

## BRAINSTORMING BARRIERS

**Based on what we now know about grid readiness and housing needs, how would you expand/revise this preliminary list of barriers?**  
*5 minute quiet brainstorm; round robin to hear 1 idea from everyone. At end of the session, if you have other ideas, please enter them into the chat.*

<p><b>FINANCIAL</b></p> <ul style="list-style-type: none"> <li>● Upfront costs of equipment - heat pumps just cost more. Untenable for LI. New construction costs are real when trying to qualify for a mortgage.</li> <li>● Increased operating cost of electric heat/cooling when not paired with solar. Adding cooling load to summer energy bills. (Pair with solar and get it commissioned - to reduce energy bills with heat pump adoption.)</li> <li>● Consumer understanding of stacking incentives</li> <li>● Ensuring all stakeholders are at the table</li> <li>● Understanding all of stacking/braiding - win people's trust</li> <li>● Political will to finance efforts when IRA and other investments might not be available in the future</li> <li>● Complicated tax credit application processes</li> <li>● Money for people to pay energy audits</li> <li>● Complexity of paperwork required to participate in incentive programs.</li> <li>● Cost to upgrade old and mobile home electrical systems to support electrification.</li> </ul>	<p><b>INFRASTRUCTURE</b></p> <ul style="list-style-type: none"> <li>● Utility DER programs</li> <li>● Distribution system readiness</li> <li>● Old buildings</li> <li>● Retrofit vs new construction</li> <li>● Ability for gas company to install new furnaces each year</li> <li>● Limited capacity for grid to accept moresolar</li> </ul>
<p><b>CUSTOMER OUTREACH/ AWARENESS / EDUCATION</b></p> <ul style="list-style-type: none"> <li>● Knowing when to and who to connect with to solve problems</li> <li>● Changing mindsets</li> <li>● Effective communication</li> <li>● How to make communications more effective - tools that utilities already have (newsletters). In a way that meets the</li> </ul>	<p><b>WORKFORCE</b></p> <ul style="list-style-type: none"> <li>● Human capital for workforce</li> <li>● Contractor awareness/education</li> <li>● Not giving home upgrades a bad name because of limitations of rebate programs</li> <li>● Getting people on both ends of the transaction excited about the technology</li> <li>● Home builders: upfront electrification costs are going to make homes too expensive.</li> </ul>

customer needs

- Prioritizing basic necessities when they are difficult to obtain
- LI residents have too many competing needs to prioritize decarbonization
- Marketing and behavioral psych - solutions to address inherent laziness (interest and comfort and resonate)
- Energy audit IRA requirements difficult to understand. Sticker shock of energy audit costs.
- Consumer misunderstanding/fear of heat pumps not working in colder climates.

Need to balance immediate costs and long-term benefits (comfort). Need to take the long-term view. LI rights to a comfortable home = need to recognize. Balance facts with understanding impacts of climate change.

- HVAC workforce training needs to include updated heat pump knowledge. (need upskilling of existing HVAC workforce)
- Designers and large contractors not knowing how to integrate new technologies into developments.
- Convert O&G industry workers to decarbonization positions
- Affordable housing contractors are not used to working with ducted heat pumps, water heaters. Huge need for workforce training and capacity - gas perceived as easy and cheap.
- Lack of HP installers who know how to or actually properly size heat pumps. Backlash from people when not done right.
- Lack of energy auditors in NM

**BRAINSTORMING BARRIERS**

**Based on what we now know about grid readiness and housing needs, how would you expand/revise this preliminary list of barriers?**

*5 minute quiet brainstorm; round robin to hear 1 idea from everyone. At end of the session, if you have other ideas, please enter them into the chat.*

<p><b>REGULATORY</b></p> <ul style="list-style-type: none"> <li>● Adding value of carbon to energy efficiency program benefits</li> <li>● Avoiding claims of free-ridership when stacking utility incentives</li> <li>● Rate design</li> <li>● Lack of programs/requirements to incentive the adoption of technologies</li> <li>● Misalignment of incentives at utilities - returns for big infrastructure, small is beautiful. Slow pace of regulatory change, long lead times yet tech improvements</li> <li>● Lack of renewable portfolio standards for gas utilities. Gas utilities are incentivized to build capital projects/more pipelines for new builds. Lack of incentives to remove gas pipelines.</li> <li>● Lack of incentives for renters.</li> <li>● Lack of regulations for health safety in the kitchen, e.g. gas stoves.</li> </ul>	<p><b>SCALE</b></p> <ul style="list-style-type: none"> <li>● So many buildings, can we really scale to make an impact?</li> <li>● Resi and small commercial bldgs are only 4%</li> </ul>
<p><b>LAND USE</b></p> <ul style="list-style-type: none"> <li>● Rooftop solar vs utility scale solar</li> <li>● Sprawl vs human-scale density</li> </ul>	<p><b>OTHER</b></p> <ul style="list-style-type: none"> <li>● Lead times for resources, equipment availability</li> <li>● Upfront cost misnomer stated by builders or developers. Lack of discussion of benefits which outweigh costs.</li> <li>● Lack of regulation for landlords to provide cooling. Lack of commitment to comfort of every person.</li> <li>● Momentum of natural gas tendency in building industry. Lack of familiarity with new options for heating.</li> <li>● Different needs for urban and rural regions of NM. (e.g, mice in heat pumps)</li> <li>● Lack of synergy with urban forestry initiatives where appropriate. (Vulnerable</li> </ul>

	<p>populations often have low tree cover. Urban greening can reduce energy burden, increase comfort, and improve air quality.)</p>
--	--