



**KEEPING WARM & HOT WATER IN
WINTER: SUSTAINABILITY
CHALLENGES FOR OLDER, SOCIAL
HOUSING TENANTS, WOLLONGONG,
NSW**

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STRUCTURE

- Aims & Approach
- Methodology
- Findings
- Recommendations
- 'Warm as Toast' (higher-income households) project findings
- Similarities/differences between projects



AIM OF PROJECT

- Explore the challenges of winter warming and hot water for social housing tenant households, Wollongong, NSW
- Contribute to policy-making decisions addressing climate change, electricity costs and energy efficiency
- Build upon larger work in the Australian Centre for Cultural Environmental Research on Australian households in sustainability and climate change



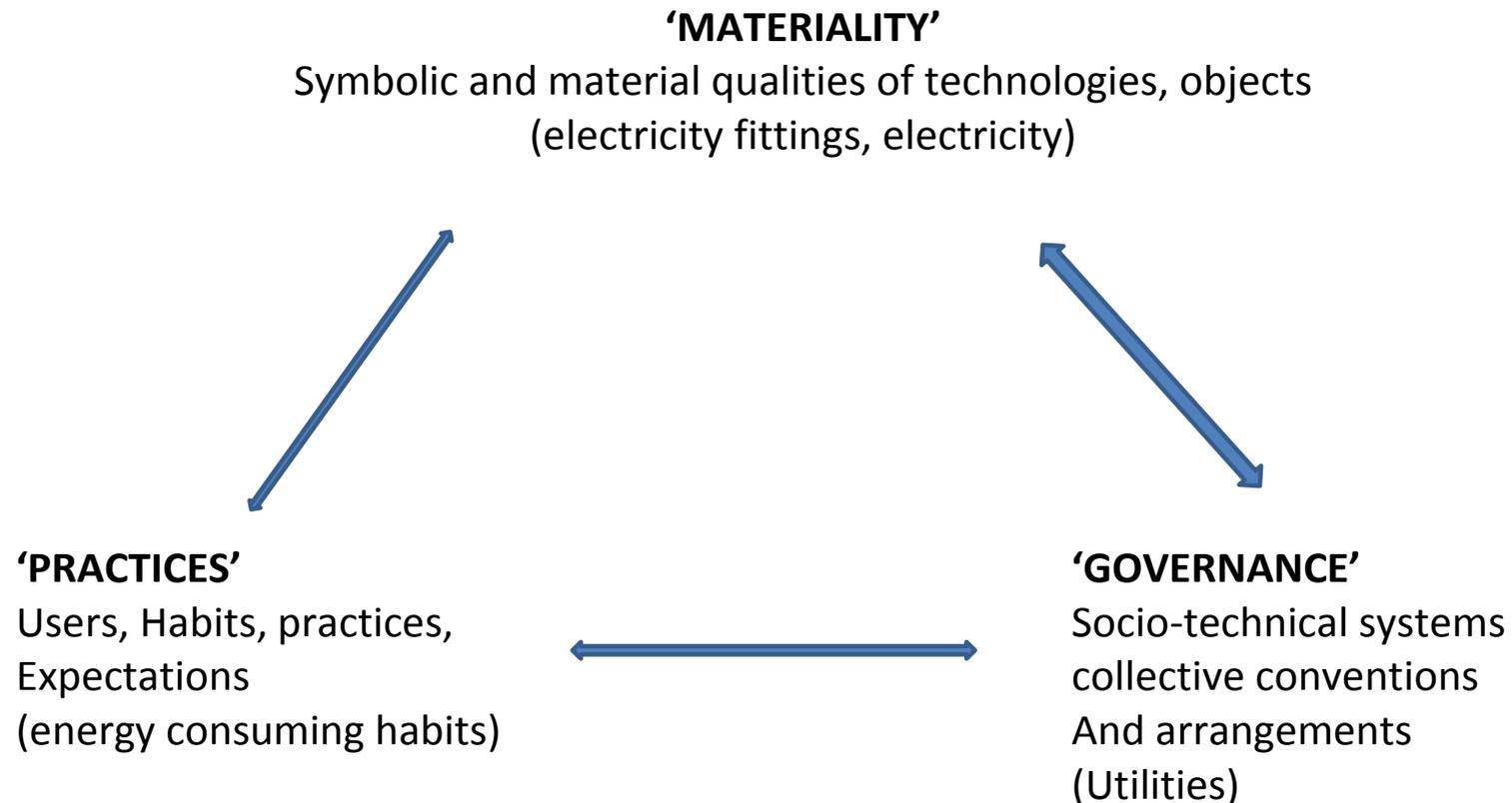
THREE RESEARCH QUESTIONS:

- What are the sustainable household implications of common sense **practices** of keeping warm in winter and using hot water?
- What **governance** structures inhibit and enhance sustainable household practise?
- How does the **materiality** of buildings or water, person and space heating technologies work for and against sustainability?



APPROACH: The ‘Connected Household’

The conceptual framework to explore household sustainability draws on ideas developed by Head et al (2013) termed the ‘connected household’, conceptualising the space comprised by households as ‘Zones of Friction’ and ‘Zones of Traction’



APPROACH: Zones of Friction & Traction

○ Zones of Friction....

- Need to limit zones of friction involving pathways of resistance to more sustainable outcomes
- The structural and cultural blockages/barriers that prevent low income households consuming less energy

○ Zones of Traction

- More focus.....
- Consider connections across the household
- Useful interventions towards more sustainable outcomes
- Building on Head et al (2013), this will help decision-makers.....NSW Government...think possibilities at the household scale



METHOD

○ Recruitment

- Facilitated by Illawarra Forum and TPRS Groups
- Three dwelling types (multi-unit complex, stand alone cottages in Berkeley and a villa complex Woonona)

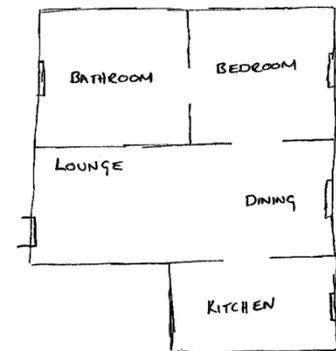
○ Participants

- 25 households
- Older people over 60 years of age
- Living alone with low/fixed income



MATERIAL CONTEXT

- 12 units in two blocks, two levels



DATA GATHERING

- 3 month period end of winter (August – October) 2012
- Mixed Method approach
 - Focus groups
 - Home insights & semi-structured interviews
 - Solicited diaries
- 25 participated across three focus groups
- 9 provided home insight tours and semi-structured interviews
- 11 kept warming and using hot water diaries



***FINDINGS: HOUSEHOLD
SUSTAINABILITY
CHALLENGES***

‘Winter Warming’



WINTER WARMING: A culture of frugality

- ‘Thrifty’ practices of keeping warm out of necessity to save money
- Absence of heating system (policy) provided by landlord – NSW Government
- Non-mechanical forms of heating (blankets/hot drinks/showers) most popular forms of heating
- Preference to use electric fan heater as mechanical form of heating



WINTER WARMING: Zones of Friction

(limit these)

Zones of Friction	Warming practices
Financial cost V environmental concern	Create a financial dilemma not an environmental one Material and information constraints to be energy efficient
South facing shaded homes and materiality of design	Increased reliance on mechanical heating Increased risks to health
Electricity meters	Restricted access to meters and lack of control over consumption
Absence of leadership within housing committees	Inability to communicate concerns to housing manager and electricity utility
'Temperature' climate	Classification of 'temperature' works against NSW LAHC providing a heating system, despite night time temperatures falling below 8 degrees



WINTER WARMING: Zones of Friction (cont..)

