

MI Heat Pump Collaborative

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Agenda

- Background and Purpose of the Collaborative
- Market Characterization Findings
- Stakeholder Needs Assessment Findings
- Recommended Heat Pump Market Interventions
- What's Next for the Collaborative?



Background and Purpose

Collaborative Utility Founders



Residential Electric Heat Pumps Considered

- Air source
 - Air-to-air
 - Air-to-water
- Ground source
- Heat pump water heaters

Mission

Create a holistic education, outreach and training forum to pursue deeper engagement with manufacturers, distributors, trade allies, customers and other stakeholders to identify needs, remove barriers and ultimately increase adoption and participation in heat pump technologies.



Market Characterization



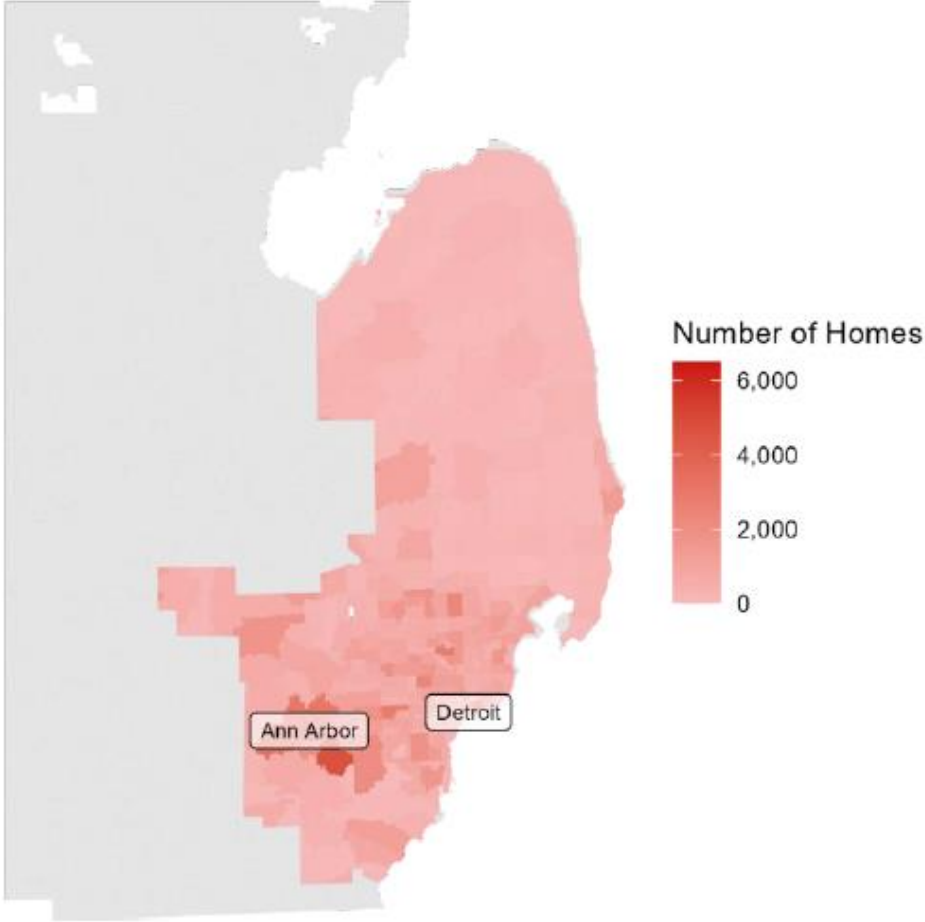
Climate + Clean Energy Solutions for everyone.

