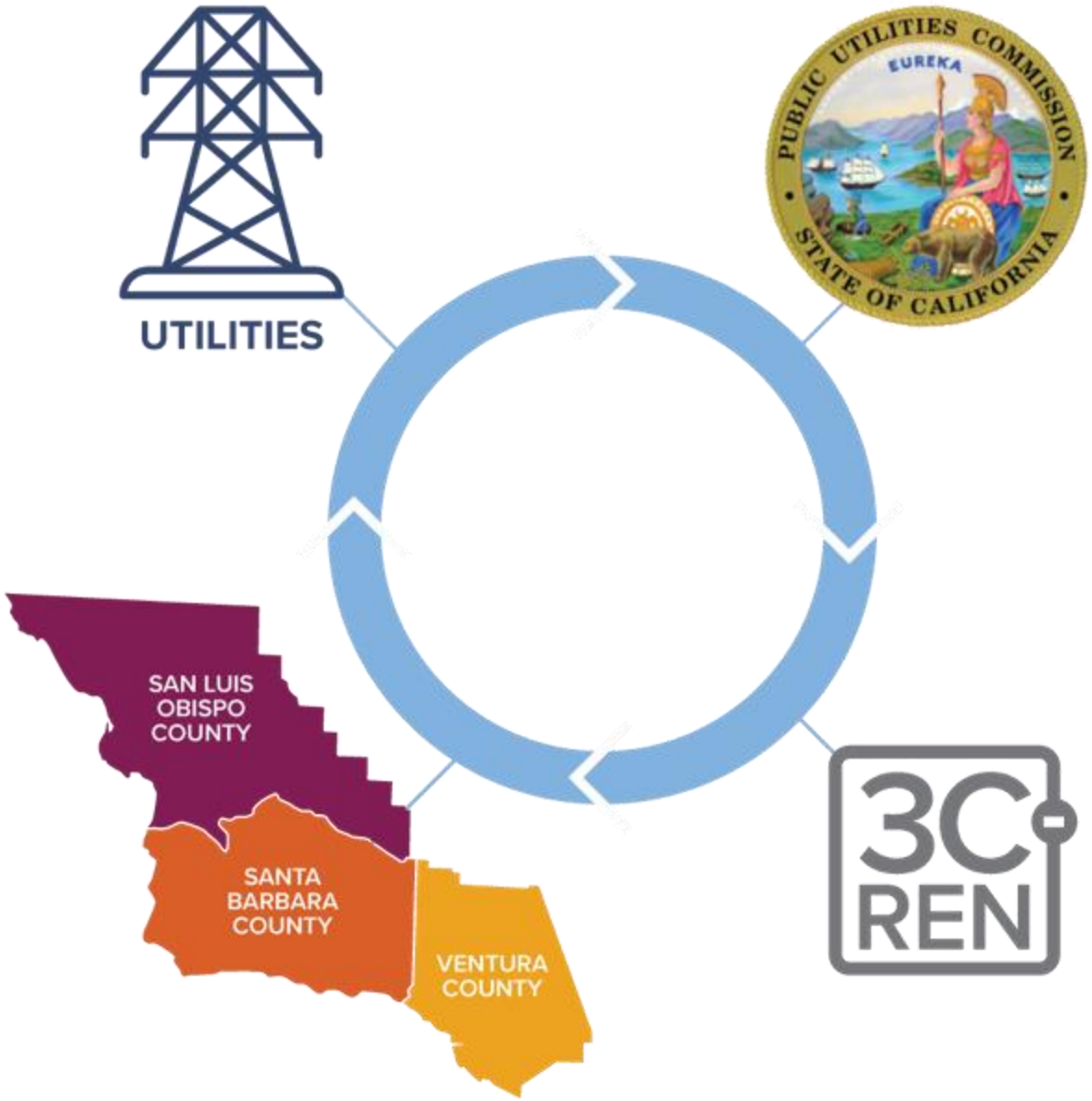
Stay in Touch!

Incentives, Rebates & Credits

Stacking Home Electrification Funding on the Central Coast

December 11, 2024 | Lori La Riva



Tri-County Regional Energy Network

3C-REN is a collaboration between the tri-counties

Our programs reduce energy use for a more sustainable, equitable and economically vibrant Central Coast

Our free services are funded via the CPUC, bringing ratepayer dollars back to the region

