

# Taking stock

How can we build energy efficient homes for the future

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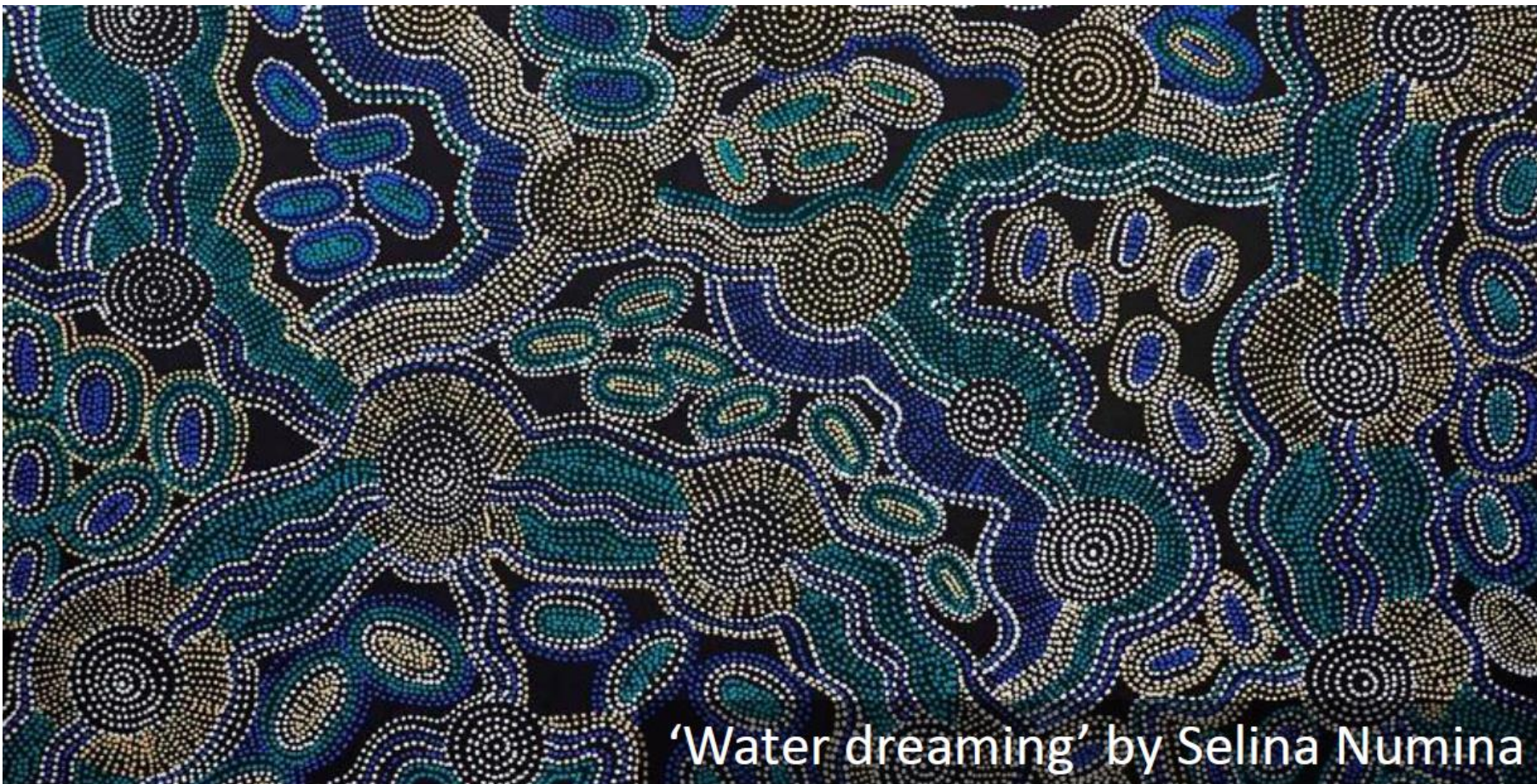


