

# Decarb Lunch

Series

zeb x



**B2E**  
Building to  
Electrification  
Coalition

**Getting **Unstuck**: Homeowner  
and Contractor Perspectives  
on Home Electrification**

Fri Sep 23, 2022,  
from 12- 1pm PDT  
Free Webinar | [zeb.org](https://zeb.org)



**HPSC**

ZERO  
EMISSIONS  
INNOVATION  
CENTRE



Energy efficiency  
in buildings



Urban  
renewable energy



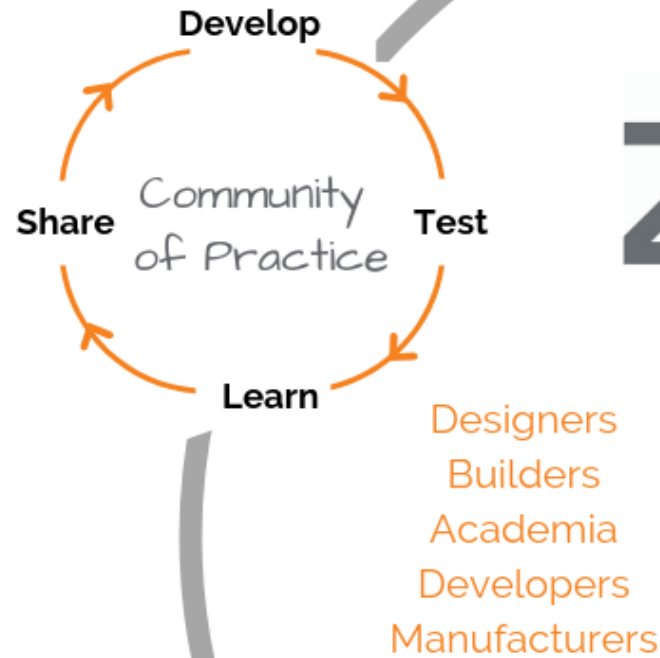
Transportation  
solutions

**ZEBx** is proud to be part of the **Metro Vancouver Zero Emissions Innovation Centre**

Visit [ZEIC.ca](https://zeic.ca) to find out more

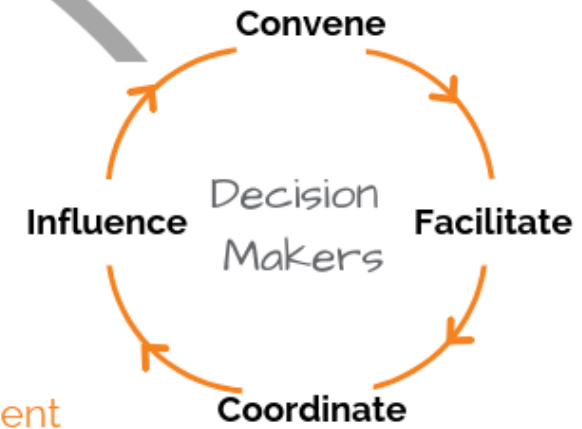
# COLLABORATE

Accelerate Solutions



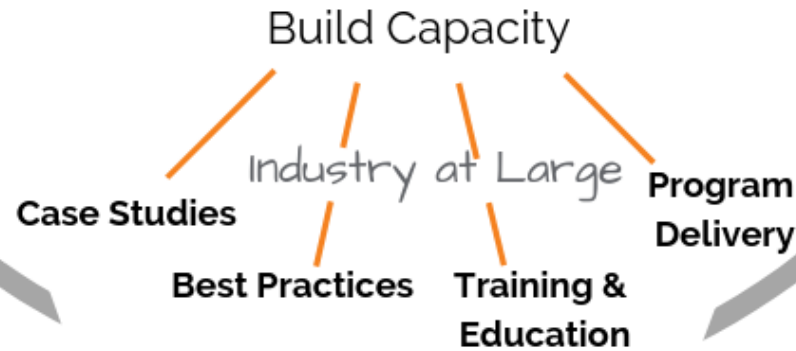
# ~~ADVANCE~~ ACCELERATE

Remove Barriers & Identify Opportunities



Government  
Global Experts  
Mission-Aligned Organizations  
Industry Associations

# SCALE



We are a broad coalition working together to electrify buildings in British Columbia in order to reduce their climate impacts and reliance on fossil fuels.



B2electrification.org





Carbon  
Leadership  
Forum  
**Vancouver**

joins



ZEBx is proud to announce the **Carbon Leadership Forum, Vancouver** has joined our organization.

[clfvancouver.com](http://clfvancouver.com)

[b2electrification.org](https://b2electrification.org)

**Guide** 

**So you want to buy a heat pump?**



**Insider tips for homeowners**

Apr 8, 2022

**PODCAST** 

**The ZEBx Podcast Decarb Lunch**

**Overheating: Will the need for cooling accelerate decarbonization?**

Season 2 Episode 5

**Case Study** 



**Ravens Crossing: How a Community Went All-Electric**

Sep 9, 2022



# The BC Green Building Calendar


Welcome to the BC Green Building Calendar.


Here you will find all of the latest events and training related to green building subject matter, including: emissions, energy efficiency, resiliency, high-performance design, and more.

If you would like to submit an event or for more details on submission guidelines, see the bottom of this page.

## ▸ Filters

## February 2022

Webinar	Presented by: ZEBx
Feb <b>17</b> Thursday 10:00am - 12:00pm	 <b>Deep Emissions Retrofit Dialogue - Ready to Roll: Simple Solutions for Going Electric</b>

