



**EcoHack-a-City Halifax – Final Presentation Group 2**



# THE CHALLENGE

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**THE WHAT:** initiate adoption of resilient retrofits

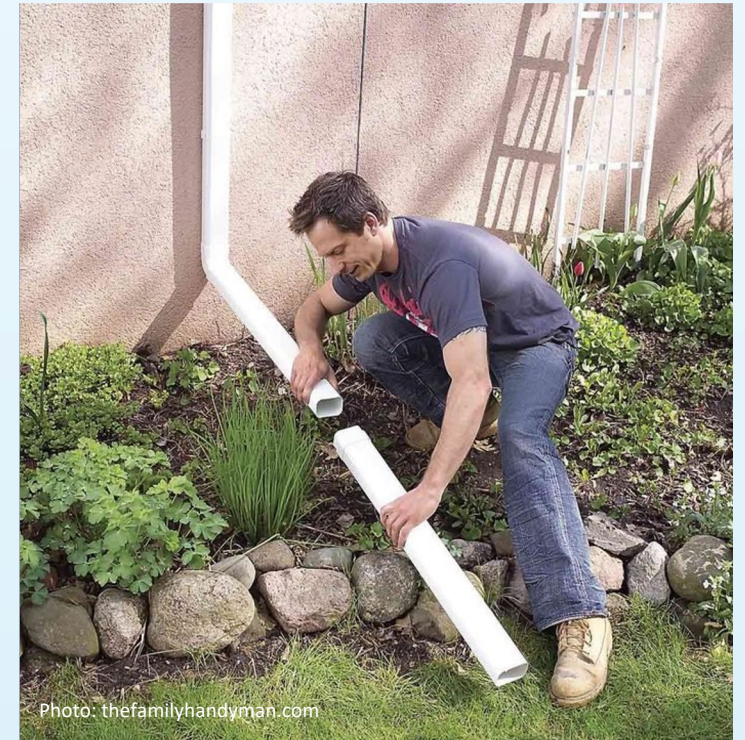
**THE HOW:** through existing or upcoming programs

**THE WHY:** to lessen climate impacts

**THE WHO:** on homeowners

## SETTING THE STAGE:

- Homeowners are largely underprepared for the impacts of climate change on their homes (e.g., health, costs, and aging building stock)
- Climate change impacts are increasing (heat, drought, flooding, wildfires)
- We know there is a 1:6 ROI for adaptation measures
- The retrofit conversation has been primarily driven by energy retrofits
- Resilient retrofits are new to homeowners, programming, and financing



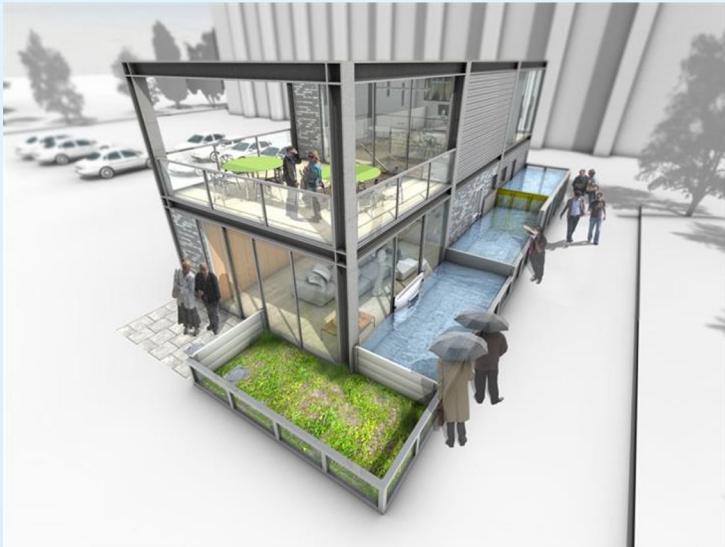
# THE CHALLENGE

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## WHO ELSE

- Emergency Services
- Renters
- Governments
- Utilities
- Folks living in climate vulnerable locations
- Builders and installers
- Insurance
- Businesses, especially those that rely on a remote work force