# NSW Housing Strategy

## *Housing 2041* - Resilience

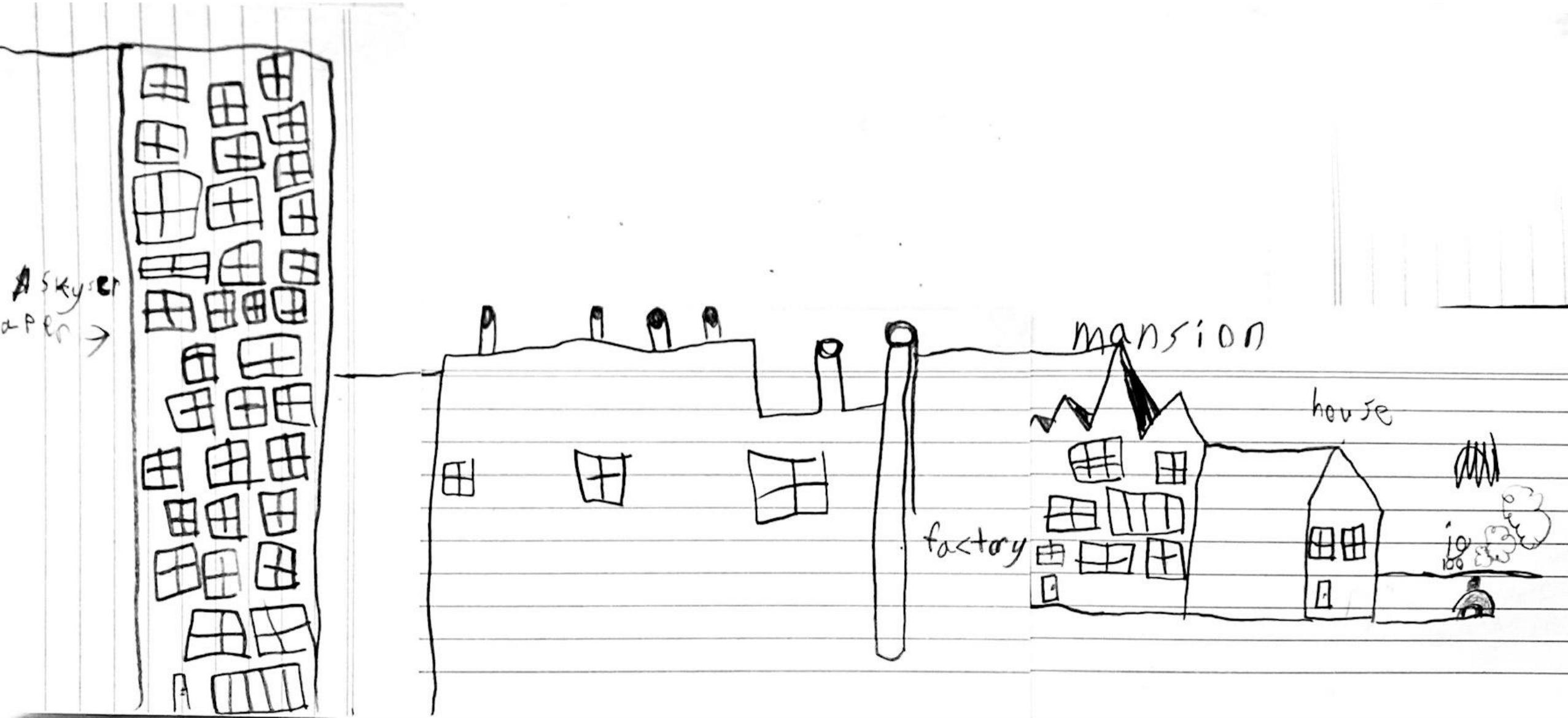


# Acknowledgement of Country

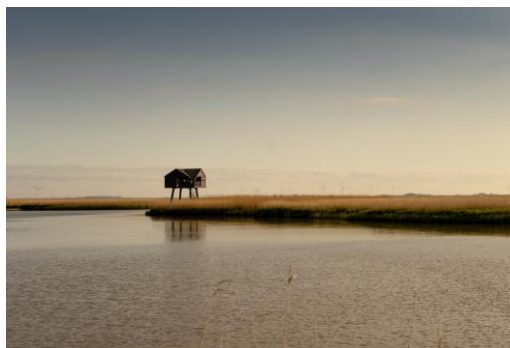




# What is a home?



# Many things to many people



- A house
- A refuge
- A community
- An investment
- A beautiful structure
- A virtual world
- A castle