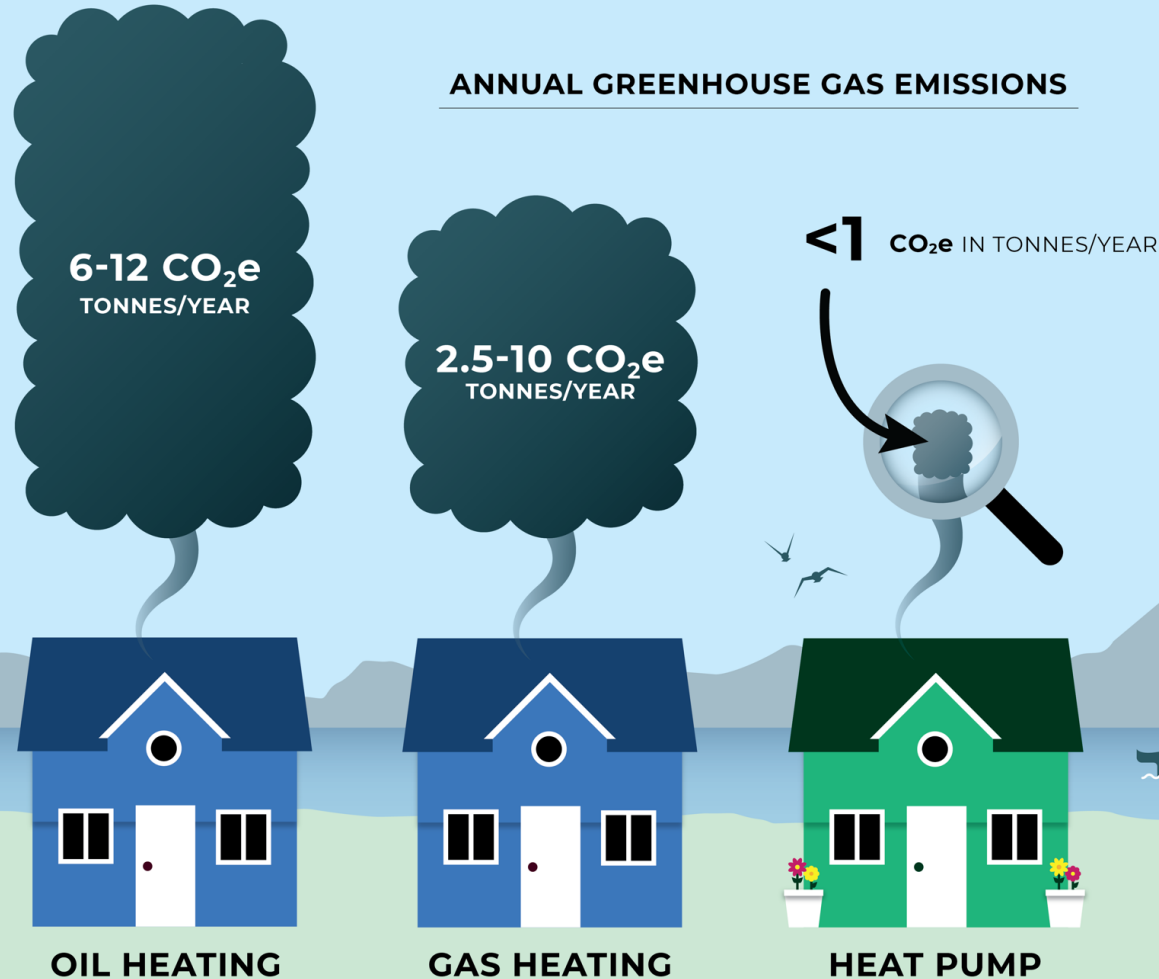
Webinar	Presented by: ZEBx
Feb <b>25</b> Friday 12:00 - 1:00pm	 <b>ZEBx Decarb Lunch - Be Prepared! The BC Energy Step Code Capacity Study.</b>

< February 2022 >						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12

To submit events for your organization:

[Join our community](#)

## ANNUAL GREENHOUSE GAS EMISSIONS



# HEAT PUMPS

GOOD FOR YOUR WALLET & THE PLANET

## CleanBC's 2030 path to transformation

- Zero carbon new construction
- Equipment efficiency standards
- Electrification incentives
- Home energy labelling



POLL

**Tell us about yourself!**

Three-part anonymous poll



**B2E**  
Building to  
Electrification





# Meet the HPSC and HPCN

Sept. 23<sup>rd</sup>, 2022



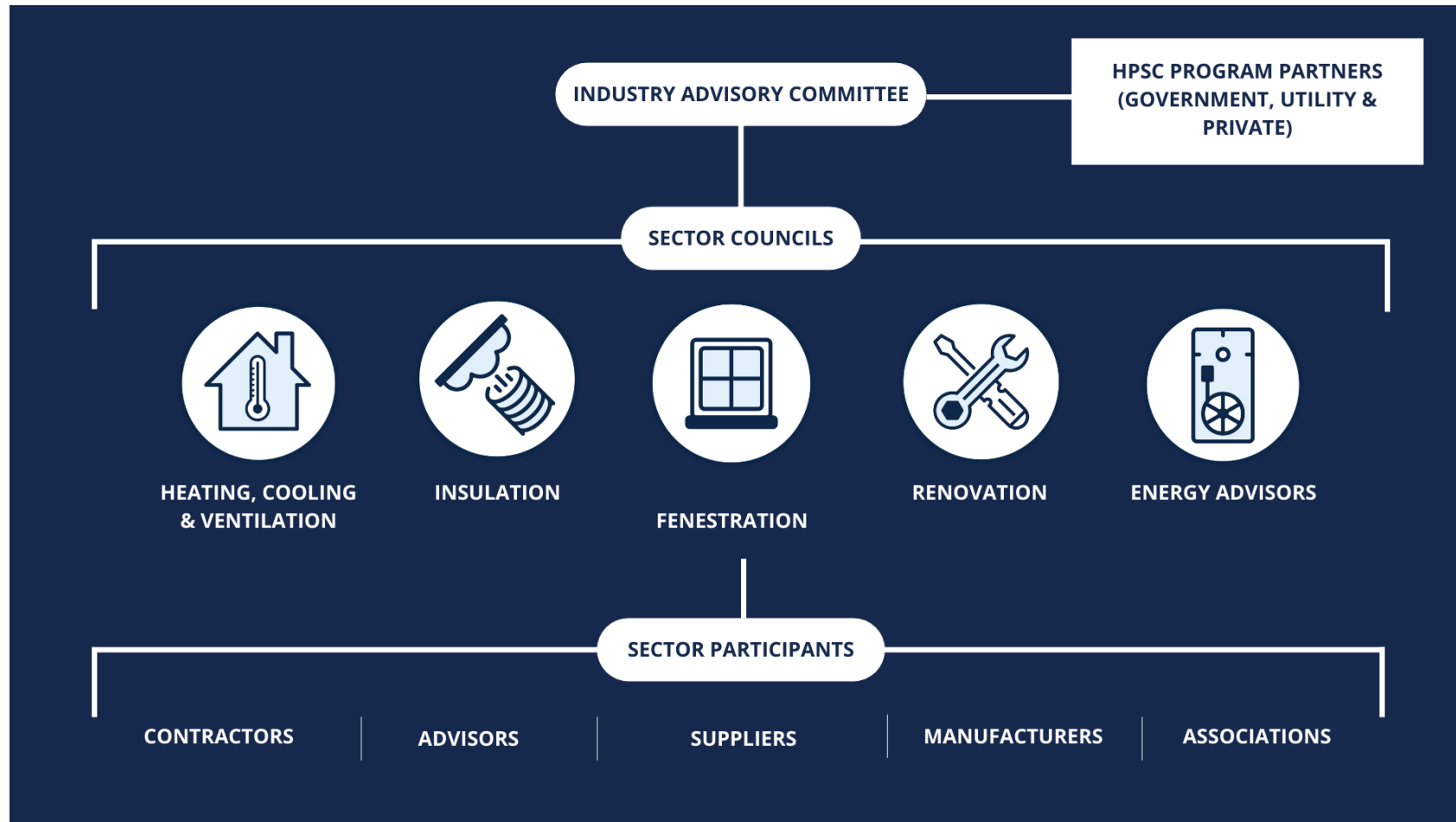
**HPSC**

HOME PERFORMANCE  
STAKEHOLDER COUNCIL





# HPSC - Home Performance Sector Councils





# Why Join the HPCN?

## What's in for my customer?



- Access to available and participating rebate programs – now and in the future
- Knowledge and comfort in knowing they're working with a registered, qualified contractor listed in public search tools

# Why Join the HPCN?

## What's in for me and my company?



- Subsidized training and qualifications (while funds are available)
- Public recognition for quality work and the use of the Home Performance Contractor Network logo
- Invitations to exclusive networking, engagement, and training opportunities for home performance professionals and stakeholders
- Access to updated training and courses designed *by the residential retrofit industry for the residential retrofit industry*

# Why Join the HPCN?

What's in for me and my company?