## THE HOPEFUL FUTURE



- Homes are built resiliently to begin with
- When events happen, people don't get displaced
- Resilient homes/retrofits are part of a multi-solving approach to health, housing, GHG reduction, and economy
- Communities have everything they need to be prepared for and recover from climate events

# THE CURRENT SOLUTIONS THAT ARE BEING TRIED

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- Utilize rebate & financial support programs
  - Canada Greener Homes Grant
  - Alberta Clean Energy Improvement Program (CEIP)
  - Nova Scotia HomeWarming Program (for lower income households)
  - Nova Scotia Home Energy Assessment Program (Clean Foundation)
  
- Organize home shows that educate the public on resilient home designs
  - Great place for target audience (homeowners)
  - Opportunity to sign up for future retrofits

# THE CURRENT SOLUTIONS THAT ARE BEING TRIED

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- Create mini resiliency plans
  - Customized for each neighborhood within a municipality
- Allow experienced professionals to implement resilient design elements
  - E.g., Designing landscaping that prevents flooding and erosion, extends storm-drainage, and creates rain gardens
  - Can also explain/provide technical knowledge to the average homeowner
- Use digital tools to educate the public on climate risk and resiliency
  - Climate Resilient Home and Climate Resilient Business
  - Intact Centre Flood Risk Assessment
  - Gamified learning (e.g., Games4sustainability)

# THE CURRENT SOLUTIONS THAT ARE BEING TRIED

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- Establish a province-wide Climate Adaptation Leadership Program
  - Multiple sectors (e.g., agriculture, coastal, etc.) collaborate to create climate adaptation plans and implement them
- Allow the private sector and governments to lead the way in disrupting city design
  - Sponge City (China)
  - The World's First Floating City (South Korea)

# THE GAPS THAT EXIST AND WHO/WHAT IS PRIMARILY IMPACTED? WHAT IS THEIR SPECIFIC NEED?

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## 1) **Skill set & availability gap for resiliency retrofits (builders / contractors / installers)**

- a) Lack of expertise in assessing retrofit needs and approaches
- b) What approaches suit a particular property?
- c) What products/materials exist in the area?
- d) Who has the skills to implement approaches?
- e) Tailoring resilient retrofits to a particular home can be more complex than energy retrofits

# THE GAPS THAT EXIST AND WHO/WHAT IS PRIMARILY IMPACTED? WHAT IS THEIR SPECIFIC NEED?

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## 2) Education Gap

- a) What are resilient retrofits?
- b) What is the business case for them?
  - i) Ex: Potential to reduce home insurance premiums through RR upgrades, therefore making RR more attractive
- c) Narrative prioritizes energy emission reduction, not building resiliency/safety
- d) Public views adaptation as “giving up”
- e) How to do resiliency retrofits and who to go to?
  - i) Even if funding/financing wasn't a barrier, a clear pathway does not exist for homeowners to do RR due to the lack of awareness and gap in skill sets



# THE GAPS THAT EXIST AND WHO/WHAT IS PRIMARILY IMPACTED? WHAT IS THEIR SPECIFIC NEED?

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## 3) Political will

- a) Decision-makers/politicians not prioritizing resiliency retrofit work or figured out how to address it
- b) Siloed approaches