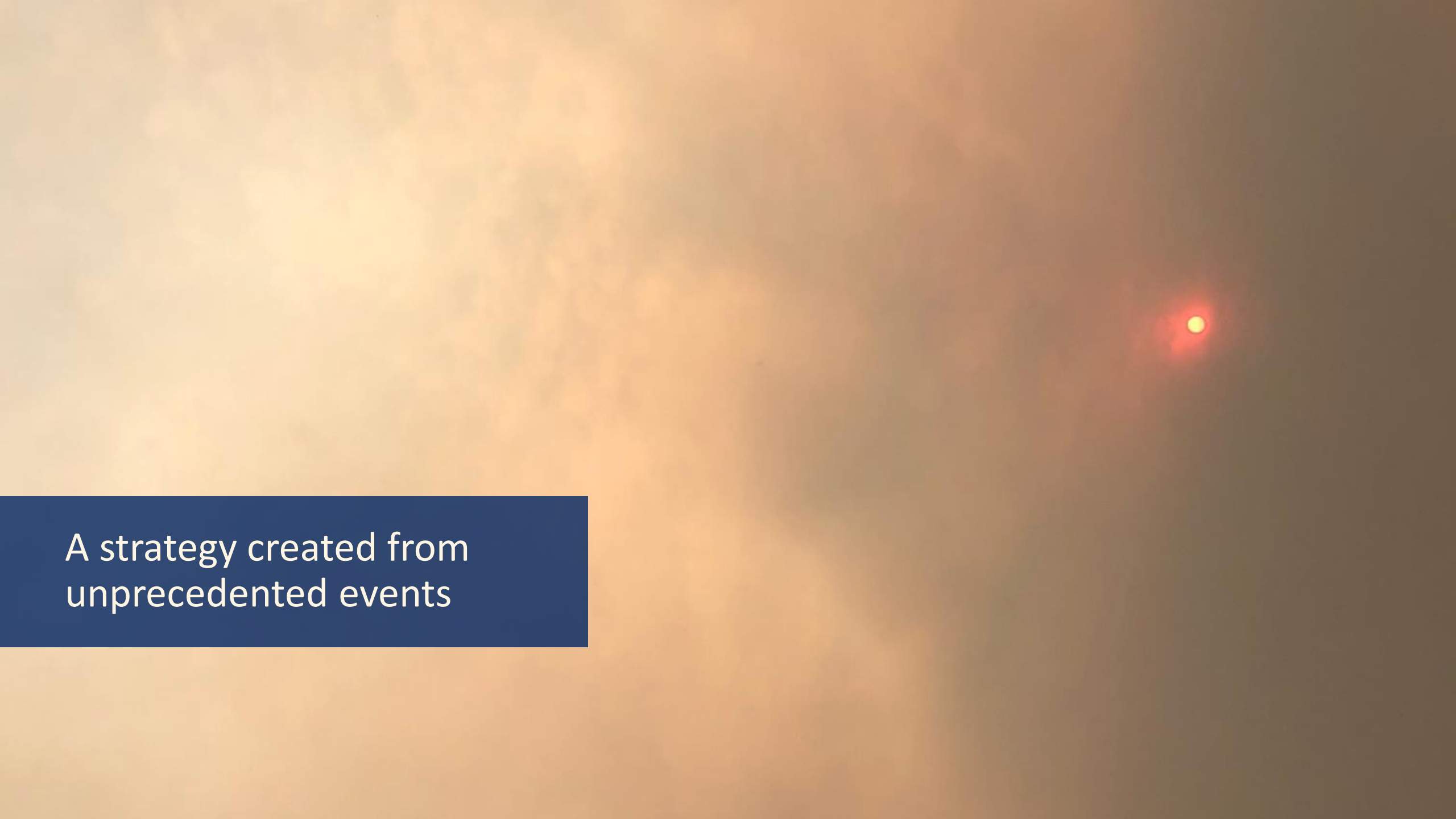
- A nest egg
- An office
- A shelter
- A school
- A friend
- An escape