Business information displayed in a public directory, which will be promoted across BC, to reduce advertising costs, level the playing field, and increase ease of customer access

# Why Join the HPCN?

## Business information displayed in a public directory



Have questions? Using a screen reader or other assistive technologies? Call an Energy Coach at [1-844-881-9790](tel:1-844-881-9790)



[Rebate Search Tool](#)

[About Us](#)

[Contact Us](#)



Menu

### Find a Contractor

Choosing the right contractor is the first step towards a successful home energy retrofit. Using the search tool below, you can find a registered contractor for your home upgrade needs. Registered contractors consist of Program Registered Contractors (PRC), who have been trained and registered by program utility partners, and Home Performance Contractor Network (HPCN) members, who have been trained and registered by the Home Performance Stakeholder Council.

Working with a registered contractor means you are working with someone that is trained in industry best practices and is subject to ongoing quality assurance evaluations.

#### Find a registered contractor near you

What **type** of efficiency upgrade are you planning?

All Types



Where is the home **located**?

Enter municipality or regional district

Submit





# Why Join the HPCN?

Business information displayed in a public directory



Find a registered contractor near you

What **type** of efficiency upgrade are you planning?

Heat Pump

▼

All Types

Insulation

Heat Pump

Windows and Doors

Submit

# 4 Steps to HPCN Registration and Membership

HVAC Contractors



1

## Application

- **Stage 1** – Company Profile
- **Stage 2** – Reference Checks
- **Stage 3** - Code of Conduct



2

## Stage 4 - Qualifications

- House as a System Approach
- TECA or HRAI Fundamentals
- Quality Installation of Forced Air Furnace and Air Source Heat Pump Retrofits in BC



3

## Business Documentation & Agreement

- **Stage 5** - Municipal/regional business licenses, proof of 1 year *labour* warrantee, updated insurance, and WorkSafeBC clearance letter
- **Stage 6** - Sign Network Agreement



4

## Stage 7 - Membership & Ongoing Management

- Displayed on the public search tool, access to applicable rebates
- Access to subsidy reimbursements, network logo, networking
- Ongoing management



# Time Commitments - Registration

## HVAC Contractors



REGISTRATION STEP		 APPROXIMATE TIME REQUIRED
<b>1</b> Submit Application	Apply online*	10 min
<b>2</b> Provide References	Two customer references and one supplier reference	Up to 15 business days for review
<b>3</b> Sign Code of Conduct	Read and agree to responsible business practices	2 min
<b>4</b> Complete Qualifications**	<b>1) Designation:</b> Class B Gas Fitter Ticket (furnace-installers only)	n/a
	<b>2) Course:</b> <i>Retrofitting with a House-as-a-System Approach</i>	3.5 hours
	<b>3 &amp; 4) Courses:</b> TECA <i>Principles of Moving Air</i> + TECA <i>Heat Loss/Heat Gain</i>	18+10.5= 28.5 hours
	<b>OR</b> HRAI <i>Basic Principles of Residential Ventilation</i> + HRAI <i>Residential Heat Loss &amp; Heat Gain Calculations</i>	<b>OR</b> 2+24= 26 hours

# Time Commitments - Registration

## HVAC Contractors



<b>5</b> Upload Business Documents	<b>1) Business Licenses:</b> For each operating community or an inter-municipal licence <b>2) Warrantee:</b> Proof that you offer a one-year labour warrantee <b>3) Insurance:</b> A copy of your insurance policy showing \$5M general liability insurance and listing the HPSC as an additional insured <b>4) WorkSafeBC:</b> Clearance letter	0.5 - 3 Hours  Time Varies Depending on Document Needs
<b>6</b> Sign Network Agreement	Read, sign, and upload network agreement	15 min
Membership Opens		
<b>7</b> Finish Training <small>(within 6 months of membership opening)</small>	<b>Course:</b> HPSC Quality Installation of Forced Air Furnaces & Air Source Heat Pump Retrofits in BC Homes	30 hours



# HPCN – HVAC Registration & Membership



Sector	# HPCN Registrants	# HPCN In Progress Members	# HPCN Members	Total eligible for rebates
HVAC	457	16	240	256

## Registrants

- Companies who are working on completing their HPCN registration

## In Progress

- Companies who have not yet completed their HPCN registration but were previously PRC contractors and are eligible for heat pump rebates

## Members

- Companies who have completed their HPCN registration and are eligible for heat pump rebates

# HPCN Update



As of July 1, 2022, membership in the HPCN is a ***mandatory eligibility requirement*** for the following Heat Pump related incentive and rebate programs:



Program Administrator	Program Name and Website	Rebate Type
 	CleanBC Better Homes Income-Qualified Offer	<ul style="list-style-type: none"> <li>• Windows</li> <li>• Heat Pumps</li> <li>• Insulation</li> </ul>
 	CleanBC Better Homes	<ul style="list-style-type: none"> <li>• Heat Pumps</li> <li>• Insulation*</li> </ul>
 <b>BC Hydro</b> Power smart	Home Renovation Rebate Program	<ul style="list-style-type: none"> <li>• Heat Pumps</li> <li>• Insulation*</li> </ul>
 <b>FORTIS BC™</b> <i>Energy at work</i>	Home Renovation Rebate Program	<ul style="list-style-type: none"> <li>• Heat Pumps</li> <li>• Insulation*</li> </ul>
 <b>FORTIS BC™</b> <i>Energy at work</i>	FortisBC Income Qualified Rebate Program	<ul style="list-style-type: none"> <li>• Heat Pumps</li> <li>• Insulation*</li> </ul>

\*\*Insulation Program Registered Contractors (PRCs) are also eligible until November 1, 2022.



