

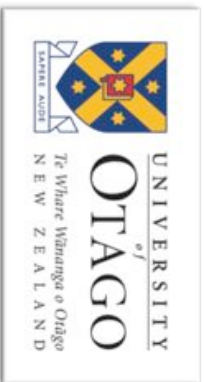
Interdisciplinarity in Action

Energy Cultures as a Concept, a Framework, and an Organizing Principle

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² Department of Management, University of Otago



New Zealand??



All the way
down there!



Origin of the Energy Cultures approach

Our initial research goal:

Better understanding of household energy behaviour and behaviour change

Problem: making interdisciplinarity work!

Solution: the **Energy Cultures Framework**

The Energy Cultures team today

Dr Janet Stephenson Prof. Rob Lawson

Dr Paul
Thorsnes

**sociology/
human geography**

**consumer
psychology**

Prof. Barry Barton
law & policy

economics

Prof. Gerry
Carrington
**physics/
engineering**



Debbie Hopkins
**environmental
sociology**



Michelle Scott
psychology, HCI



Dr John
Williams
marketing



Dr Sara
Walton
management



Dr Rebecca
Ford
engineering



Dr Adam Doering
**social science;
transport**



Dr David Rees
**system
dynamics**



Dr Charles Sullivan
**psychology;
transport statistics**

Question!



*How does your household
keep 'warm' in winter?*



"My New Year's resolution? To no longer suffer in silence. I will moan, whimper, and complain until you resolve to get the heater fixed."

© McCracken mcracken.com



"Hey, if you can't stand the heat, then ... we need to adjust the thermostat in your office."

ENERGY CULTURES AS A CONCEPT

“Material culture”

Insulation

House structure

Heating devices

Energy sources

Material
culture

“Energy practices”

Turning on heater

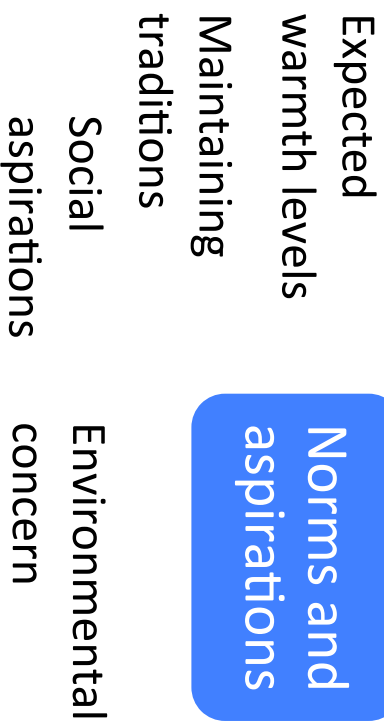
Drawing curtains

Putting on jersey

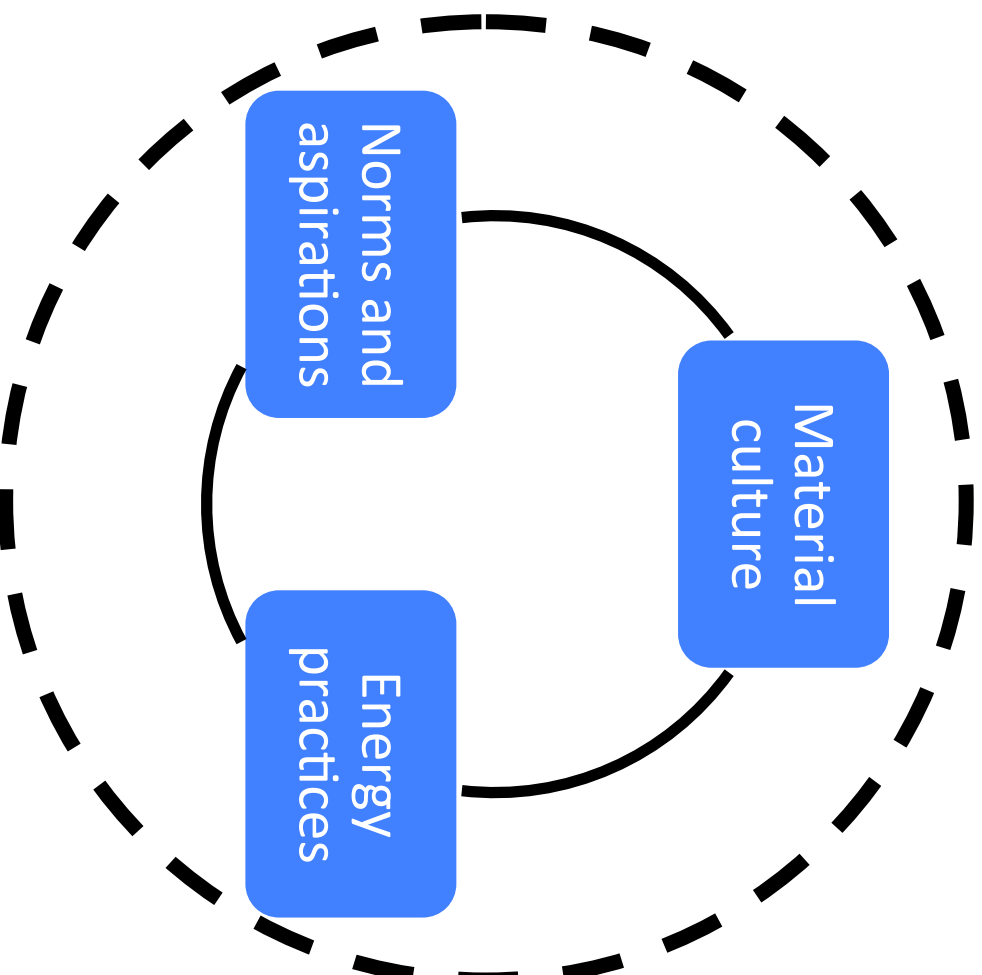
Energy
practices

Maintaining heating
technologies

“Norms and Aspirations”



Energy Cultures Framework



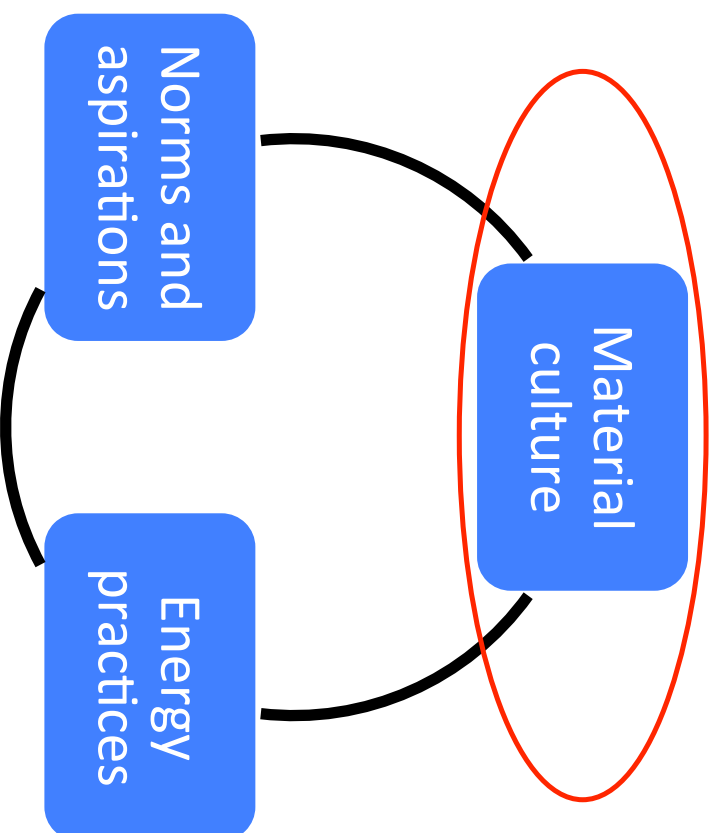
What is 'energy behaviour'?

Efficiency behaviour / conservation behaviour?

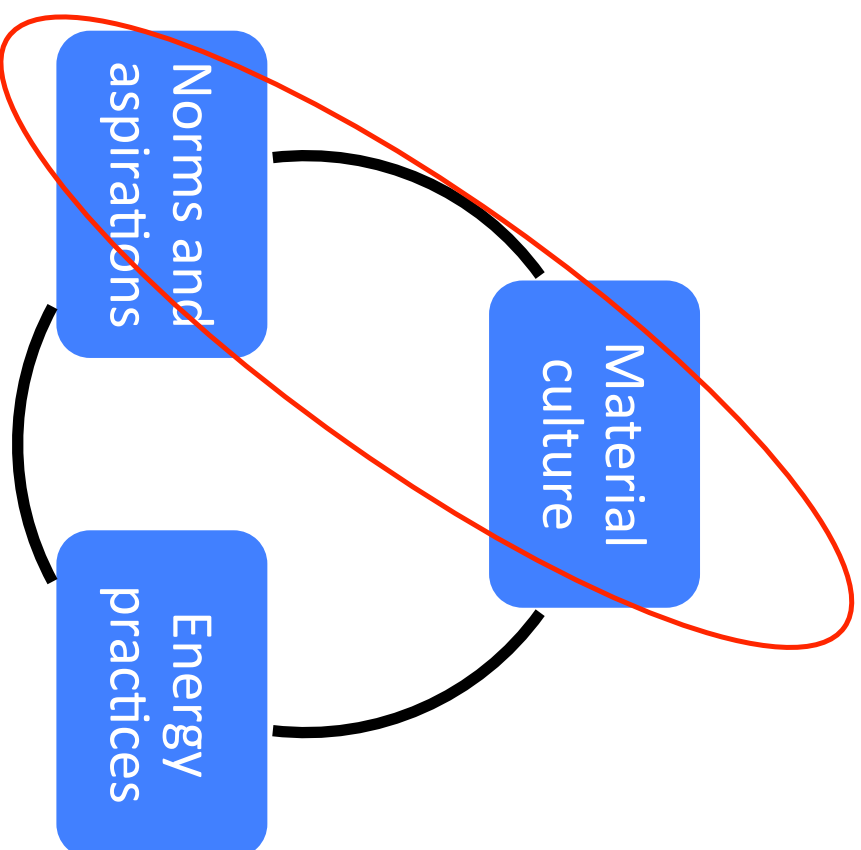
Investment behaviour / curtailment behaviour?