Our Services

Incentives

HOME ENERGY SAVINGS

3c-ren.org/for-residents
3c-ren.org/multifamily

COMMERCIAL ENERGY SERVICES

3c-ren.org/commercial

Contractors can enroll at
3c-ren.org/contractors

Training

BUILDING PERFORMANCE TRAINING

3c-ren.org/events
3c-ren.org/building

ENERGY CODE CONNECT

3c-ren.org/code

View past trainings at
3c-ren.org/on-demand

Technical Assistance

AGRICULTURE ENERGY SOLUTIONS

3c-ren.org/agriculture

ENERGY ASSURANCE SERVICES

3c-ren.org/assurance

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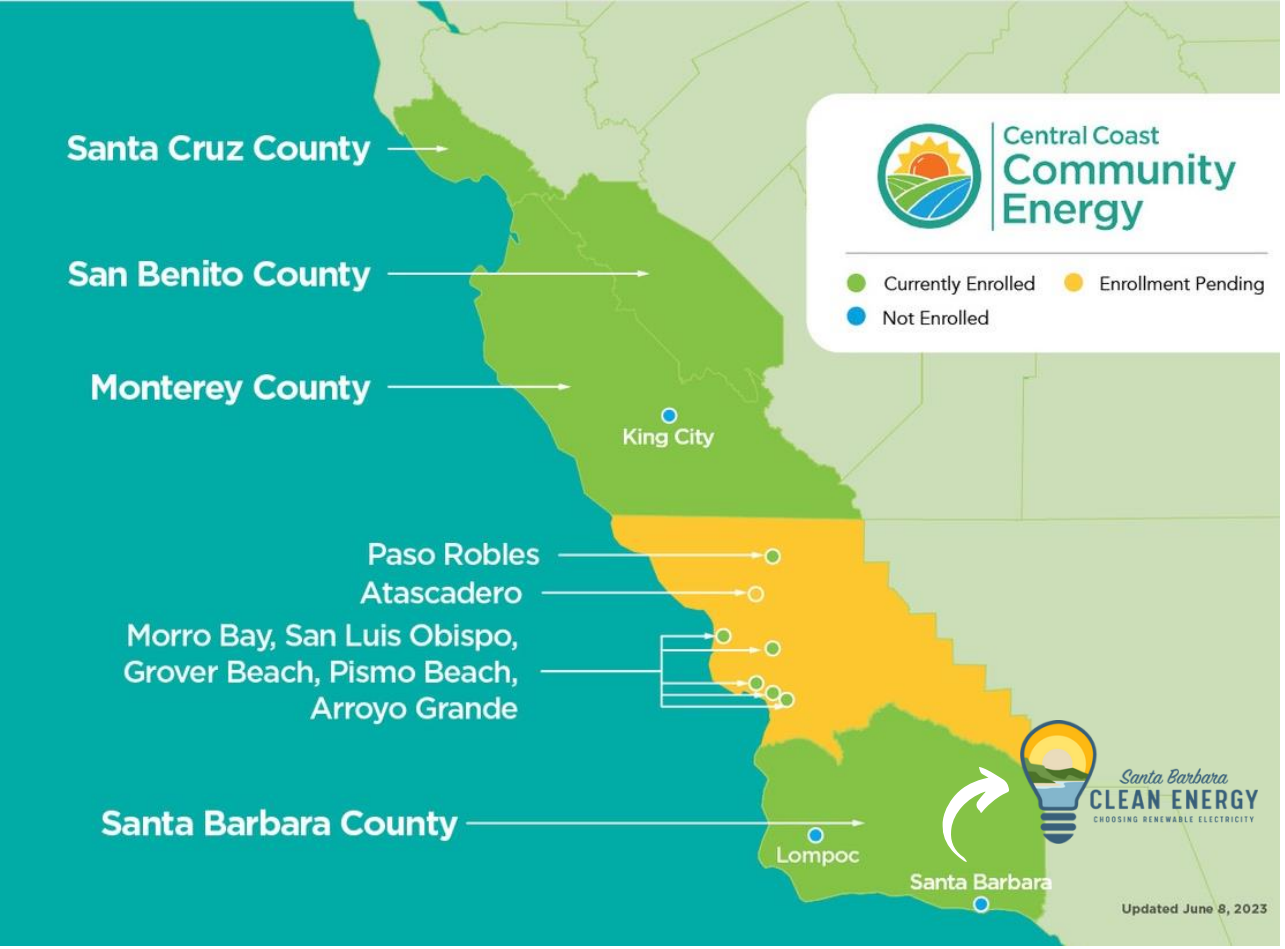
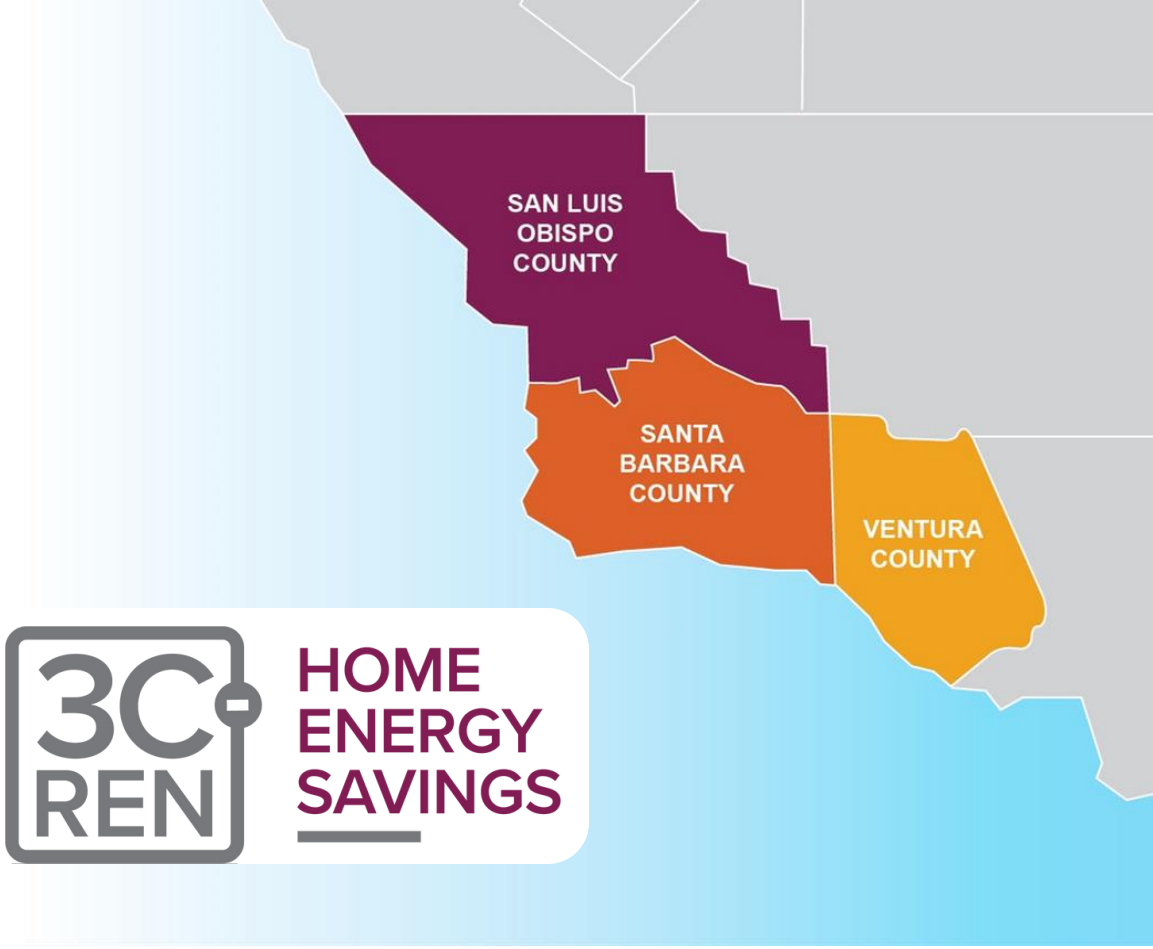
Stacking Incentives & Rebates