# Thank You

**Greg Bloom**  
**Manager of Industry Relations**  
**[greg@homeperformance.ca](mailto:greg@homeperformance.ca)**

**Office: (604) 755-3469 ext. 701**  
**Cell: (778) 255-2674**  
**[www.homeperformance.ca](http://www.homeperformance.ca)**



POLL

**What did you tell us about yourself?**



**B2E**  
Building to  
Electrification



# Getting Unstuck

Homeowner & Contractor Perspectives on Home Electrification

ZEBx Decarb Lunch



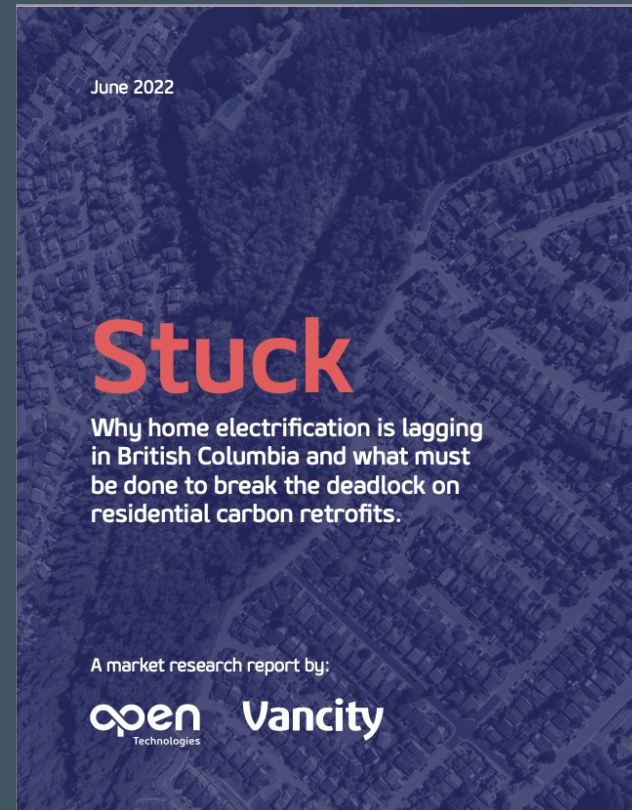
OPEN Technologies' software tools help the people shaping our cities to make pro-climate decisions with confidence.

## Current Focus

Just completed a 9-month market research project on the homeowner decarbonization journey with Vancity & Circular Citizen

<https://opentech.eco/products/stuck/>

Now conducting industry interviews to complete the picture. Please reach us at [hera@opentech.eco](mailto:hera@opentech.eco) to schedule.



# Outline

Where are we today?

What are the key drivers of the homeowner experience in (*mostly not*) decarbonizing their existing homes?

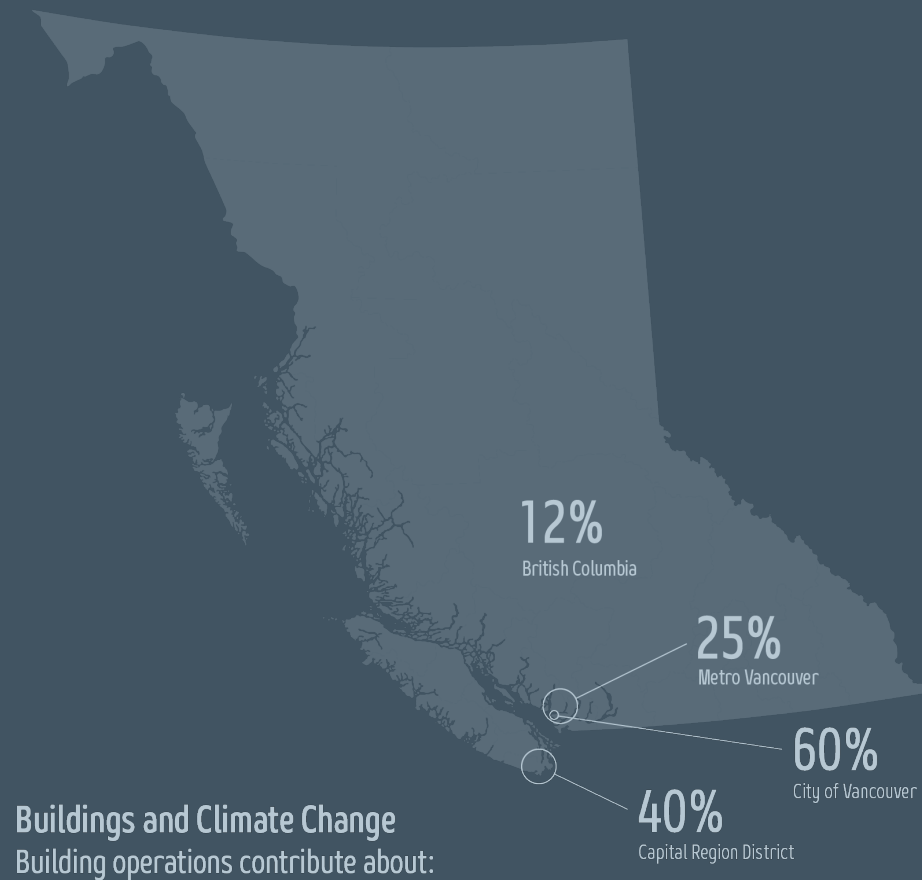
How can we overcome some of the key barriers to the benefit of homeowners and industry alike?

# Buildings and Climate Change

How might we better understand the blockers, friction points, and leverage points homeowners face in decarbonizing their homes?

How do we get more homeowners into the sales funnel?

How do we get more successfully through the sales funnel?