Routine behaviour / intentional behaviour?

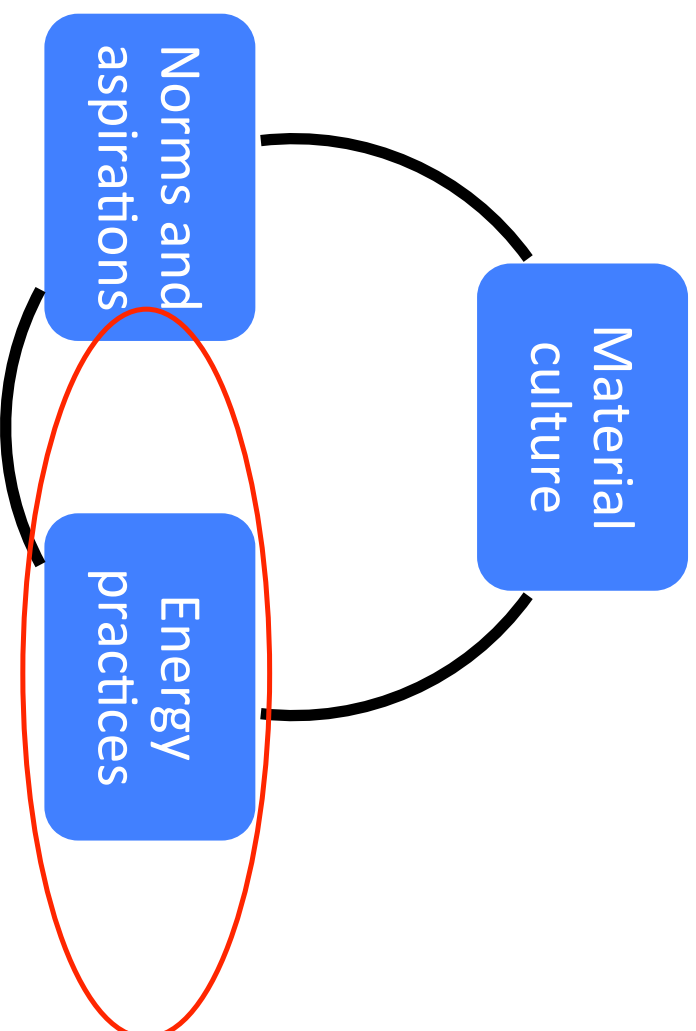
Whether people take up new technologies?



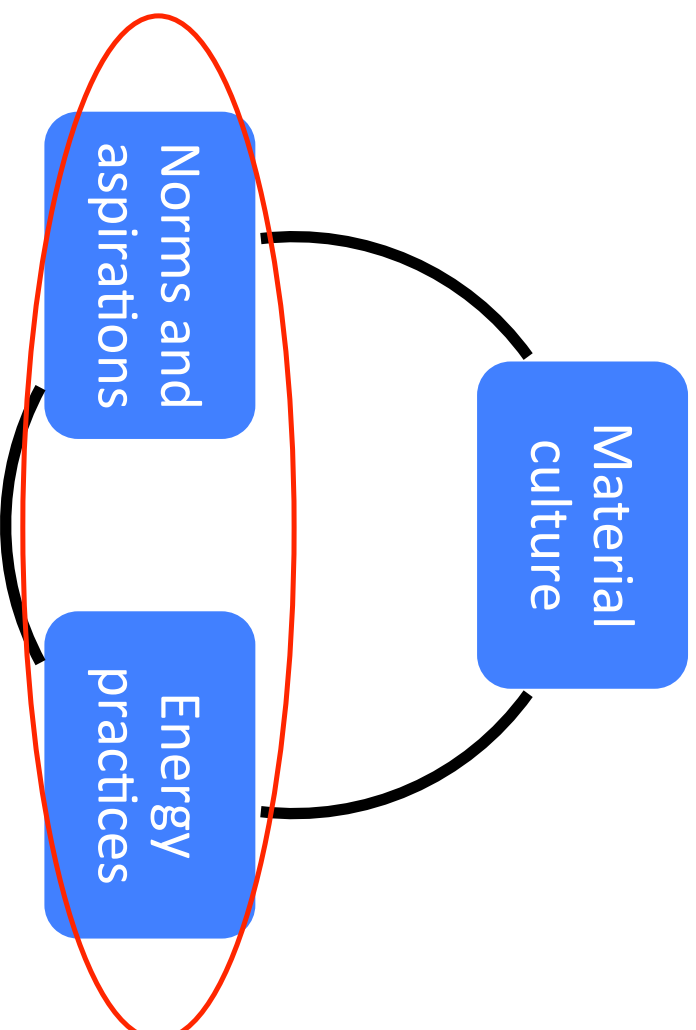
Whether a particular technology has
become the norm?



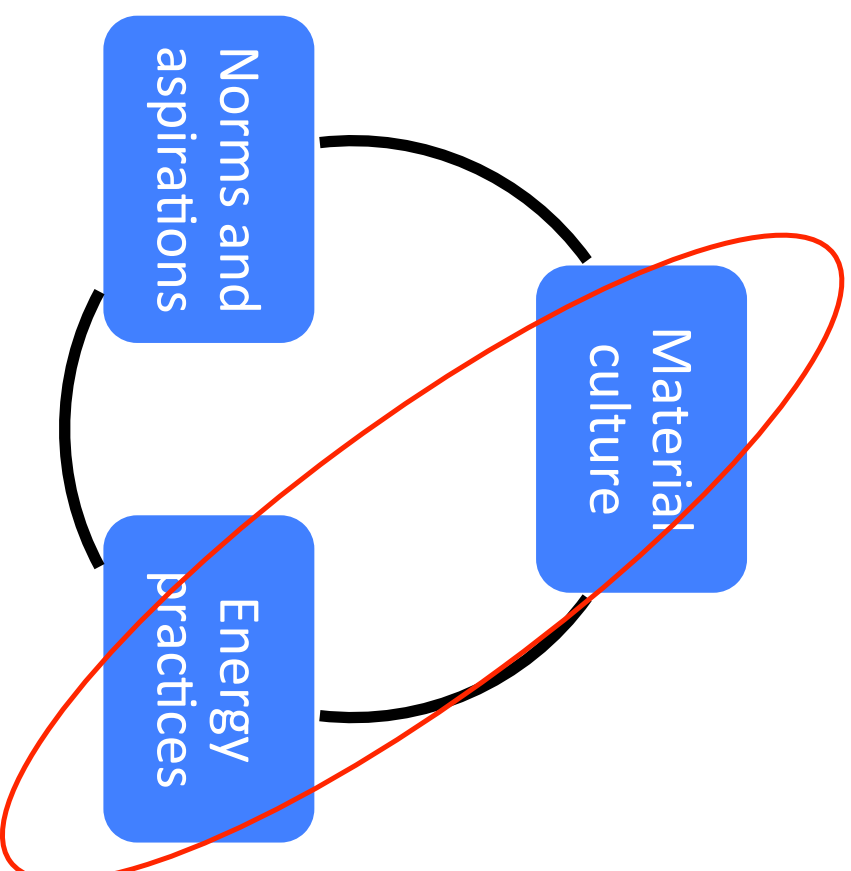
Energy-related actions?



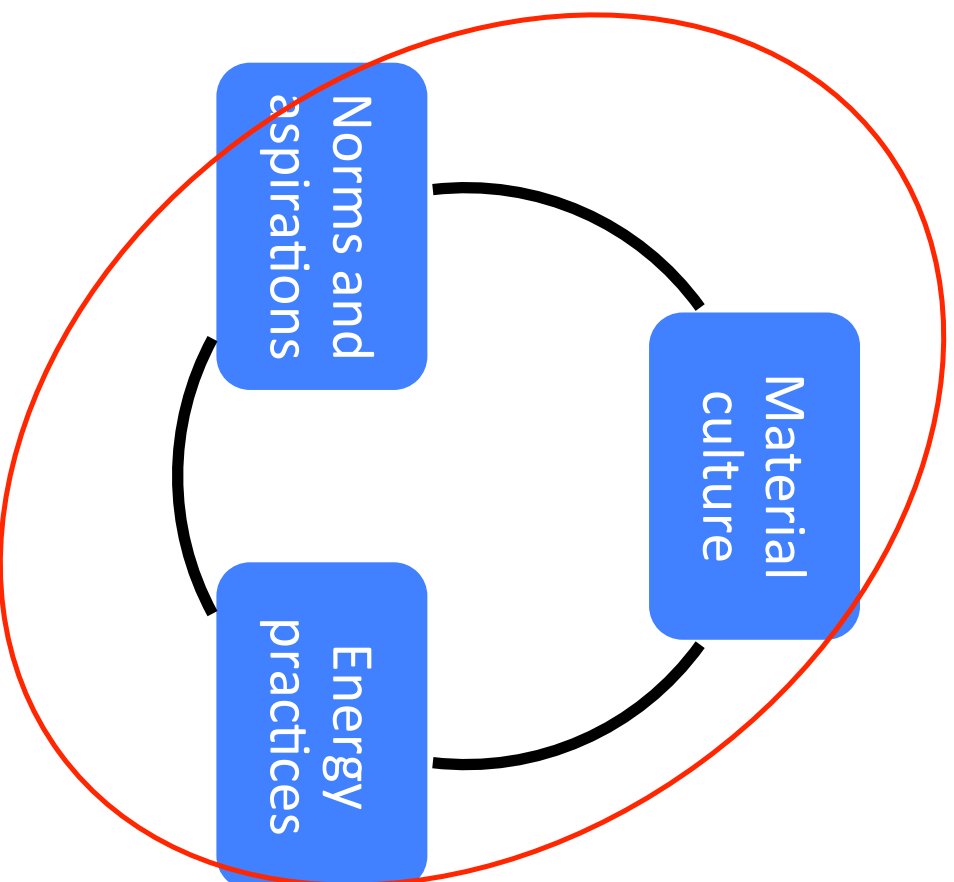
How practices are driven by attitudes/norms?