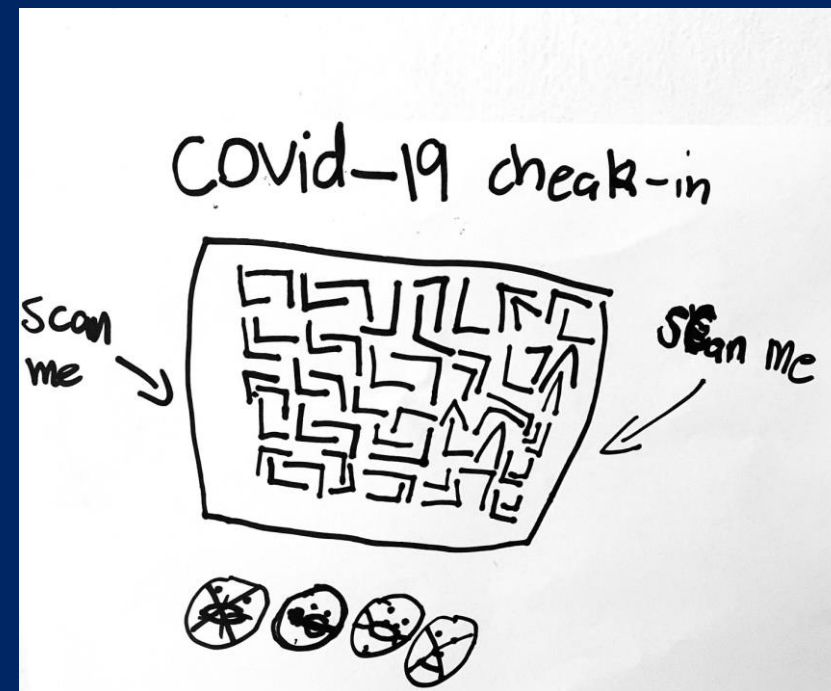


An unexpected journey

A photograph of a sunset sky. The sun is a small, bright red-orange circle on the right side of the frame, partially obscured by a dark blue horizontal bar. The sky is filled with soft, wispy clouds in shades of orange, yellow, and light blue. The overall mood is serene and contemplative.

A strategy created from  
unprecedented events

# Turning inwards





# NSW Housing Strategy: *Housing 2041*

NSW will have housing that supports security, comfort, independence and choice for all people at all stages of their lives.

## 20-YEAR VISION

### People and communities have:

- access to housing security, diversity and support, irrespective of whether they live in metropolitan or regional areas
- choices that enable them to afford a home without compromising on basic needs
- support and opportunity in differing circumstances, including people in crisis, social housing residents, private rental tenants and those who aspire to home ownership.

### Homes in NSW are:

- accessible and suitable for different stages of life or changing circumstances
- connected to local facilities, jobs and social networks, with infrastructure, services and spaces that people need to live sustainably
- designed to support human wellbeing and respond to the environment, maximise technology and support local character and place.

## NSW HOUSING SYSTEM PILLARS

### SUPPLY

Includes amount, location and timing of the supply of new housing. Planning for the supply of new housing should respond to environmental, employment and investment considerations, and population dynamics.

### DIVERSITY

Considers different types of housing and looks at how a diverse choice of housing can reflect the needs and preferences of households.

### AFFORDABILITY

Recognises people live in diverse tenures based on their income and circumstances, and that housing should be affordable, stable and supportive of their aspirations and wellbeing.

### RESILIENCE

Includes matching housing to community and environmental issues, so people, communities and their homes are safe, comfortable and resilient.