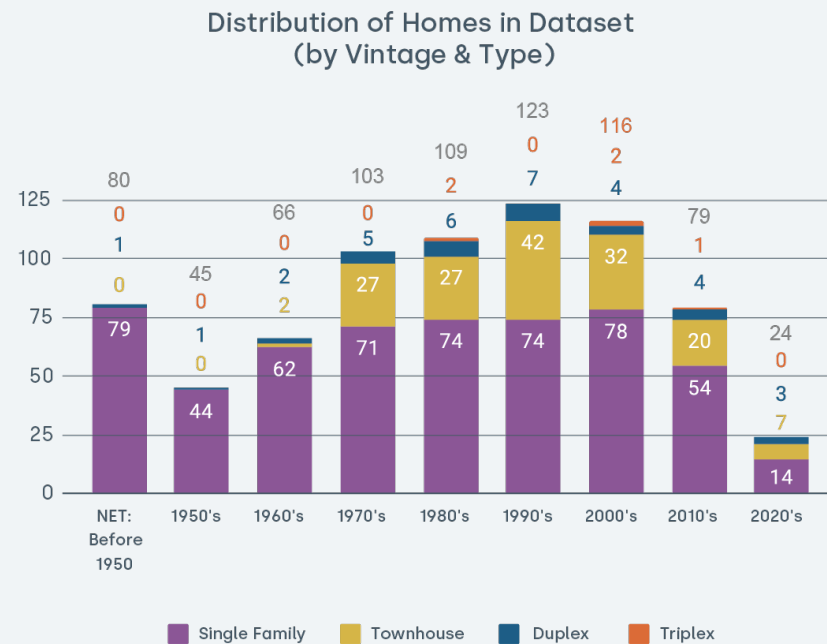
# Research and Purpose

Quantitative survey of ~900 homeowners in southwest BC

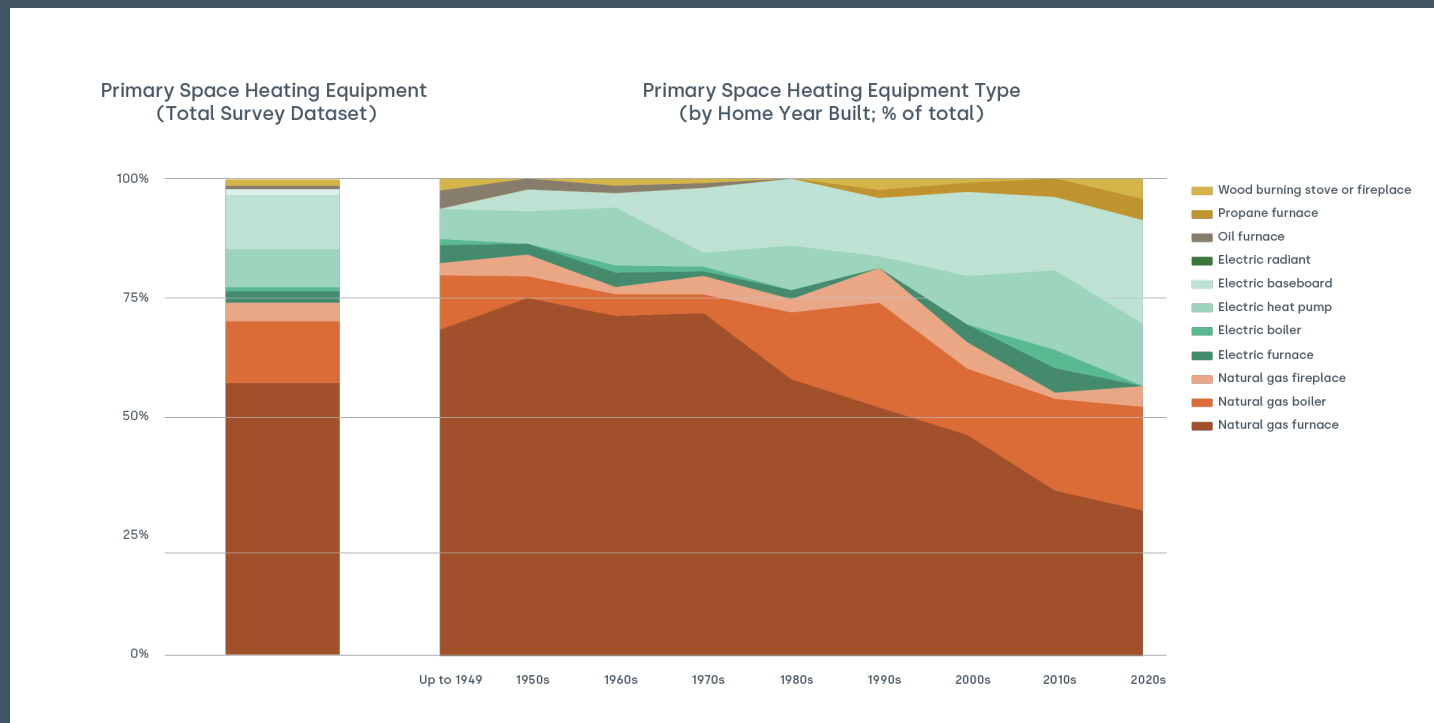
Focus: space and water heat by fuel type, equipment type, and age.

Qualitative Research (focus groups and interviews)

Focus: motivational drivers and experiences of homeowners that completed (or cancelled) renovations or retrofits.



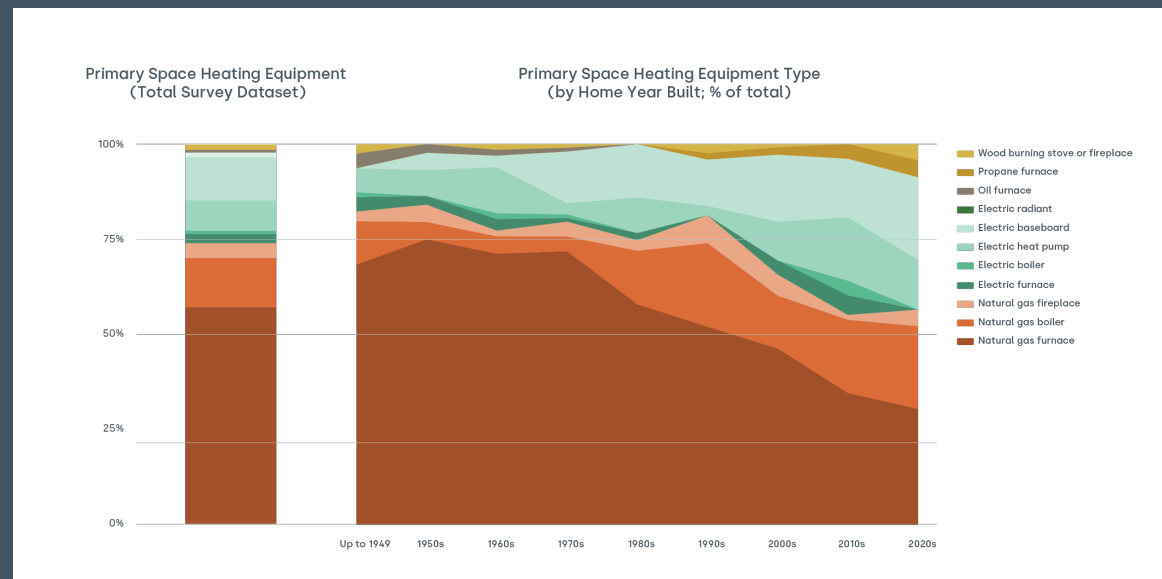
# Where we are today





# The Action We Need

To rapidly electrify our ground-oriented homes.

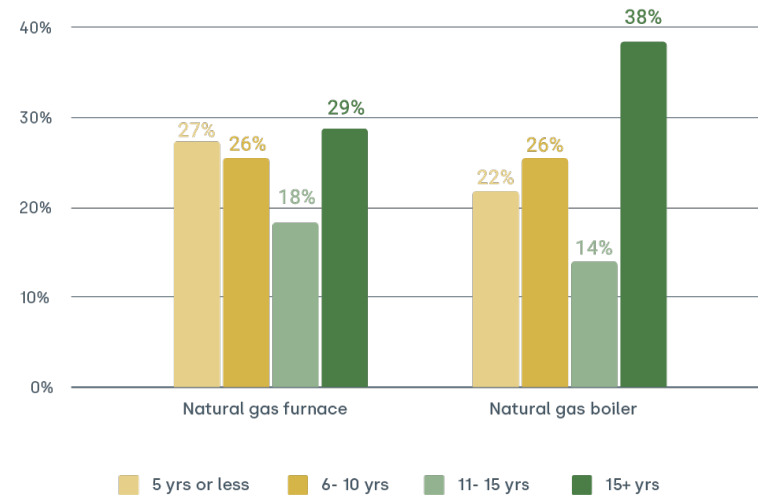


# The Action We Need

To rapidly electrify our ground-oriented homes.