3C REN HOME ENERGY SAVINGS

TECH CLEAN CALIFORNIA

Golden State REBATES

HEEHRA Rebate
TECH CLEAN CALIFORNIA

Inflation Reduction Act (IRA) Tax Credits

Heat Pump HVAC Incentive Programs

TECH Clean CA
$1,000/$1,500
switchison.org
Available throughout California.

Home Energy Savings
~ $2,000-$10,000
3c-ren.org
Available for Tri-County residents.

3CE Electrify Your Home
$2,000-$4,000 (paired w/TECH)
3cenergy.org/rebates
Available for customers of Central Coast Community Energy (3CE).

Santa Barbara Clean Energy
$ TBD
Coming later in 2025
Available for SB Clean Energy customers, i.e. City of SB residents.

HEERHA
$4,000/$8,000 for income qualified
switchison.org
Available throughout California, funded by Inflation Reduction Act.

IRA Federal Tax Credit
30% of project cost, max $2,000
energystar.gov/about/federal-tax-credits

All programs can be combined with each other except 3CE and SBCE.
Higher incentives reflect equity, hard-to-reach, and project-specific adders.

Heat Pump Water Heater Incentive Programs

TECH Clean CA
$3,100+ for SoCal Edison region
$1,100+ for PG&E region
switchison.org
Available throughout California.

3CE Electrify Your Home
$3,300-$6,385 (paired w/TECH)
3cenergy.org/rebates
Available for customers of Central Coast Community Energy (3CE).