## ACHIEVING OUR VISION

1. Enhanced partnerships and collaboration

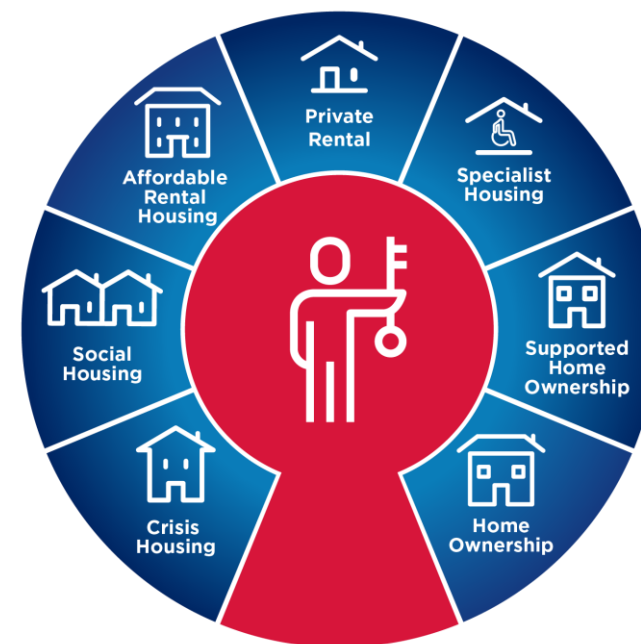
2. Increased support for those most in need

3. New housing that is adaptable to changing needs and environments

4. Improved alignment of housing with infrastructure and community services

5. Support for first home buyers

6. Greater support and security for people in private rental



Ensuring support and opportunity for all, in all circumstances.

# The four pillars of *Housing 2041*



- Four pillars of **supply**, **diversity**, **affordability** and **resilience**.
- **Inter-related** and together will contribute to improved **economic**, **health**, and **social wellbeing** outcomes for the people of NSW.



# Resilience

- Housing design should **respond to its environment** and **integrate with green infrastructure**.
- Housing design should **maximise new technological advancements** and evolve to new ways of living.
- **Planning** for housing and infrastructure should **happen together** and recognise the way we plan for new homes shapes the characteristics that make a **healthy and resilient community and place**.
- **Design** should **address extreme heat, bushfires, flooding and energy use**.

# Housing 2041



## RESILIENCE

Includes matching housing to community and environmental issues, so people, communities and their homes are safe, comfortable and resilient.

# Climate change and extreme weather

- NSW is predicted to have more **hot days over 35°C, rainfall extremes, sea level rises and severe fire weather.**
- Regional NSW and areas in Western Sydney **disproportionally affected by climate change** and extreme weather.
- Impacts of climate change and health risks likely to be greatest **for those already experiencing disadvantage.**
- Housing must consider our **environmental footprint, greening our city, climate adaptation**, a circular economy & NetZero by 2050.





# Housing affordability and resilient communities

- Increased housing costs (bushfire recovery, regional housing demand, material and skills shortages).
- Decreasing housing affordability is:
  - impacting households **social, health, economic and environmental well-being**
  - Limiting the ability to implement **sustainable upgrades** (retrofit) and for industry to incorporate **sustainable materials and features** into new homes.
  - Increasing overcrowding and **demand for social and affordable housing**.



# What is important to people in the homes they live?

|  |   |  |  |  |
|--|---|--|--|--|
| <p><b>WHILE COST OF LIVING RELATED TO ENERGY IS HIGHLY IMPORTANT, SATISFACTION IS CURRENTLY QUITE LOW</b></p>  | <p><b>AIR, LIGHT AND SOUND QUALITY ARE THE MOST CRITICAL NEEDS FOR FUTURE HOME DESIGN</b></p>  | <p><b>ACCESS TO GREEN SPACES IS THE MOST IMPORTANT FOR 18-24 YOS.</b></p> <p>ACCESS TO GREEN SPACES WASN'T TOP OF MIND BEFORE THE PANDEMIC, BUT COVID-19 HAS INCREASED ITS IMPORTANCE</p>  | <p><b>WHEN MOVING TO A NEW HOME, PEOPLE ARE THE MOST CONCERNED WITH ACCESSING LIGHT, AIR FLOW AND LOCATION, LOCATION, LOCATION!</b></p>  | <p><b>TO GET FUTURE NSW RESIDENTS INTO APARTMENTS, WE NEED TO ALLOW FOR AMPLE PRIVATE OUTDOOR SPACE, NATURAL LIGHT AND AIR FLOW</b></p>  |
|--|---|--|--|--|