\*\* almost two thirds of gas-fueled space heating equipment is up for replacement by 2030

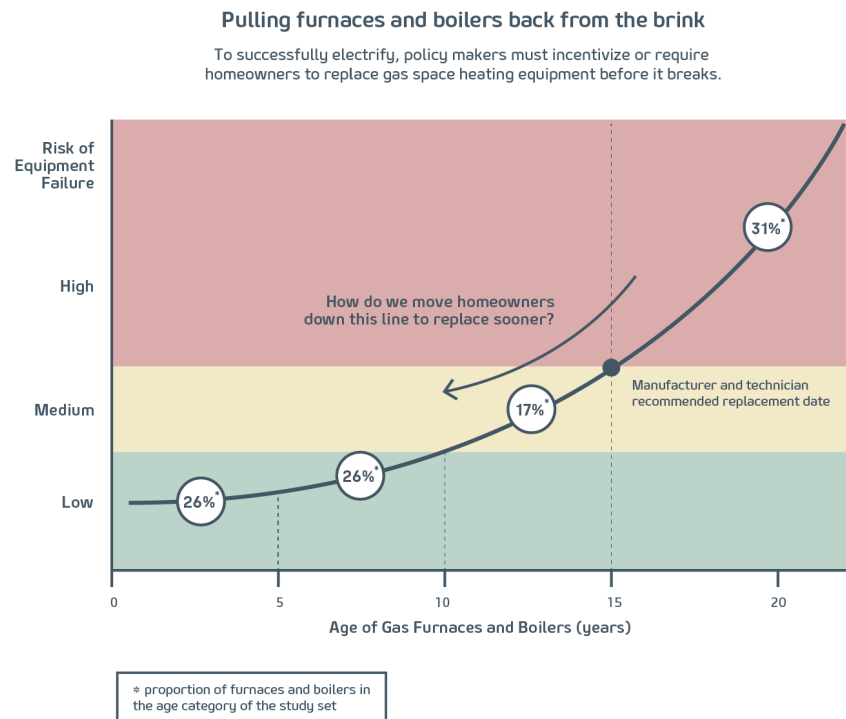
Primary Gas Equipment by Type and Age



# The Action We Need

To rapidly electrify our ground-oriented homes.

\*\* almost two thirds of gas-fueled space heating equipment is up for replacement by 2030

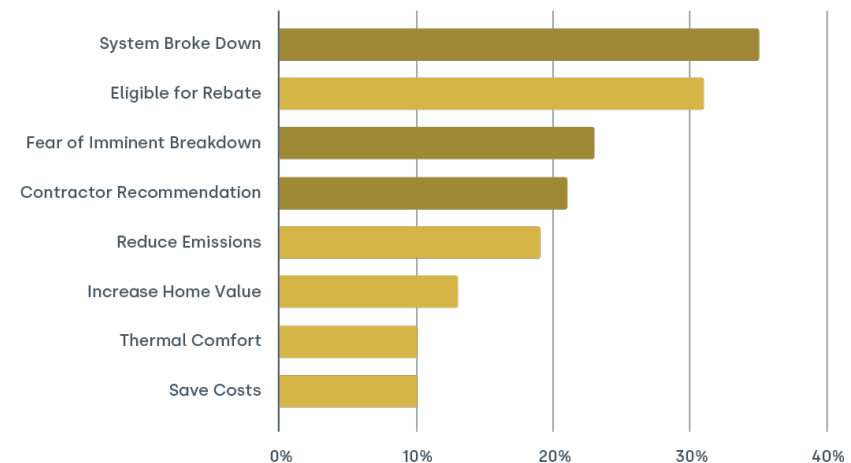


## Two thirds of furnace replacements are due to system failure

### Drivers:

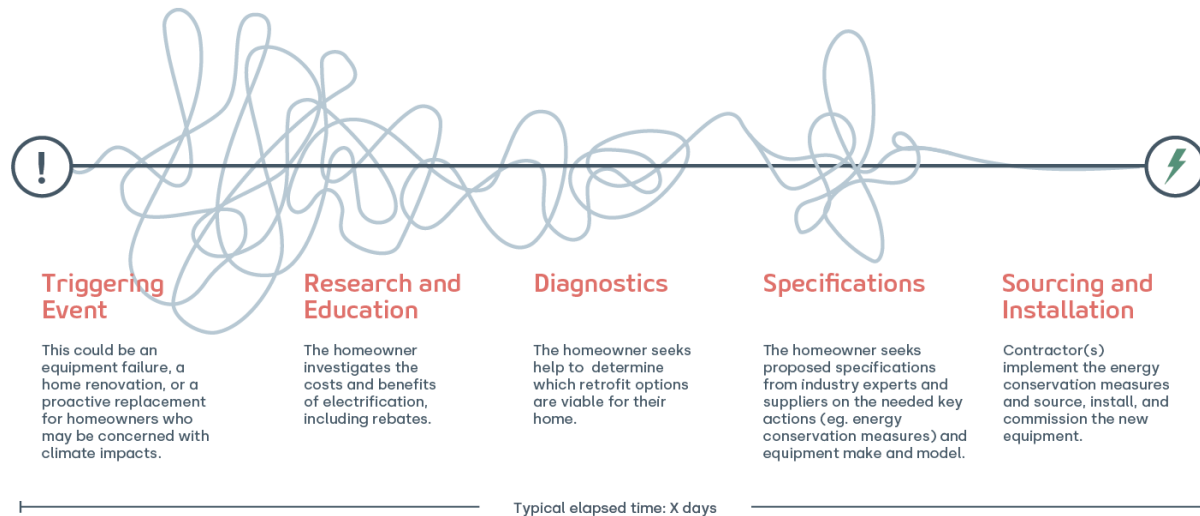
1. Reluctance to send “perfectly good equipment to the landfill”
2. Few carry a dedicated repair & maintenance budget
3. Complexity and barriers.