## 4) Private sector leadership

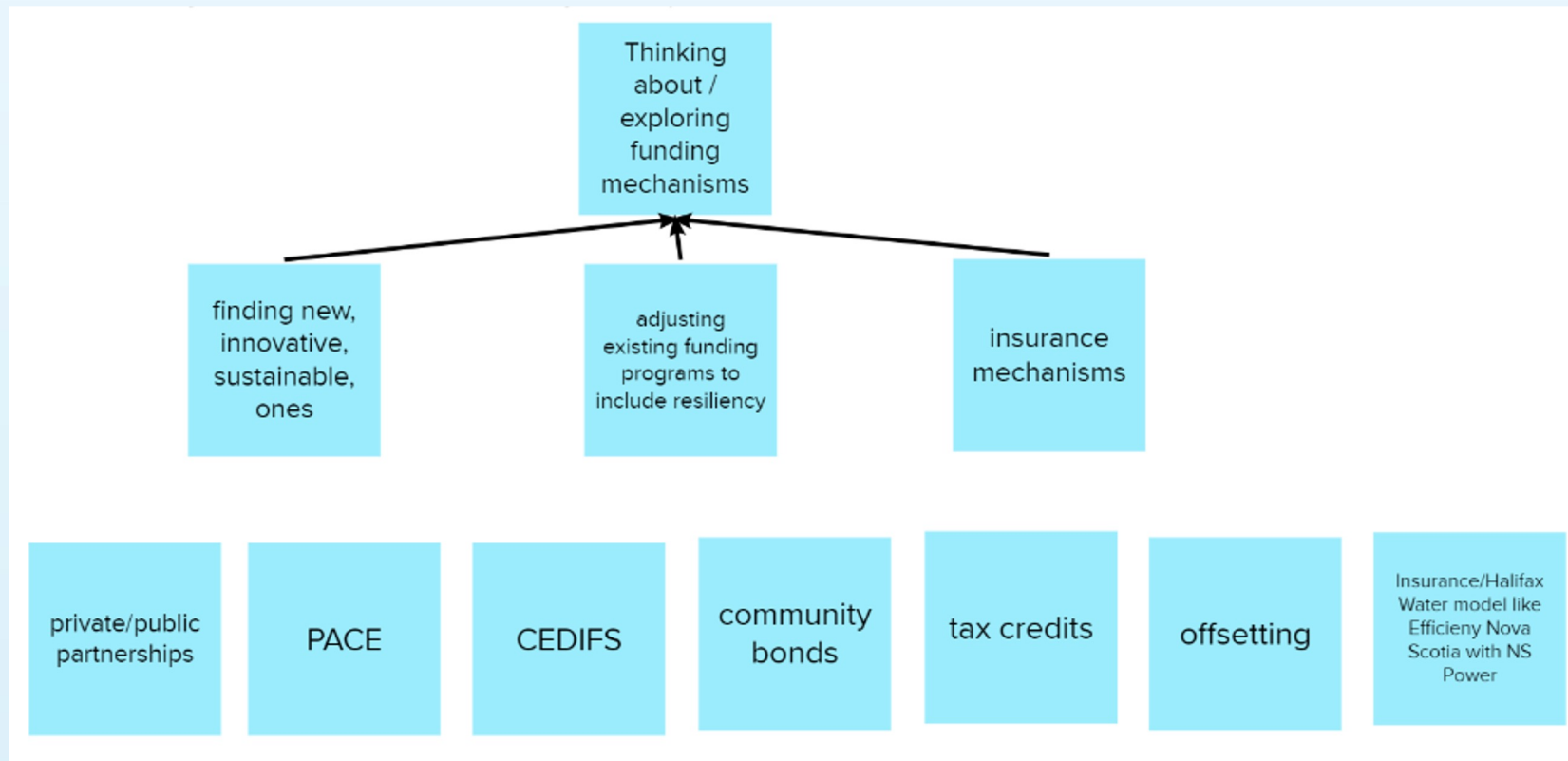
- a) Insurance companies, utility companies

## 5) Funding/Financing Gap

- a) Organizations like Clean unable to find funding to benefit homeowners
- b) Upfront financing leads to lack of equitable accessibility of these upgrades
- c) Folks who can't get credit checks
  - i) Need for creative and innovative financing mechanism to make it more accessible/take the burden off the homeowner