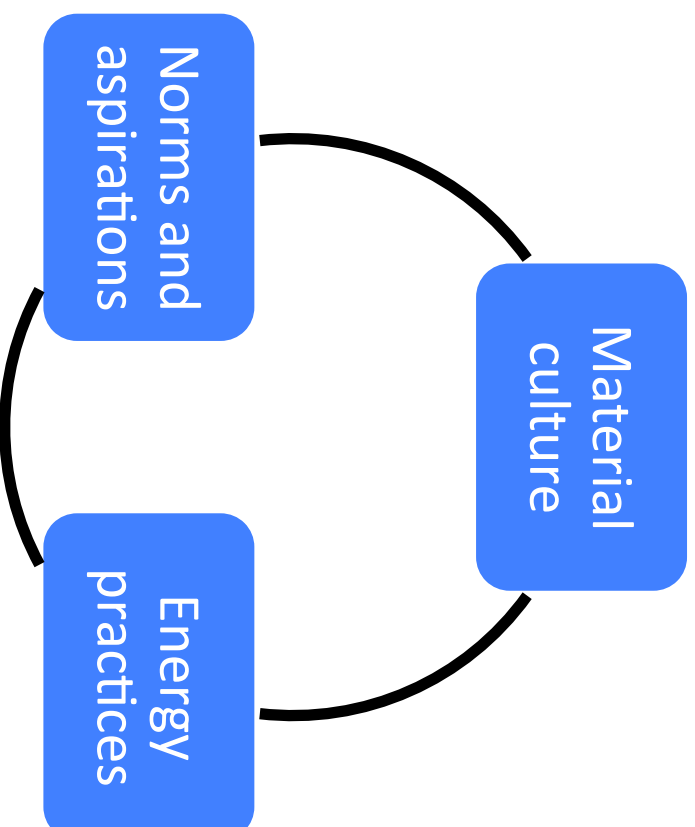
Practices shaped by technology?



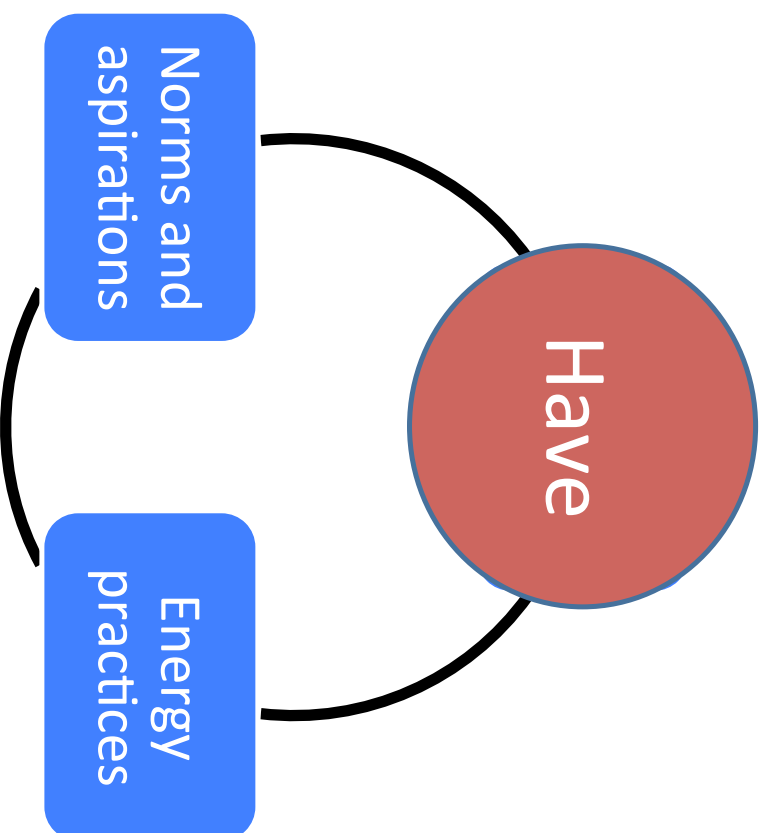
Practices and choices of technology, and how
they are shaped by ways of thinking?