The knowledge, people, and
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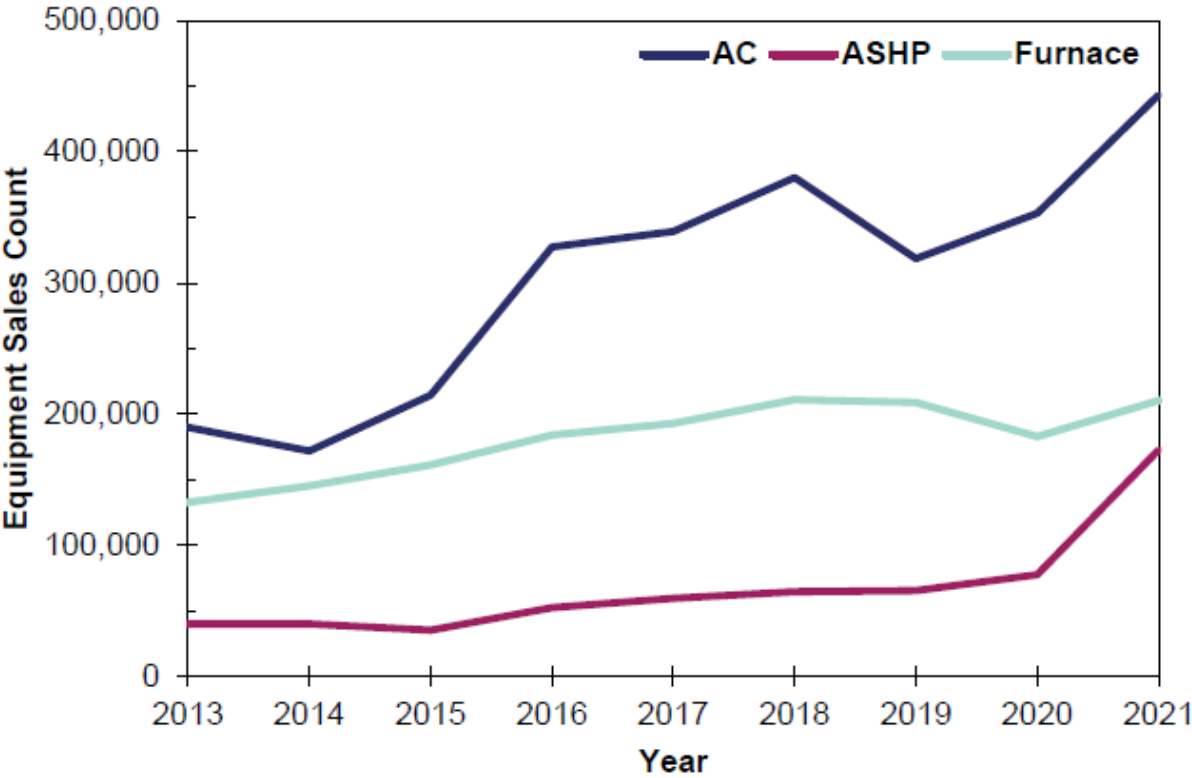
Targeting Opportunities by Fuel Type

Fuel (electric, propane, or wood)	Consumers	DTE	I&M	UPPCO
Space Heating	28%	14%	35%	37%
Water Heating	35%	20%	41%	43%



Electrically heated homes in DTE service territory

Sales Are Growing! Michigan Residential HVAC



This is part of our special series "Home of the Future." [Read more.](#)

Chart: Americans bought more heat pumps than gas furnaces last year

Even before Inflation Reduction Act incentives kicked in, Americans bought more heat pumps than ever before last year — well over 4 million.