# WHAT ARE THE IMPACT ZONES TO ACT ON IN THE NEAR FUTURE?

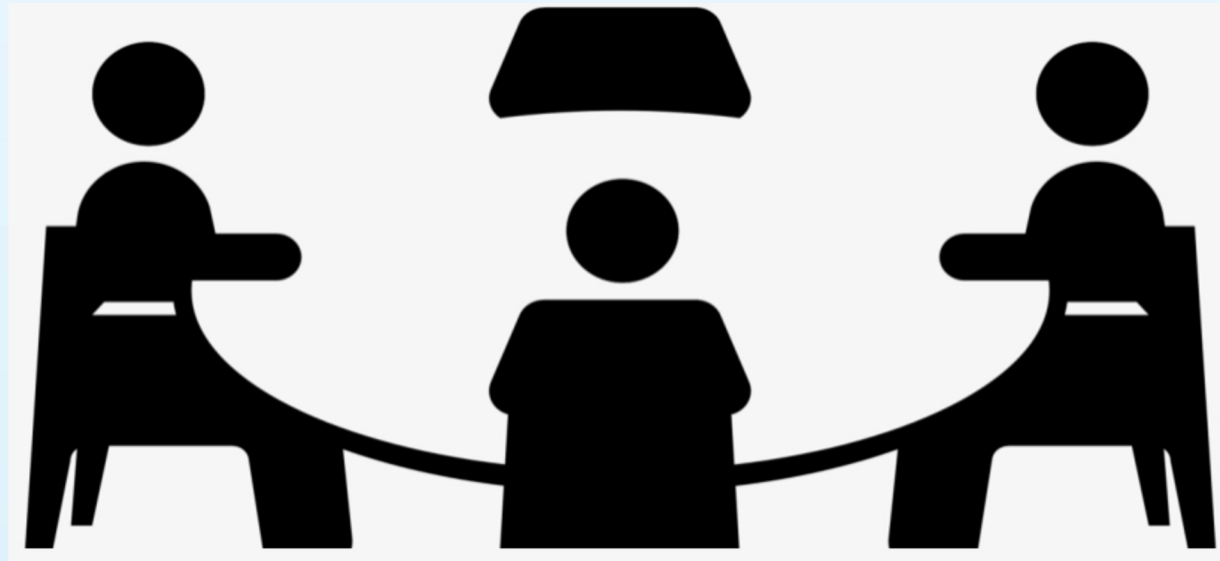
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# OUR KEY LEARNINGS DURING THE PROCESS (AND HOW WE CAN USE IT IN OUR FUTURE WORK)

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## Missing Voices/Groups



**“Cannot apply a one-size fits all when it comes to determining climate resilient solutions.”**

# OUR KEY LEARNINGS DURING THE PROCESS (AND HOW WE CAN USE IT IN OUR FUTURE WORK)

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## Missing Voices/Groups

- The ability to adopt resilient retrofits extends beyond business owners, homeowners, and governments. Renters, builders/contractors, insurance agencies, and economic/market forces are also part of this conversation.
- It is possible to use disruptive innovation to design cities that are inherently resilient to the impacts of climate change, such as Sponge City in China or a floating city in South Korea.
- How crucial it is that a resilient retrofit program goes hand in hand with a deep energy retrofit program. Residents are less likely to go through two rounds of retrofits and often times a resilient retrofit needs to be completed before an energy retrofit (e.g., wet proofing a basement needs to happen before it's insulated).
- Rental or airbnb properties to promote net-zero building stays.

# OUR KEY LEARNINGS DURING THE PROCESS (AND HOW WE CAN USE IT IN OUR FUTURE WORK)

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## Funding Source



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## Funding Source

- We don't have to rely solely on governments to fund resilient retrofits. There are proactive measures we can take as citizens, such as developing public-private partnerships and starting Community Economic Development Investment Funds (CEDIF).
- How important the money piece is! Almost everyone we interviewed noted that financing options were the largest barrier and also one of the biggest incentives.
- Most rebates are too little to make a difference for homeowners, especially when they have to pay upfront and wait 3-6 months for an unknown rebate to come back to them.
- Funding cannot just come in the form as rebates from government funds. A long-term sustainable financing mechanism needs to be identified and employed for these kinds of retrofits to really be successful.
- Private sector create a one stop shop for new homeowners in partnership with a bank. (Deep retrofits is included in there mortgage).
- Educational funding for new skilled trades and contractor programs across community colleges.