Golden State Rebates
$500-$900
goldenstaterebates.com
Available throughout California.
Can't combine with 3C-REN.

Home Energy Savings
~ $1,000-$3,500
3c-ren.org
Available for Tri-County residents.
Can't combine with Golden State.

Santa Barbara Clean Energy
$3,000+
sbcleanenergy.com
Available for SB Clean Energy customers, i.e. City of SB residents.

IRA Federal Tax Credit
30% of project cost, max $2,000
energystar.gov/about/federal-tax-credits

All programs can be combined with each other except 3C-REN and Golden State Rebates.
Higher incentives reflect equity, hard-to-reach, and project-specific adders.

TECH CLEAN CALIFORNIA

Heat Pump Incentives

- Accessed through TECH-enrolled contractors at SwitchIsOn.org
- For heat pump HVAC projects
- For heat pump water heaters
- For *related* panel costs
- Heat pump replacing any other fuel source
- Must enroll in demand response program and for water heater, also time-of-use rate

HEEHRA Rebate

TECH CLEAN CALIFORNIA

Heat Pump for HVAC

- Accessed through TECH-enrolled contractors at SwitchIsOn.org
- For heat pump HVAC projects
- Income Qualified:
  - Up to $8K for under 80% of Area Median Income (AMI)
  - Up to $4,000 for 80-150% AMI

Central Coast Community Energy

“Electrify Your Home” Incentives

- Partnership with TECH Clean California to provide additional funding in the 3CE service area
- Accessed through TECH-enrolled contractors in a single application for TECH+3CE
- For projects switching gas-powered **water heaters and HVAC** equipment to all-electric
- Can also be used for related electric panel improvements or replacement costs

3C REN

3C-REN HOME ENERGY SAVINGS

Single-Family Incentives

- Can cover **up to 75% of your project cost**
- Most projects that save energy* are eligible
- Incentives are accessed through 3C-REN enrolled contractors
- The actual incentive depends on how much energy the project will save
- Live in 3C-REN territory (SLO, SB, Ventura)
- Receive gas/electricity from PG&E, SoCalGas, Southern California Edison

3C-REN Eligible Upgrades: Heat Pumps & Beyond

3C REN

Hard to Reach Criteria

Santa Barbara & San Luis Obispo Counties:

Meet **one** of these criteria:

- Live in mobile/manufactured home
- Primary language other than English
- Eligible for CARE/FERA utility rates
- Member of CA Native American Tribe

Ventura County:

- Member of CA Native American Tribe

Or meet **two** of these criteria:

- Live in mobile/manufactured home
- Primary language other than English
- Eligible for CARE/FERA utility rates
- Live in an SB 535 DAC community

"I'm trying to remodel my house and if I can get something for free that helps the environment at the same time, that's great! I love the heat pump water heater."
–Ariel

Invoice total: $7,300
Cost after incentives: $0

IRA: Inflation Reduction Act

- Largest clean-energy investment America has ever made to make the transition to clean energy and decarbonizing our lives.
- Available: Federal tax credits for household electrification
- Available: $4,000 & $8,000 HEEHRA Rebates for heat pump HVAC projects administered by TECH Clean CA

Energy Efficient Home Improvement Tax Credit

- **30% tax credit for heat pump** project (space heating and water heaters), capped at $2,000 per year.
- **30% tax credit for electrical panel** upgrade if done in conjunction with a heat pump project, up to $600.
- **30% tax credit for weatherization** purchases such as insulation, air sealing, door and window upgrades, and energy audits, capped at $150 to $1,200 per year.
- Credits of 30% will be based on the ***actual out-of-pocket money*** spent on the project *after* other incentives are applied.
- The overall limit for an efficiency tax credit in one year is $3,200.
- Credits reset each tax year, effectively becoming available again for additional projects.
- IRS Fact Sheet

How will I remember and track ALL THESE INCENTIVES?!? 😯

Work with an enrolled contractor, of course!

THE SWITCH IS ON

- Incentives & rebates from TECH, HEEHRA, 3CE, 3C-REN, etc.
- IRA federal tax credits
- Find an enrolled contractor

And the results will be tailored based on your zip code!

3C-REN HOME ENERGY SAVINGS

- For San Luis Obispo, Santa Barbara and Ventura Counties
- Find an enrolled contractor
- Resident Resource Library
- Concierge phone & email service

https://incentives.switchison.org and 3c-ren.org/for-residents

Thank You

For more information:

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3C REN

TRI-COUNTY REGIONAL ENERGY NETWORK

SAN LUIS OBISPO • SANTA BARBARA • VENTURA

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Together we can make a world of difference

Join us at
resilientcentralcoast.org

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