10 February 2023

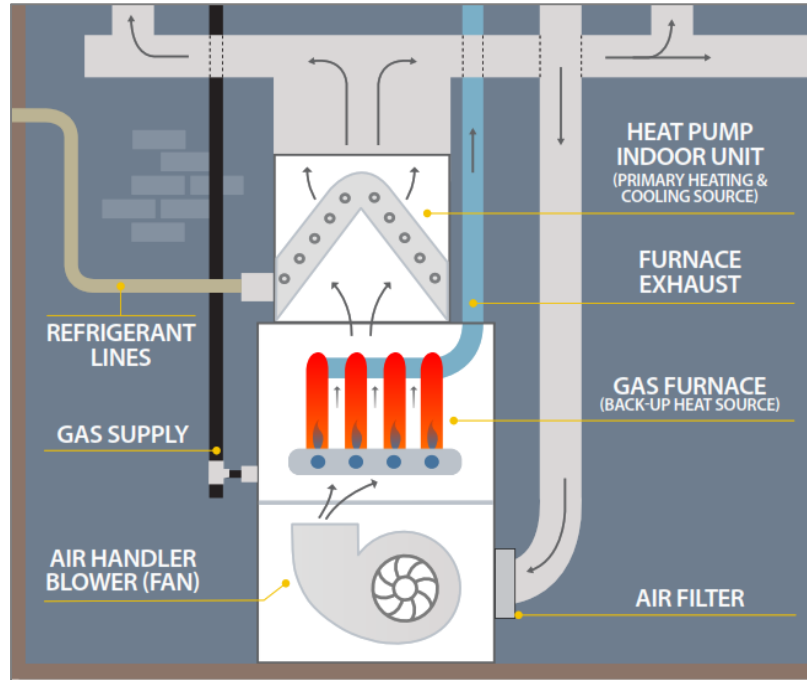
Figure 1. Annual HVAC equipment sales in Michigan from 2013 to 2021 (Data obtained from Unity Market Report (2022) prepared by HARDI under data license by HARDI. Reuse is prohibited without permission. All rights reserved.)



Recent Michigan Heat Pump Pilots

- Consumers Energy pilots
 - Market-rate and income-qualified
- DTE pilots
 - Break even analysis and income-qualified
- [MECA dual fuel heat pump field study](#)
- [MECA HPWH field study and survey](#)
- MI Power Grid Working Group
- MI Healthy Climate Report

Dual Fuel Heat Pumps



Site	ASHP Compressor Speeds	Incremental Cost	Propane Reduction	Simple Payback	Lockout (°F)	Heating COP
8	One	\$600	63%	1 year	25	3.89
Avg	-	\$2,000	53%	4 years	-	3.4

Source: [MECA dual fuel heat pump field study](#)

Other Analyzed Data

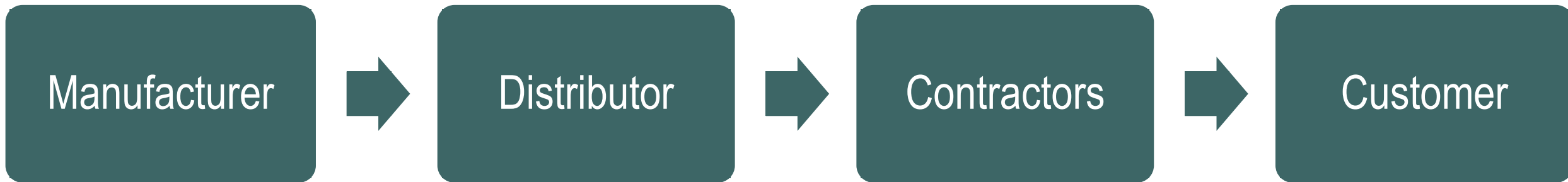
- Historical EWR program heat pump rebates
- Heat pump programs in other states
- Michigan utility rates and fuel prices



Stakeholder Needs Assessment

Stakeholder Needs Assessment

- More than 40 interviews completed: From manufacturers and distributors to community college/trade school stakeholders to residential customers



Market Forces Are Intensifying

Technology

- Ongoing product development and technology advancements
- Innovations in software, tools, and controls

Regulations and policy

- Changing efficiency metrics and minimum efficiencies
- Refrigerant draw downs
- Electrification attention and dollars (federal, state, local)

People

- Changing labor force; strong need for more tradespeople
- Homeowners need education from contractors who also need education
- Energy efficiency industry is ramping up demands on heat pump technologies

Market Actor Takeaways

- Market actors support the MIHPC mission; they recognize the need and value of MIHPC educational efforts
- Contractors serve multiple utilities and contractor/customer knowledge is one of top barriers

What are the most significant barriers to adoption of HPs?

Limited eligibility for energy efficiency rebates



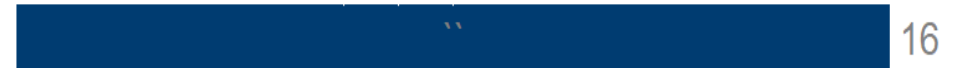
Cost of installation



Contractor/customer knowledge/awareness of measure



Cost of operation compared to natural gas



How many electric and gas utilities are in your service area?