Place you live survey – Greater Sydney (2021) – Government Architect NSW



# Broad impacts of improved housing



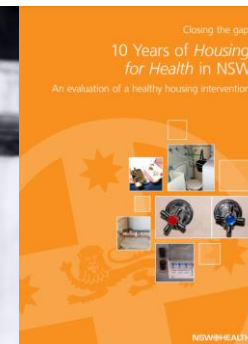
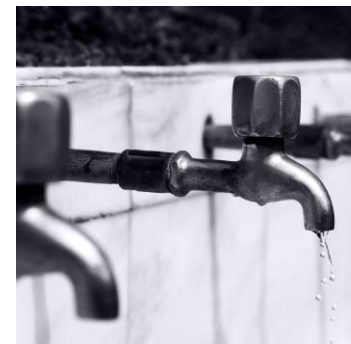
## Improved health outcomes from basic maintenance upgrades to housing

Those who received the Housing for Health intervention had a significantly reduced rate of hospital separations for infectious diseases – **40% less** than the rate for the rest of the rural NSW Aboriginal population who did not receive the intervention.

## Case study

### Housing for Health Program (NSW Health)

Prioritising housing maintenance to improve health in Indigenous Communities in NSW over the last 20 years



# Broad impacts of improved housing



## Financial gains to tenants from solar PV

Estimated to be approximately \$230 saved per kW installed.



## 'Bundling' other upgrades with solar PV tenants has a multiplier effect

For example, draught proofing, insulation, shading and ceiling fans.



## Measuring sentiments can be as valuable as economics

Measured a 55% reduction in people saying it was Difficult or Very Difficult to pay their bills from receiving solar PV.



## Case study

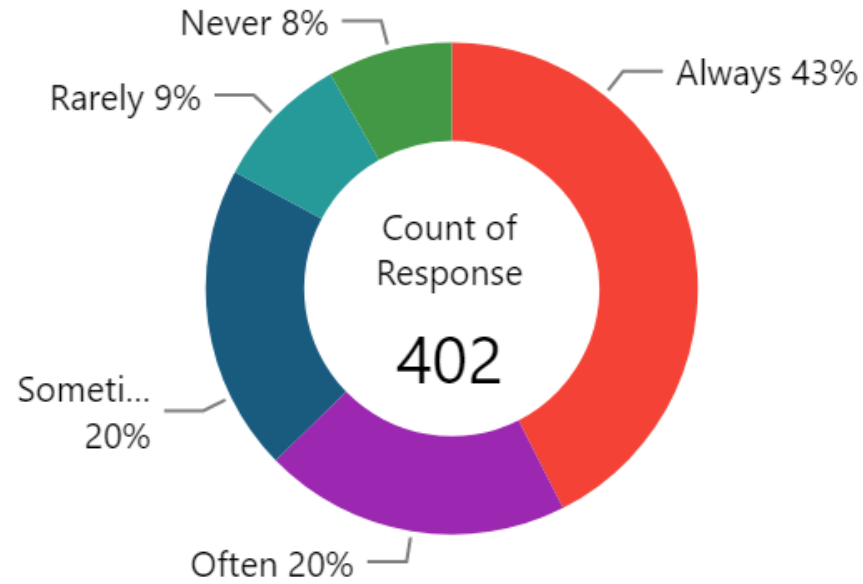
NSW Land and Housing Corporation solar PV