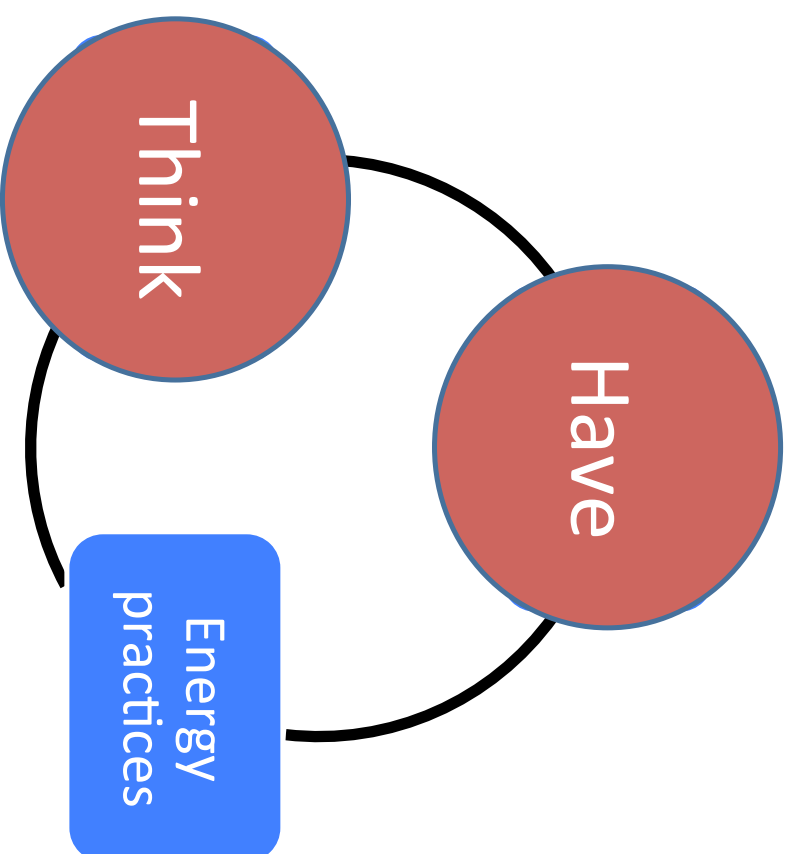
A cultural approach to behaviour



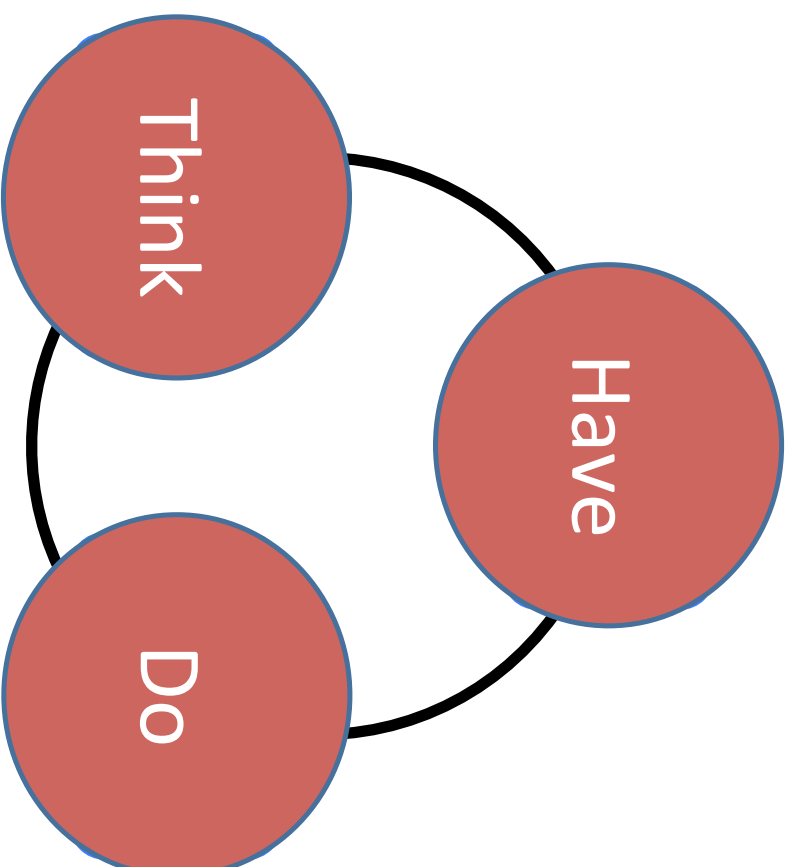
A cultural approach to behaviour



A cultural approach to behaviour



A cultural approach to behaviour



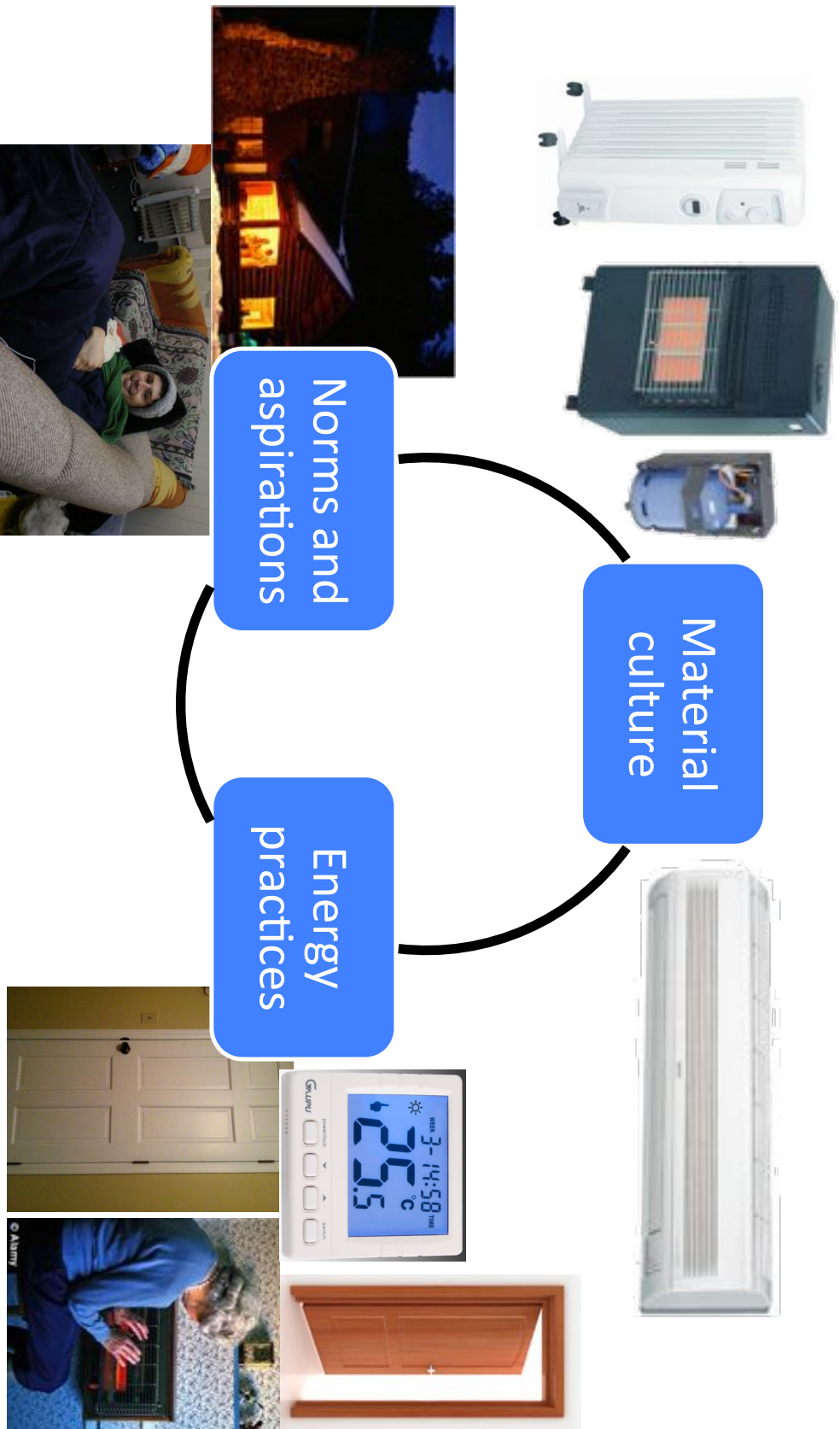
A framework

INFLUENCES / ALIGNMENTS

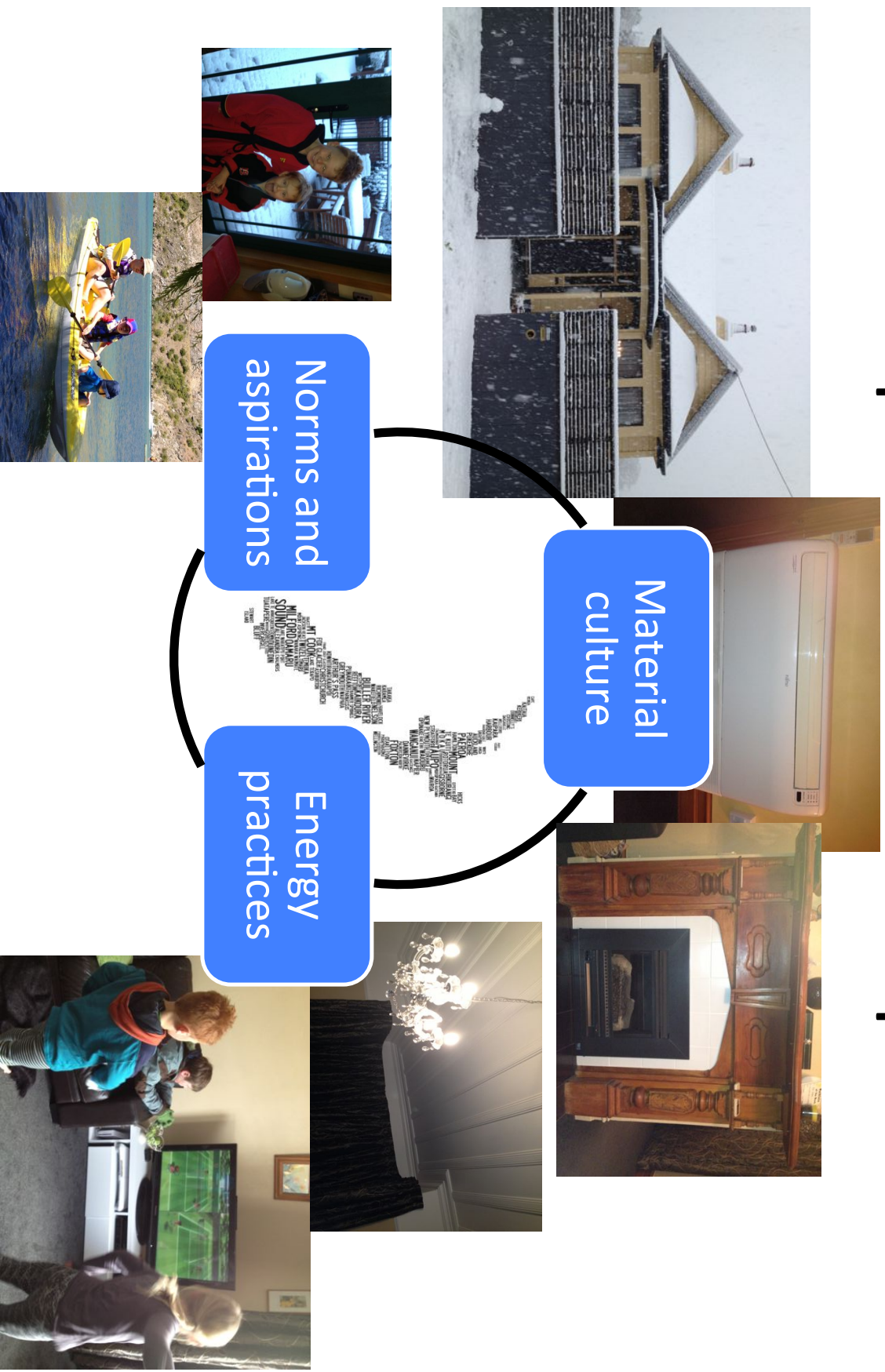
- Social context of E behaviour - Wilk, Barr & Gilg
- Actor-Network theory – Latour
- Habitus - Bourdieu
- Systems thinking – Checkland, Midgley
- Socio-technical systems – Geels, Schot, Smith
- Practice theory – Shove
- Embeddedness in cultural processes - Lutzenhiser

Question!

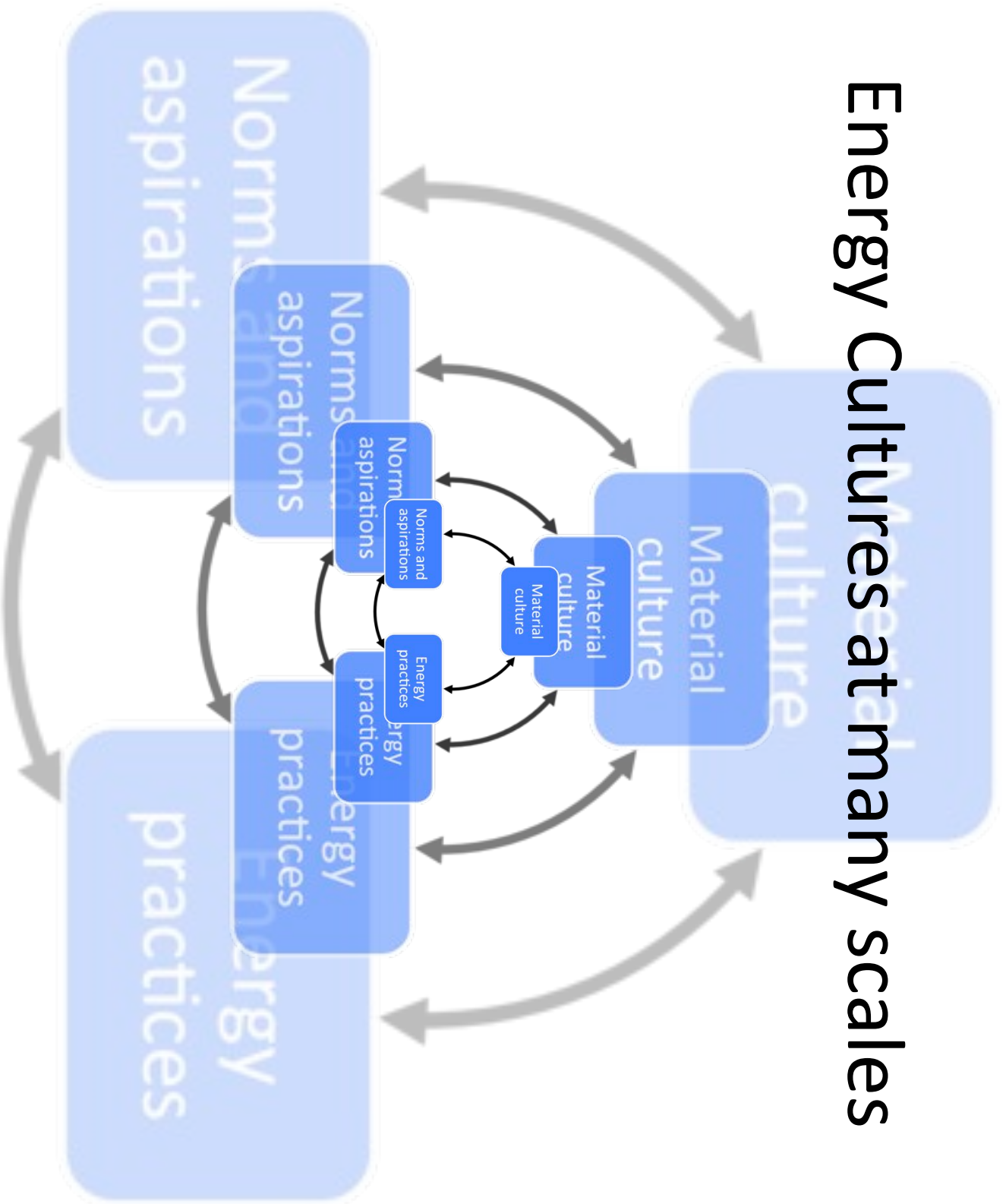
What is your “Energy Culture”?



