

Room Heat Pump Market Transformation Initiative

Appendix A: Logic Model

November 14, 2024

Prepared by: Elaine Miller, Strategy Manager Alex Wurzel, Program Manager

Resource Innovations 719 Main Street, Suite A Half Moon Bay, CA, 94019 (888) 217-0217

info@calmta.org

CalMTA is a program of the California Public Utilities Commission (CPUC) and is administered by Resource Innovations.

IMPACT

plans with appropriate

CalMTA role identified to

data and research

Prevalence of

electrification-

enabling rate

structures grows

across the state

(L18)

Key for Market

Progress Indicators

(MPIs) included in each

market outcome

A: Awareness

B: Builders

P: Program

R: Retail

U: Units

L: Regulatory

M: Manufacturers

S: Code/Standard

New ENERGY STAR New market entrants Public health and Barriers/ and labeling label covering heating and national partners climate resilience eeded for CA refrigerants with and cooling modes, generating manufacturer **Opportunities** benefits and overall ESJ new CEE specification momentum in product push for heat pumps and IRA funding category . Influence manufacturer development of window 2. Engage national **Strategic Build market** 8. Support 5. Support inclusion ဂိုဂိုဂို heat pumps that meet the needs of the California collaborative on 7. Support CA policy awareness of 3. Gather and 6. Deploy and bundling of RHPs advancement of Interventions market through technology challenges, demand future ENERGY and standards product benefits in share usage and midstream with California aggregation, and ongoing manufacturer STAR specifications electrification setting bodies in use partnership with bill impact data stocking incentives possible federal test programs that will engagement enabling rate of lower GWP Interventions aligned across program that motivate reduce initial product procedures, and refrigerants through structures to mitigate with a focus on organizations and partners that retailers to target and operations cost building the market Initial focus: form factor that meet the needs of CA manufacturer bill impacts of market partners MTI's Role equity have supported ESJ communities impacts for ESJ for California windows and climate engagement, lab considerations like manufacturers moving from gas to with affordable product communities suitable RHPs Future: air filtration capability and use of lower GWP testing and data and retailers electric heating installations room heat pumps sharing **Outputs** Program tools (use National collaborative Messaging CA policy map and advocacy Purchase Robust data set Retail partner Data, white paper, and cases, benefits delivers recommendation Tech challenge and agreements with CA available for agreements, incentive advocacy plan on messaging, on appropriate products for and product housing authorities marketing manufacturers, manufacturer product tracking, and retail product use lower CA climate and labeling to and multifamily support advancement of rate roadmaps buy downs) delivered plan in place programs, state and data sharing **GWP** refrigerants manufacturers, national property owners structures with supporting for programs to federal policy partners, ENERGY STAR, leverage makers and local programs Outcomes Manufacturers respond to tech challenge with product plans Growing number of Retail partners stock **Short-Term** and prototypes for CA-suitable manufacturers Manufacturers and Programs begin to and sell more (1-2 yrs) product (M1) support use of lower market partners adopt affordable products in include RHPs as a more consistent product ESJ predominant GWP refrigerants measure (P16) **ENERGY STAR** labeling and product communities year (M6) specification adopted for around (R11 and R12) descriptions, market products that provide both confusion declines (S8) Multifamily building owners heating and cooling value product and begin to (possibly including the purchase (M2) Markeť s Response portable forms of products) Consumer awareness of (S7) More CA-suitable Key standard-setting Med-Term benefits and features grow Prices decline, products installed in SF bodies (i.e., ASHRAE and starting with multifamily especially of CA-(3-5 yrs)and MF homes through UL) amend guidance to Availability of products that include market and their key suitable products CA programs (P17) allow the use of lower influencers (A13 and A14) form factors for slider and casement relative to price of **GWP** refrigerants based An update to the windows and CA-suitable temperature competing AC units and on manufacturer feedback **ENERGY STAR** performance grows and availability of resistance heaters (M5) (S9) specification that includes products that include air filtration separate tiers for moderate capability grows (M3 and M4) and cold climates (S7) Market share of RHPs grows and standalone AC window units and electric Long-Term Relevant state resistant heaters decline (U15) (6-10+yrs)egulations updated to Federal efficiency standards allow use of lower Availability of products that add heating efficiency and GWP refrigerants in use lower GWP refrigerants increase stringency for RHPs (L19) grows (M20) cooling efficiency for all target HP products (S10) Norm is to purchase RHPs instead of electric resistance heaters and AC window units, and a subset of RHP products increasingly incorporates air filtration

capability and use of lower GWP refrigerants

RHPs are seen as a key technical solution to displacing

GHG from inefficient heating