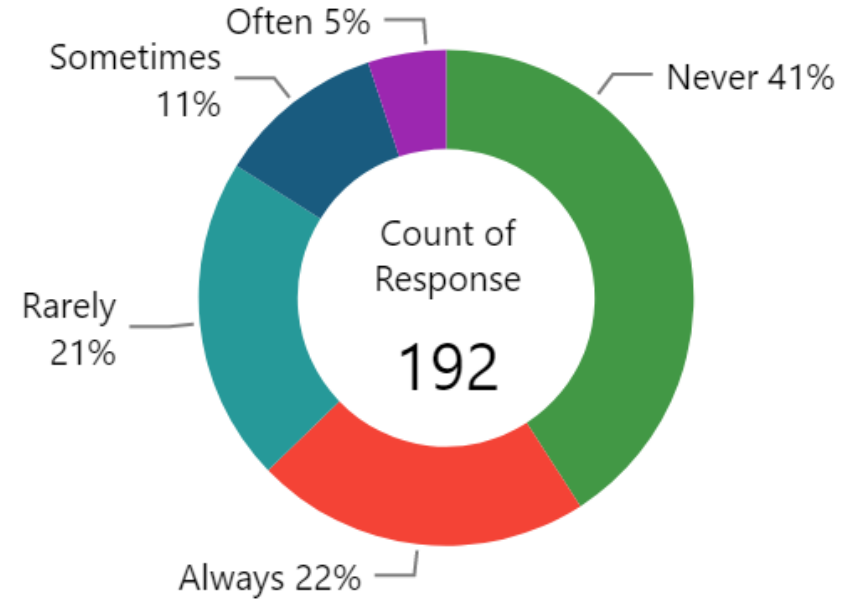
*After receiving solar PV, Gale felt 'liberated and set free' and felt 'human again'. She isn't afraid to use electricity and is now cooking with her oven again.*



# Multiple Benefit Surveys



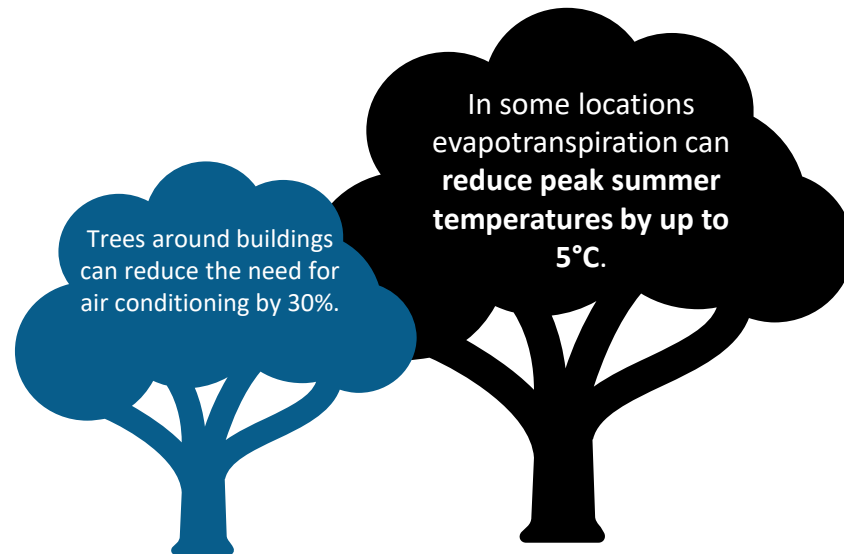
Frequency of stress when paying energy bills: **before**



Frequency of stress when paying energy bills: **after**

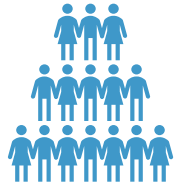
# Greening our city

- Increased green cover to mitigate the urban heat island effect, building resilience to climate change with healthier urban environments.
- Ensuring long term housing growth improves public amenity and supports green infrastructure.
- Achieving the **NSW target of 1 million trees planted by 2022.**





# Looking to the future



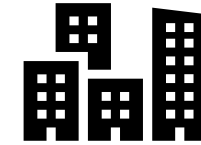
NSW population will grow from 7.7million (2016) to **10.5 million** people by 2041



NSW is predicted to have more **hot days over 35°C** (up to 5 times more by 2090), as well as more **rainfall extremes, sea level rises** and **severe fire weather**



**Vulnerable** communities and low income tenants are at greater risk of being impacted by climate change and associated health risks



**Urban heat island effect** – 11% of Sydney will have significant land use change by 2036. Without adaptation measures this could double the impacts of climate change



Residential sector makes up **20% of NSW's GHG** emissions and **26% of energy** consumption



More than 60% of housing stock is over 20 years old – by 2050 this will represent **48% of housing stock**