Homeowner Rationale for Furnace Replacements in the Previous Five Years



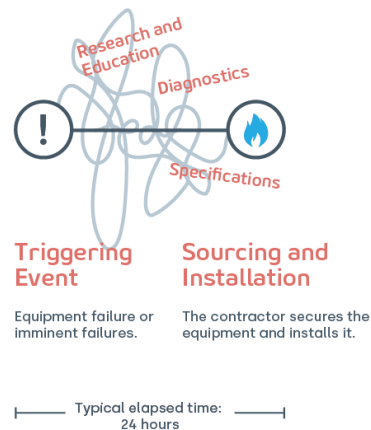
# Understanding the Homeowner Journey

## Carbon retrofit homeowner journey



# Understanding the Homeowner Journey

## Homeowner journey – emergency replacement



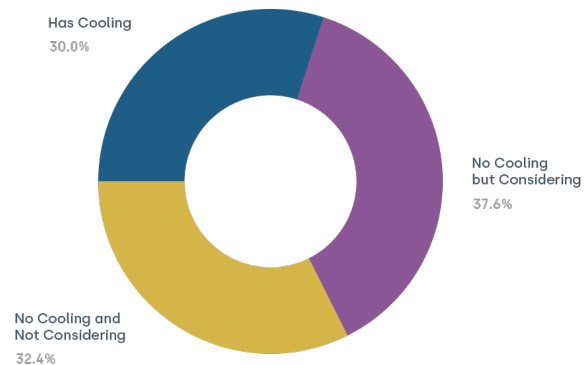


# Leverage Points & Opportunities

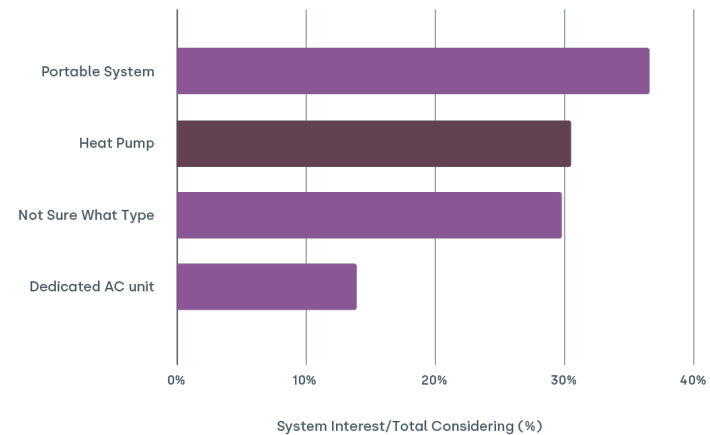
- High demand and policy support for mechanical cooling
- Policy change
- Improve the sales funnel

# “Cooling” pumps are a key leverage point

Do you have mechanical cooling?  
If not, are you considering it?

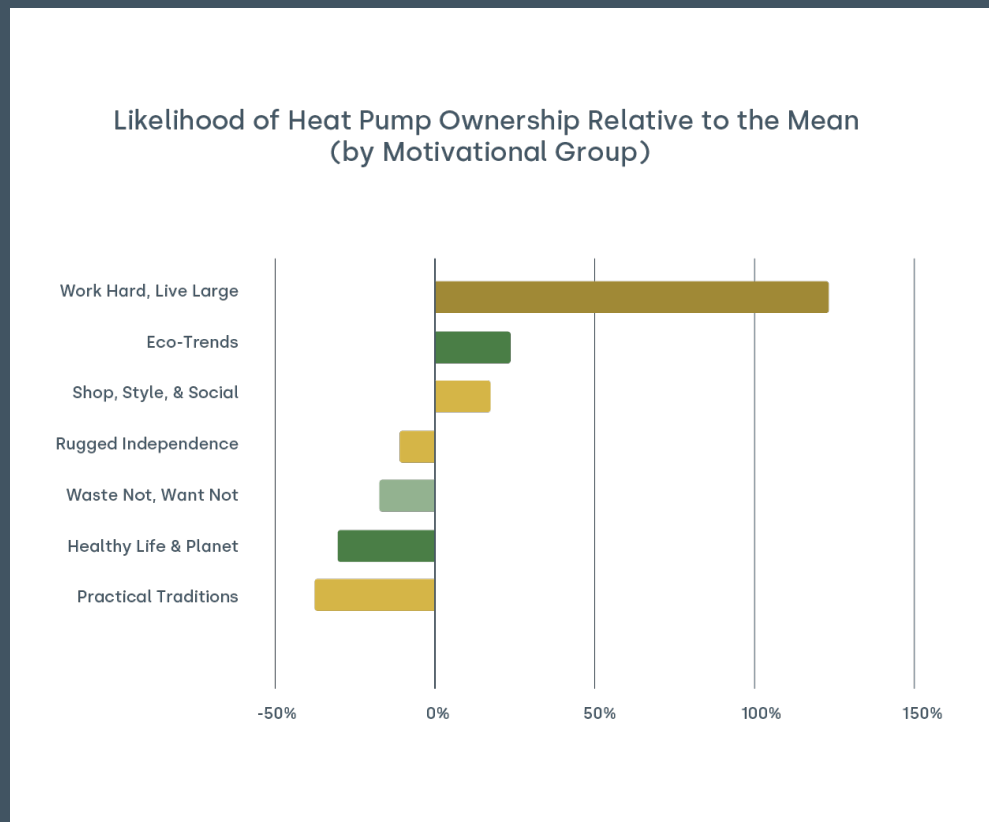


For those that are considering mechanical cooling,  
what type are you considering?



# There is not a “typical heat pump owner” ...

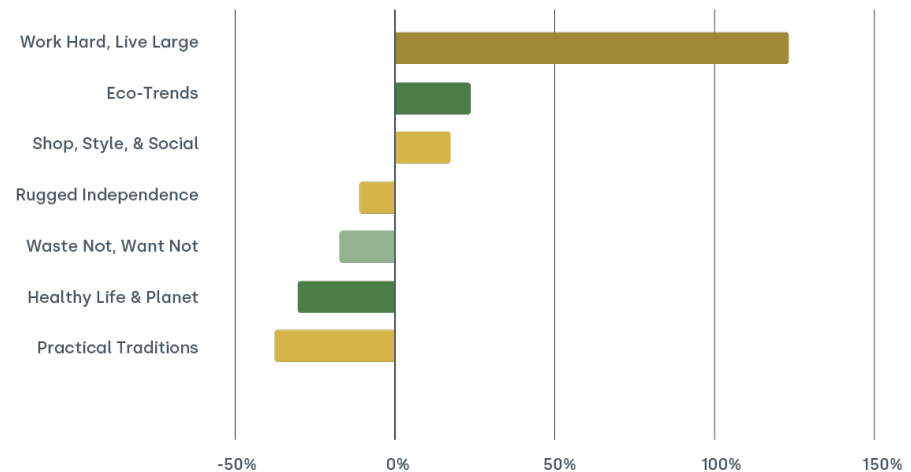
- Age
- Demographic
- Household income
- Pro-climate motivations



## ... there's a “typical heat pump home”

- Built since 2000
- Detached
- Larger (mean 2,600 sqft)
- Fraser Valley or South Island

Likelihood of Heat Pump Ownership Relative to the Mean  
(by Motivational Group)