0 to 2



3 to 5



6 or more



ASHP Market: Insights and Needs

- Markets are preparing for regulatory changes and IRA programs
- Distributor stock liability is a barrier
- Not all distributors and contractors see value in more expensive inverter-driven ASHPs
- The market values in-person training; distributors are open to support training initiatives with recruitment and locations

HPWH Market: Insights and Needs

- Program design and incentives highlighted as opportunity.
\$700 incentive and multi-channel availability cited as adoption drivers
- Consumer education and marketing emphasized
- Distributors and contractors: Training is important, and manufacturers appreciate opportunity to co-deliver
- Barrier: HPWHs are heavier and larger than traditional water heaters
- Barrier: MEMD 55-gallon sized tank requirement for savings

GSHP Market: Insights and Needs

- New construction is most common market segment
- Midstream program design presents challenges for GSHP market (i.e., I&M) and manufacturers and installers recommend downstream incentives
- Customer education seen as most important intervention
- Installer training and designation welcomed. For designation, recommend IGSHPA or MGEA certification as requirement

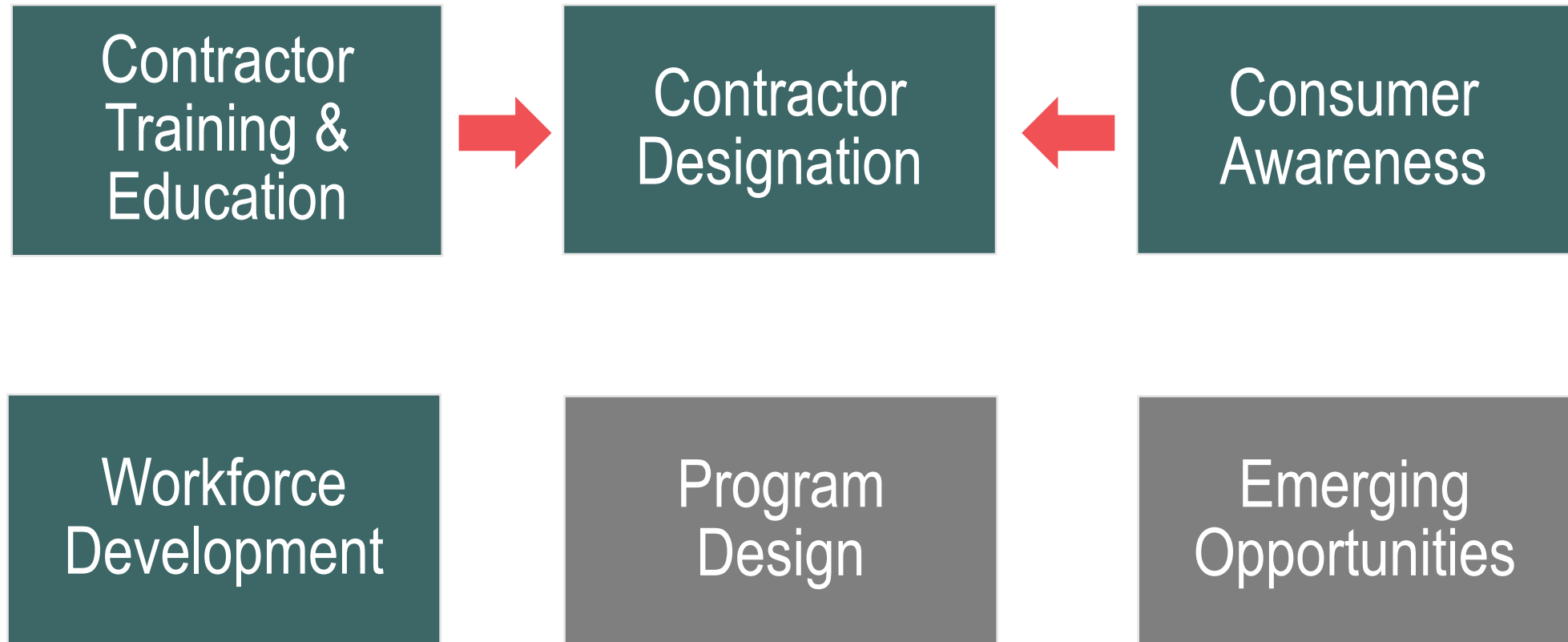
AWHP Market: Insights and Needs

- Limited product availability in Michigan
- Retrofits: AWHPs best suited to provide space/water heating, not cooling
- Market indicators for meaningful adoption: Significant incentives (“well over \$1,000”) due to similar costs as GSHPs
- Commercial sector: Further ahead with this technology
- Most efficient: Low-temperature distribution may require lowering home heating load or increasing radiator surface area



Recommended Heat Pump Market Interventions

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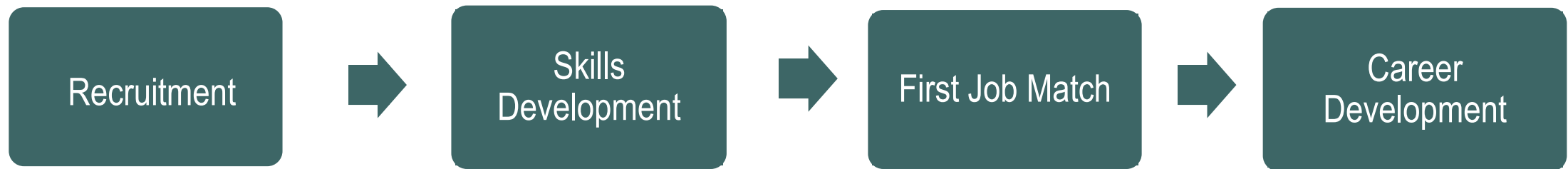