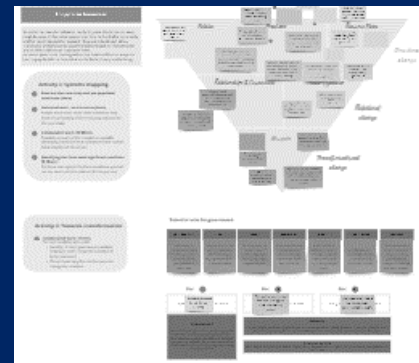
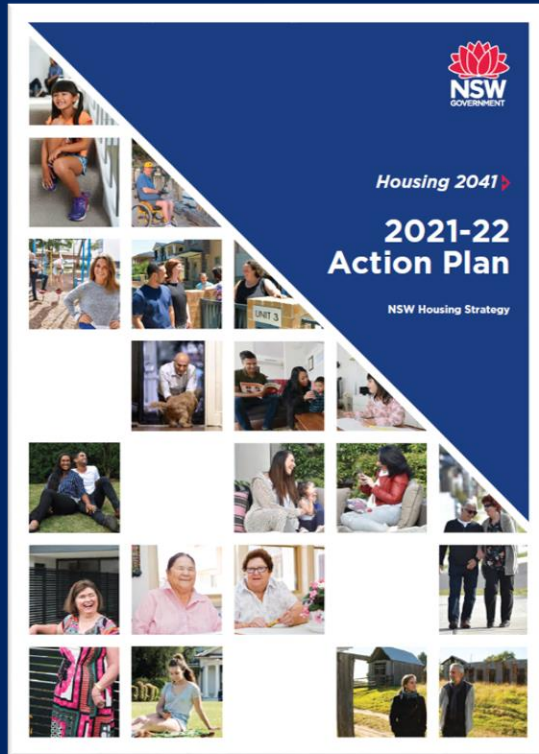


Average performance of **old housing stock** – estimated 1.7 stars



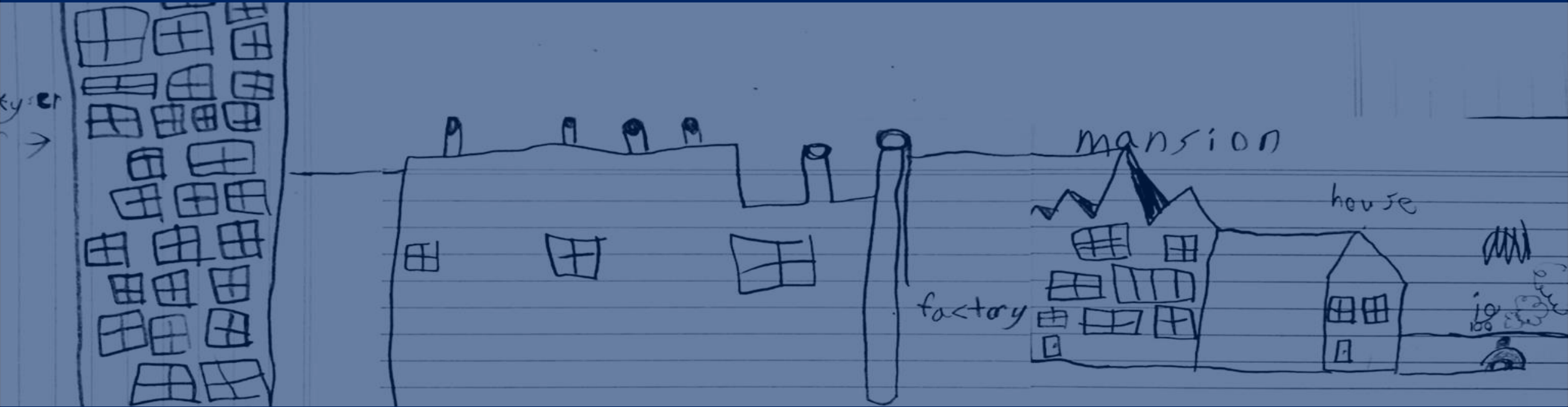
Increased **air conditioner** usage due to heatwaves (projected increase from 13% to 70% users by the end of the century)

# Housing 2041: implemented through multi-year action plans



## Future action plans

- **Collaboration** and knowledge sharing
- Improving policy **benchmarks**
- Resilience programs including **improved climate adaptation** for existing and new homes



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