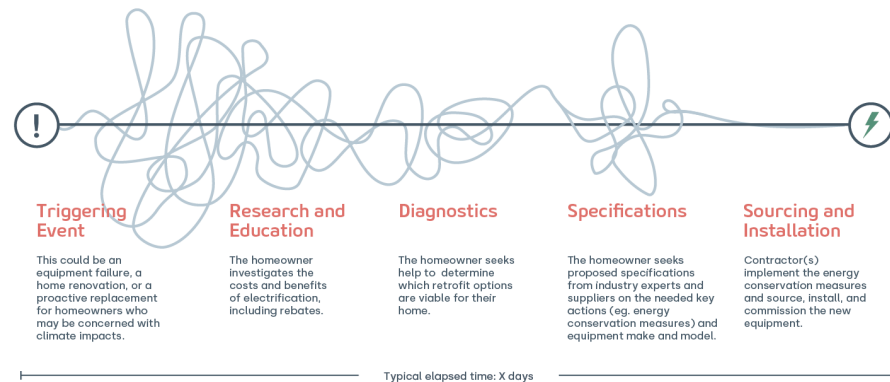


## Homeowner Journey

# Post-Trigger → Install

High homeowner frustration with current information sources

### Carbon retrofit homeowner journey





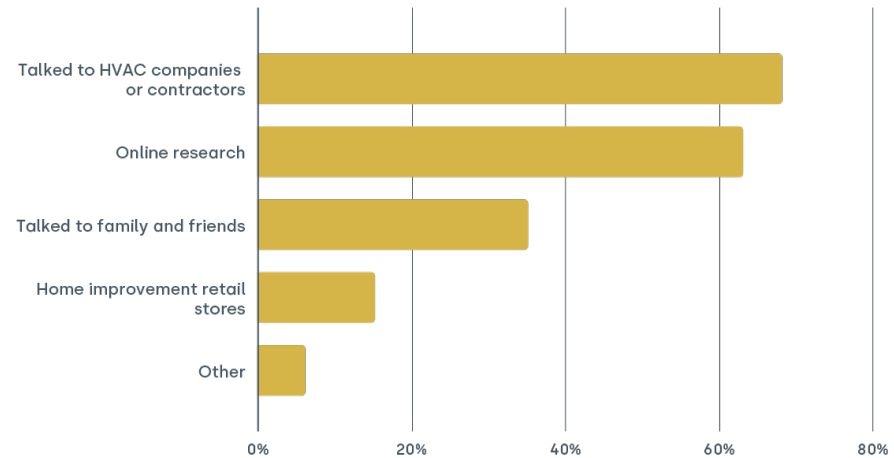
## Homeowner Journey

### Post-Trigger → Install

High homeowner frustration with current information sources

- high reliance upon contractors, despite low choice & trust
- few contractors accredited and motivated to drive decarbonization
- Possible options defined by who calls you back

What information sources did you or will you use to research and decide what to replace your system with?



## Homeowner Journey

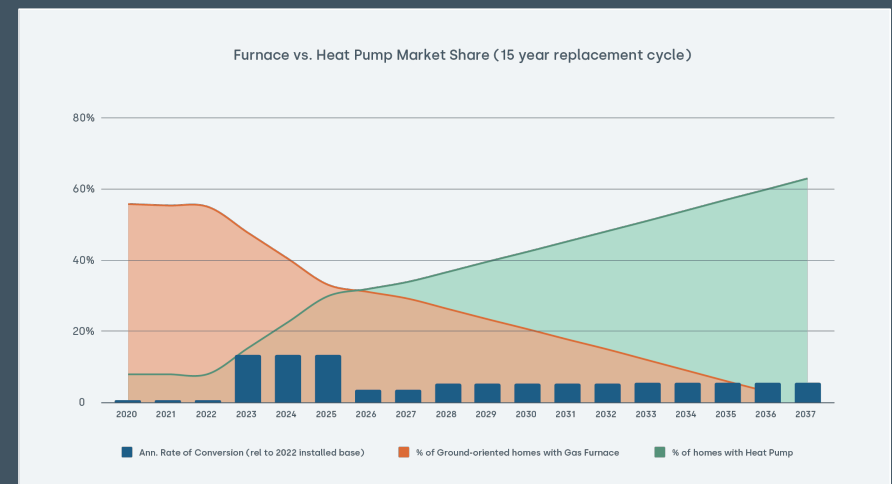
# Post-Trigger → Install

High homeowner frustration with current information sources

- high reliance upon contractors, despite low choice & trust
  - few contractors accredited and motivated to drive decarbonization
  - Possible options defined by who calls you back
- *"You can't use your existing ducts for cooling so you've gotta go all ductless"*
  - *"I can just swap a new central heat pump system in and you're good to go"*
  - *"thank you for your call... your call is important to us... please leave a message"*
  - *"you can't have a central system without 8' ceilings in your mechanical room for the air handler"*
  - *"your side yard is the perfect location for an outside unit"*
  - *"this spot under your deck next to the fence is the perfect location for an outside unit"*
  - *"your current heat pump is fine... you're just doing it wrong"*
  - *"jeez, just put in a furnace... they're efficient now and government is just manipulating people with heat pumps"*
  - *"thank you for your call... your call is important to us... please leave a message"*
  - *"you can't get an electrical service upgrade here... but I can put in a new furnace here, like, tonight"*

# Key take home message...

1. We need to change the rate and nature of space heating equipment replacements to reach our 2030 targets:
  - At least 2x faster
  - 100% high efficiency electric
2. Today's homeowner retrofit journey doesn't facilitate proactive decarbonization
3. If we wait until equipment fails, we lock in GHG emissions for another generation



# To succeed, we need:

- Far greater capacity to absorb customer inquiries, and some combination of:
  - Better qualifications (better, more consistent guidance and spec)
  - More industry players
  - Better deployment of industry players (ie. new intermediaries)
- How do we help the qualified installers to scale, and help new entrants get up to speed?

# Recommendations for Policy Makers and Program Designers

## 1. To get more homeowners into the sales funnel

- Time of Replacement Policies
- Communicate risk of “furnace-chicken”
- Continue to highlight the cooling advantage of heat pumps
- Reassure homeowners that gas equipment will be recycled

## 2. To get more homeowners through the sales funnel

- Overcome the Affordability Gap
- Better sources of info and diagnostics
- Develop a home electrification concierge service
- Accelerate contractor accreditation and provide consumer transparency

# Thank you!

Please read the full research report:  
<https://opentech.eco/products/stuck/>

To shape our next wave of design research:  
[hera@opentech.eco](mailto:hera@opentech.eco) to schedule.

**Donovan Woollard**  
donovan@opentech.eco  
opentech.eco

With additional thanks to:

- Research Team: Vancity; Circular Citizen (Lindsey Boyle and Majid Khoury), Theo Christiaanse
- Report Writing & Design team: Glave Strategies & Slow & Steady Design





# Decarb Lunch

Series

zeb x



**B2E**  
Building to  
Electrification  
Coalition

**Getting **Unstuck**: Homeowner  
and Contractor Perspectives  
on Home Electrification**

Fri Sep 23, 2022,  
from 12- 1pm PDT  
Free Webinar | [zeb.org](https://zeb.org)



**HPSC**