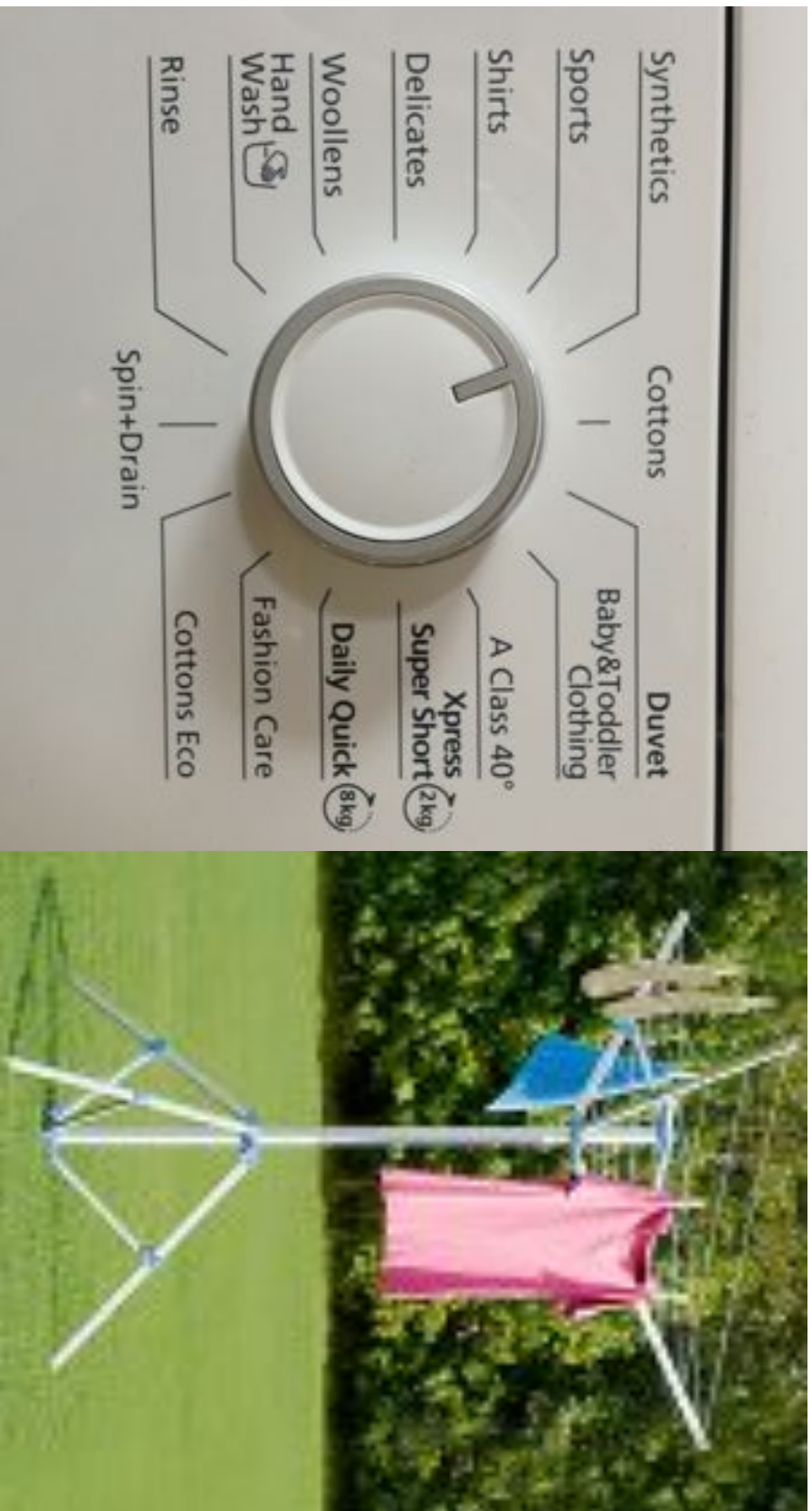
Response: a NZ example



Energy Cultures at many scales



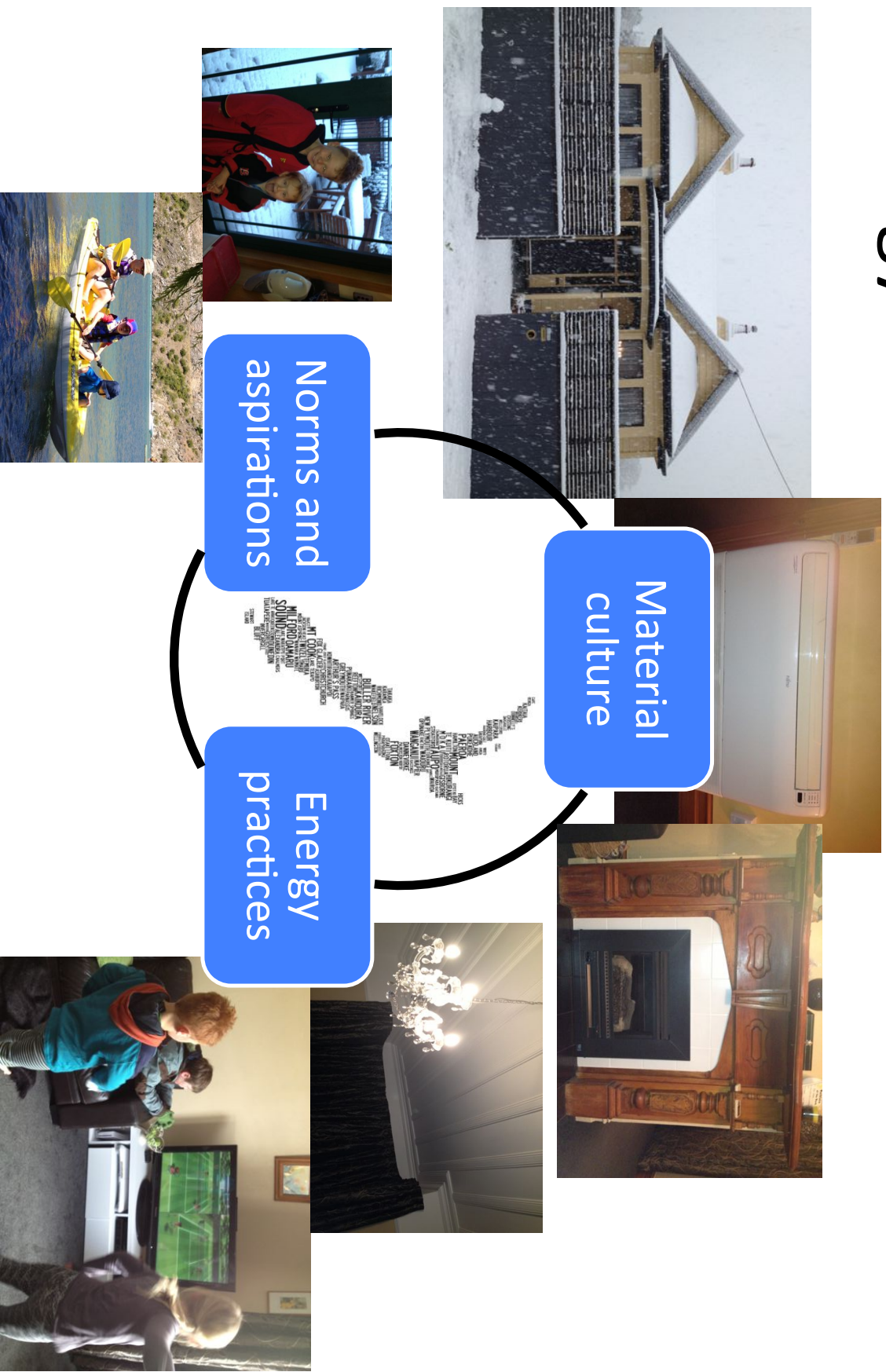
Energy culture at activity scale



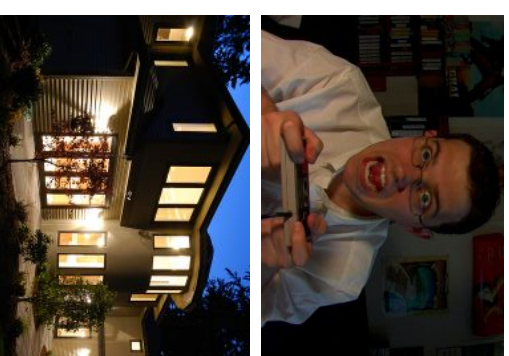
Energy culture at activity scale



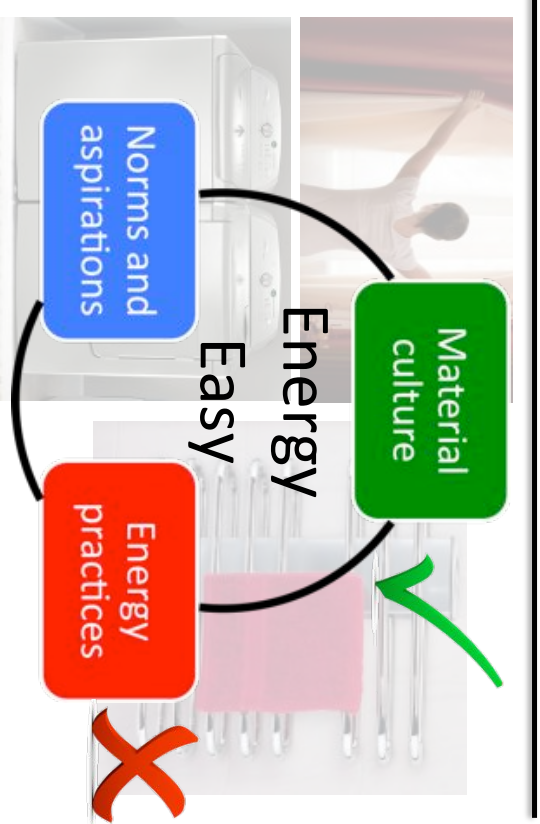