Zones of Friction	Warming practices
Entertaining family and friends	Hospitality warming Masks everyday practices
Warming rooms with electric fan heaters rather than space heaters	High cost, instantaneous personal heating rather than low cost space heaters, lack of capacity to be more sustainable
Increasing electricity prices	Conserving electricity whilst also wanting to keep warm
Carbon Tax Rebate	



WINTER WARMING: Zones of Traction

(focus on these)

Zones of Traction	Warming practices
Financial cost V environmental concern	Knowledge and consideration of diversity of past practices for keeping warm out of financial and environmental cost
North facing courtyards and balconies	Orientation of every-day life and social gatherings created in sunny spaces and warming the bricks preventing the need for mechanical heating
Housing Committee meetings and collective decision making	Organisation of social events, working-bees for sharing warming practices and communication of concerns Ability to understand environmental attributes of fellow tenants and relevant applicability
Staying warm with non-mechanical forms of warming	Experts in closing rooms and non-mechanical forms of keeping warm reducing the need for mechanical forms of heating



***FINDINGS: HOUSEHOLD
SUSTAINABILITY
CHALLENGES***

‘Hot Water’



HOT WATER: A culture of frugality

- Use of hot water underpinned by need to reduce power bills, rather than save hot water or the planet
- Feeling 'they cannot do anymore than already have' - frustrated with continued request to save more
- Constrained to 'do more' as a result of infrastructure and 'locked-in' nature of design



HOT WATER: Zones of Friction

Zones of Friction	Hot water practices
Hot water system	Switching off and on hot water heaters and the design of the heater
	Installation – lack of control, temperature settings and efficient use
	Maintenance – tinkering and contractors
	Replacement – two hot water tanks and excess hot water (Massey Street)
	Size – off peak non-access for a number of householders
	Medical risk of legionnaires
The shower	8 minute showers, rather than 4 minutes (relax, ease aching limbs)
The kitchen sink	Boiling the kettle, washing up by hand
The laundry	Individual top loaders



HOT WATER: Zones of Traction

Zones of Traction	Hot water practices
Hot water system	Switching off and on hot water heaters saves electricity and bills
	Exemplary energy savers from previous resourceful practices and 'making do'
	Maintenance – tinkering and contractors
The bathroom	Low flow showerheads
	Shorter showers
	Small and Spartan as a place for maintaining clean bodies
The kitchen	Not using hot water to wash dishes
	Bundling activities together for efficiencies
The laundry	Cold washes and full loads



Policy Recommendations – Winter Warming

For LAHC, Housing NSW and the OEHL to address zones of friction and advocate for zones of traction:

○ Space heating Policy

- Design matters – consider retrofitting cottages, designing courtyards, balconies and living spaces that face north
- Maintenance matters – review housing design to include draft exclusion retrofits in consultation with the householder
- Leadership matters – acknowledge the importance of the role of the TPRS to gain and strengthen the voice and feedback of tenants, develop effective community leadership skills within TPRS groups
- Collective matters – TPRS groups should be established across the social housing portfolio



Policy Recommendations – winter warming cont....

- Hosting matters – conduct further studies to better understand the implications of ways of using heaters solely as a hosting practice
- Fan heaters matter – congratulate tenants on their use of non-mechanical forms of heating, facilitate delivery of expert and technical advice on energy efficient ways of using mechanical heating
- Voice matters – consider a process/technological fix to enable tenants to access electricity meters to assist control consumption
- Climate classification matters – revisit the eligibility criteria for provision of space heating infrastructure



Policy Recommendations – Hot water provision

For LAHC and Housing NSW to address zones of friction and advocate for zones of traction:

- Hot water provision policy
 - Design of hot water heaters – consider applying ‘NSW LAHC Design Requirements’ when retrofitting social housing complexes and cottages taking into account the socio-cultural context of the household
 - Size matters – review the time of use metering for all hot water heater access
 - Replacement matters – Urgently consider replacing and retrofitting hot water systems in the Massey Street unit complex
 - Temperature matters – provide ongoing technical advice and expertise on correct thermostat settings and guidance on how to operate hot water systems



Policy Recommendations – hot water provision cont...

- Voice matters – Review communications policies with social housing tenants to ensure clear lines of communication and increase credibility of the TPRS
- Collective matters – Consider retrofitting properties to incorporate communal laundries



WHERE TO FROM HERE?

- Findings and recommendations presented to TPRS & Illawarra Forum (July 2014)
- Illawarra Forum presenting recommendations to Australia Council of Social Services (ACOSS) + policy advocacy
- Publish research
- Tour of Illawarra Flame for research participants