Contractor Training and Education Recommendations

- Distributor and contractor idea exchanges
- Heat pump resources on rates, cost of heat, and controls
- Product ownership



Workforce Development Recommendations

- Recruitment in high schools and communities
- Workforce development partnership roundtables
- Mobile learning lab for students and contractors



Consumer Awareness

- Inform public on available heat pump programs, rebates, and tax credits
- Distribute informational and technical resources
- Launch awareness campaigns
 - Leverage existing utility awareness campaigns
 - Build targeted awareness campaign specifically around heat pumps



Current Activities and What's on the Horizon?

Virtual Contractor Trainings

- HPWH trainings with each of three major manufacturers
- Why Offer Heat Pumps?
- Introduction to Heat Pumps and Heating Applications
- Sales and Marketing Strategies for Heat Pumps
- ASHP Equipment Selection and Configuration for Successful Installation
- Introduction to Air-to-Water Heat Pumps: **March 28**

- **Access on-demand content for free at miheatpumps.com/training**

Connecting Customers and Contractors

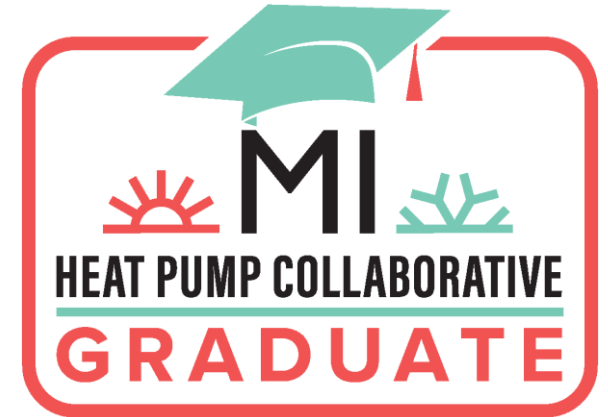


Heat Pump Designation Process

■ Requirements

- Complete a Graduate Designation Intent Form
- Proof of completion of heat pump manufacturer training
- Complete all required Michigan Heat Pump Collaborative trainings, and pass the knowledge checks
- Obtain and maintain all appropriate Michigan licenses

■ Provide list to utilities for promotion



Future Roadmap

- MEMD HPWH measure revision
- Consumer awareness
- Realize in-person contractor training partnership opportunities
- Inclusion of other MI utilities
- Coordinate with Midwest ASHP Collaborative

THANK YOU

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