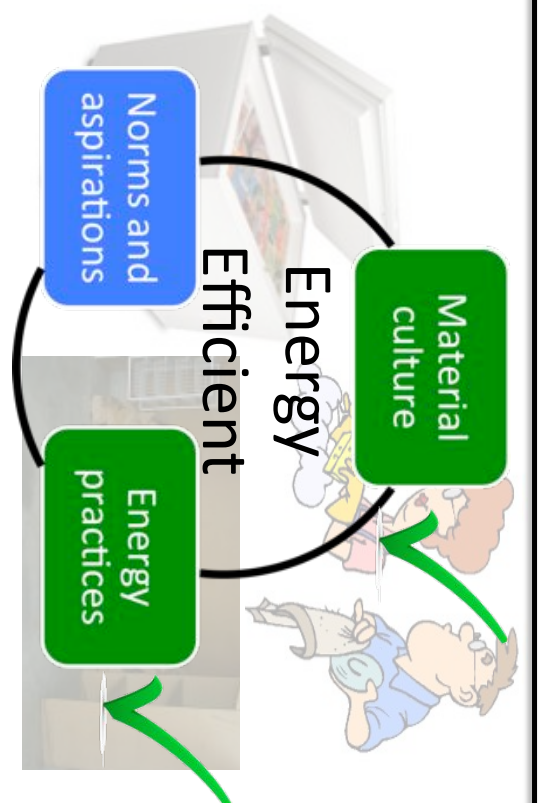
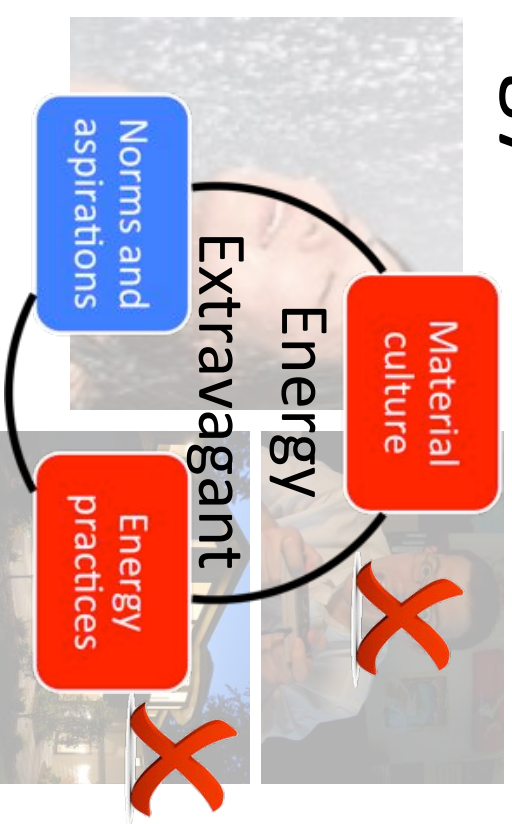
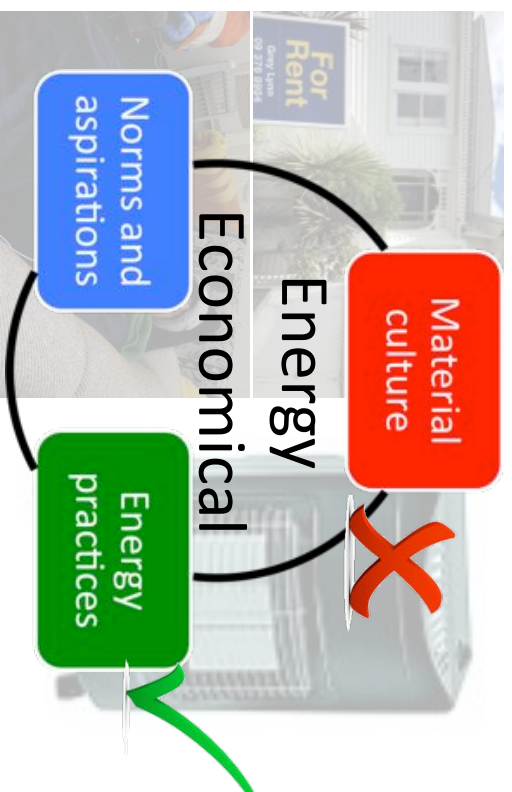
Energy culture at a household scale



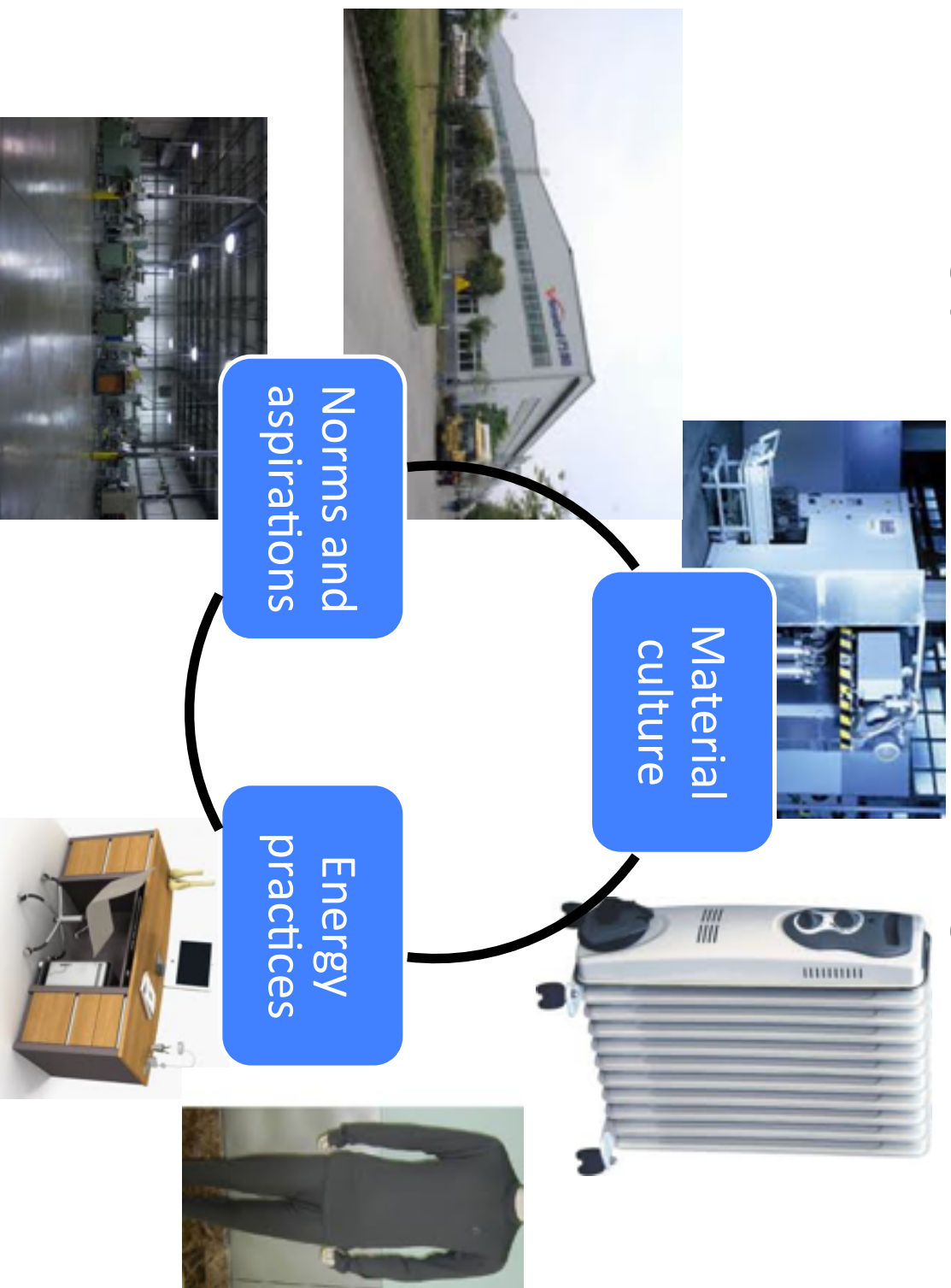
Distinctive clusters of household energy cultures



Distinctive clusters of household energy cultures



Energy cultures among businesses



New Zealand's energy culture: material culture



NZ's energy culture: norms



FREE
UNDERWEAR

When you spend
\$150 RRP on Icebreaker*

***Terms and Conditions:**

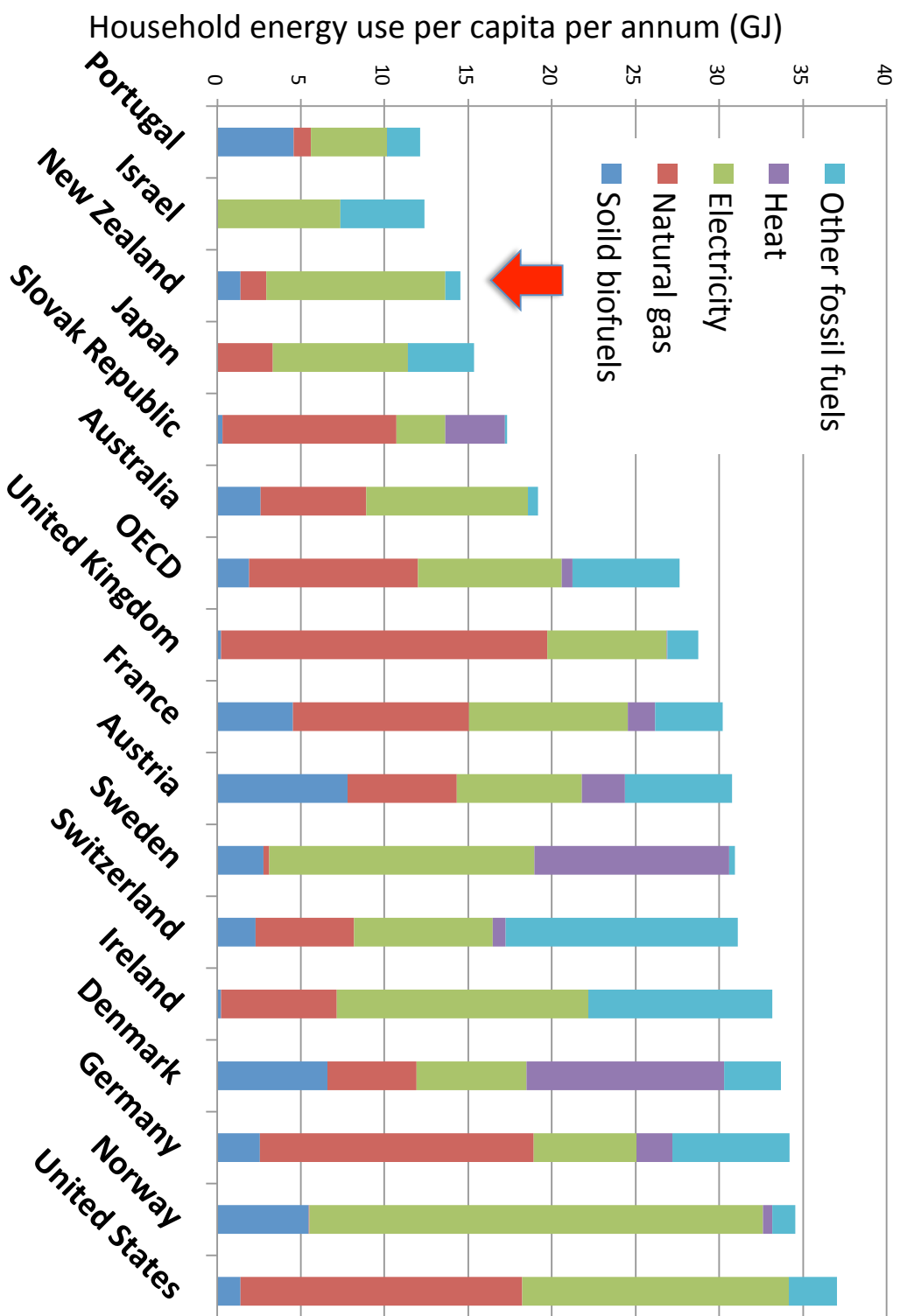
- ▶ Offer valid on any purchase of Icebreaker product valued at \$150 or more
- ▶ One free pair of Men's Anatomica Boxer or Women's Hipkix per purchase
- ▶ Offer not to be used in conjunction with any other offer or discount
- ▶ Offer only while stocks last
- ▶ Offer ends April 22, 2012

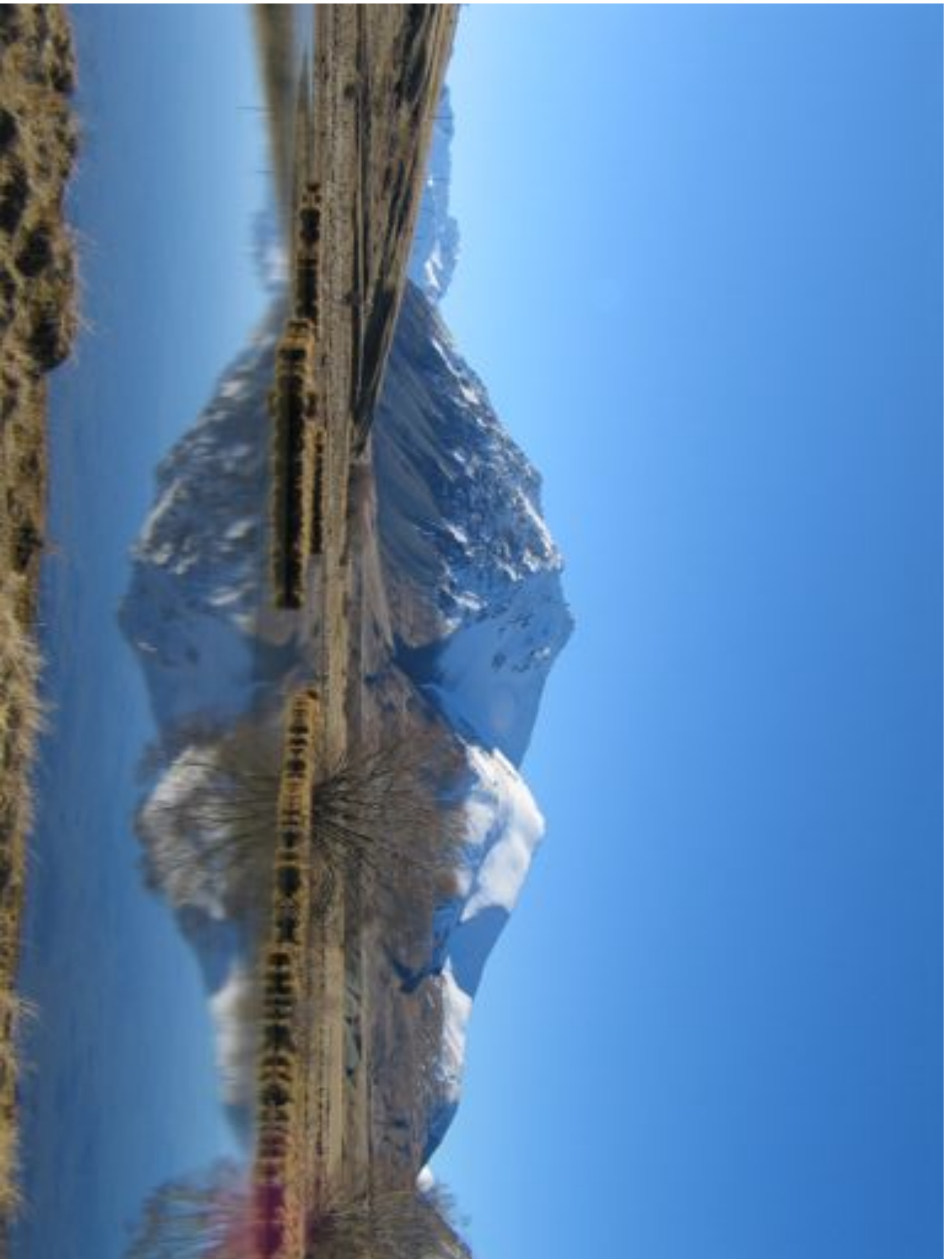
icebreaker NEW ZEALAND MERINO

"Wool with sex appeal"
NEW YORK TIMES



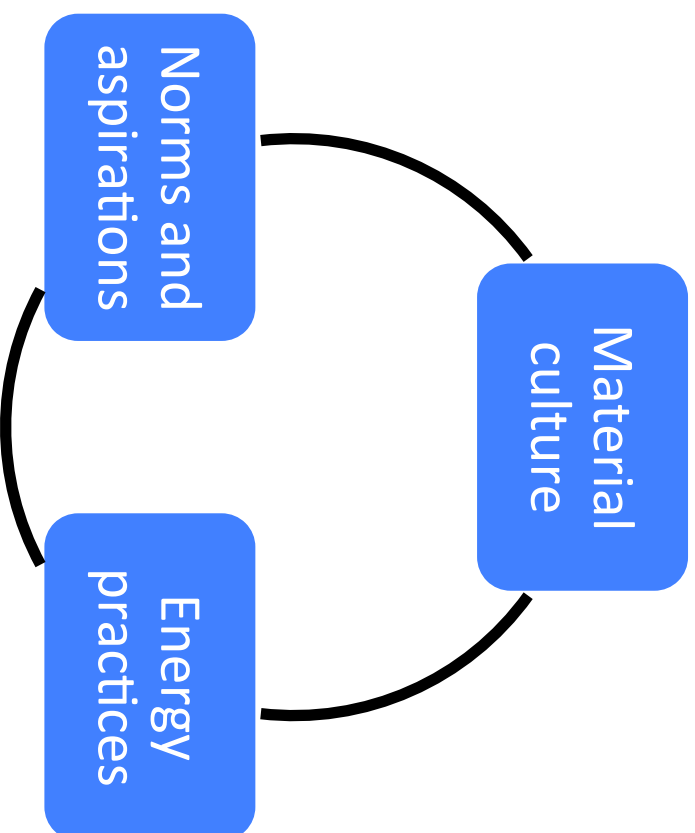
NZ's energy culture: practices



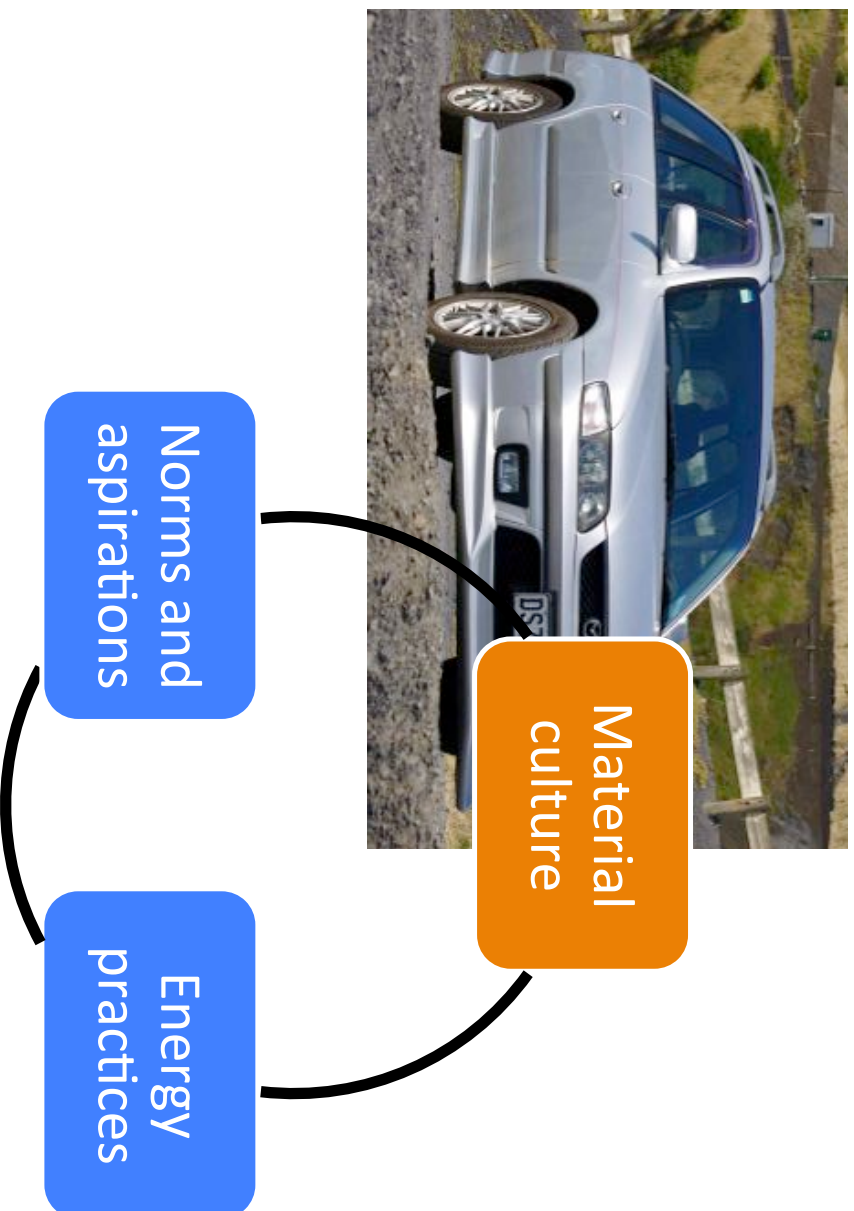


ENERGY CULTURES AS A FRAMEWORK FOR BEHAVIOUR CHANGE

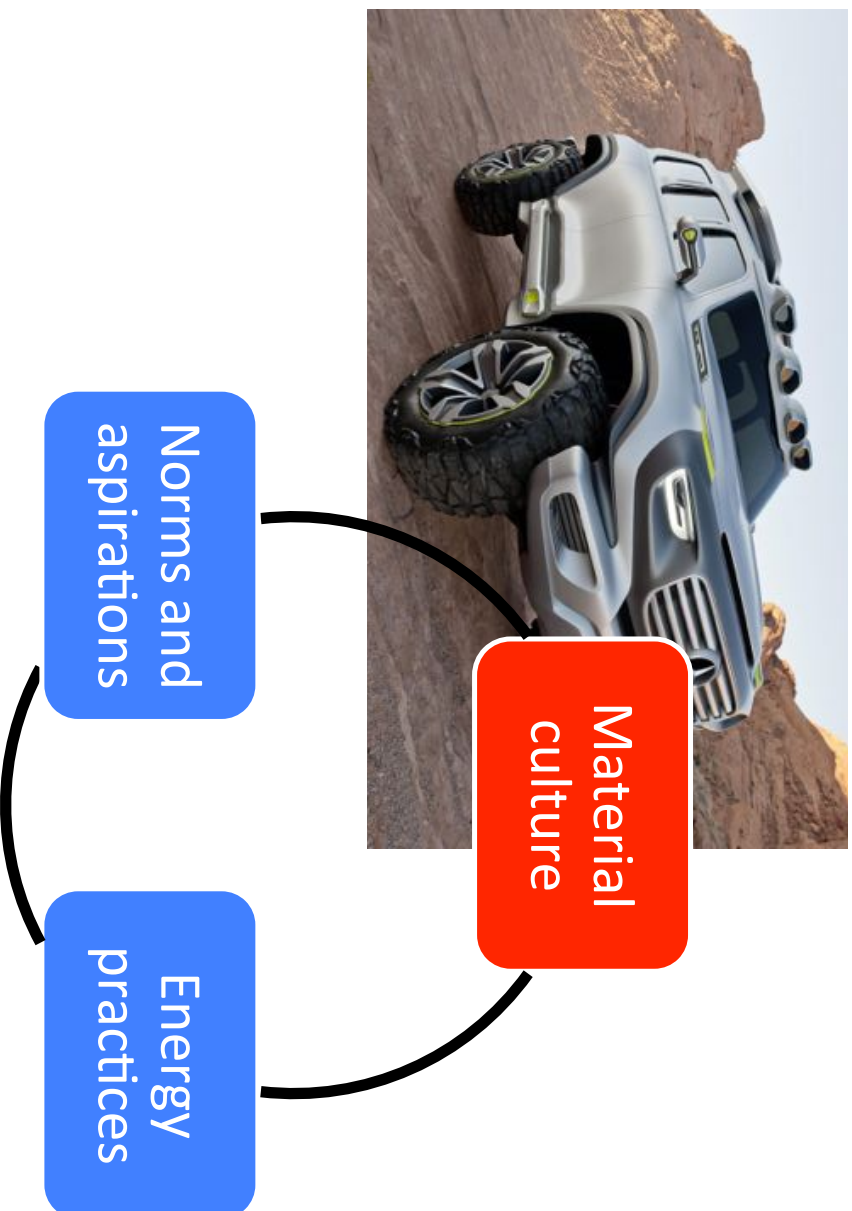
Internal influences?



Internal influences?



Internal influences?



Internal influences?



Material culture

Norms and aspirations

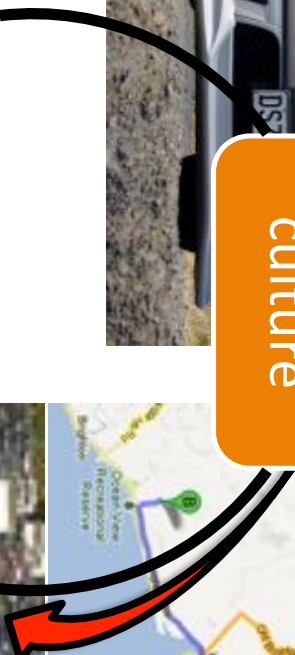
Energy practices

Internal influences?

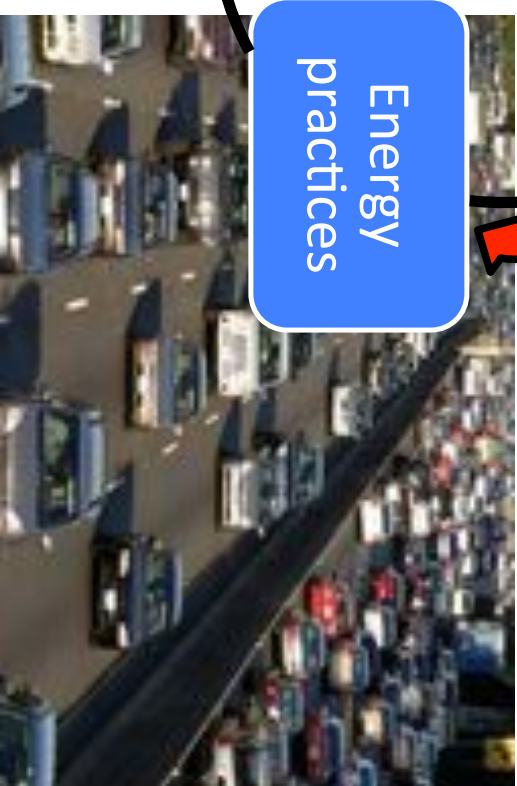
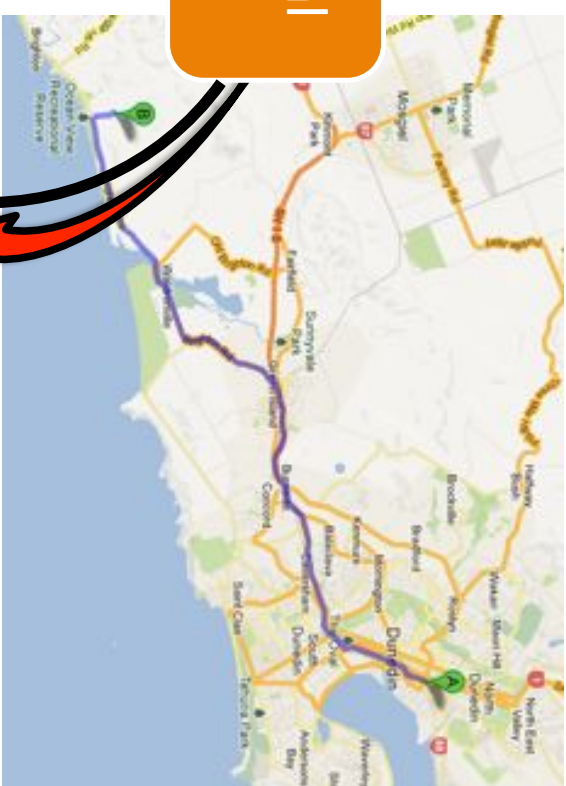


Material
culture

Norms and
aspirations



Energy
practices

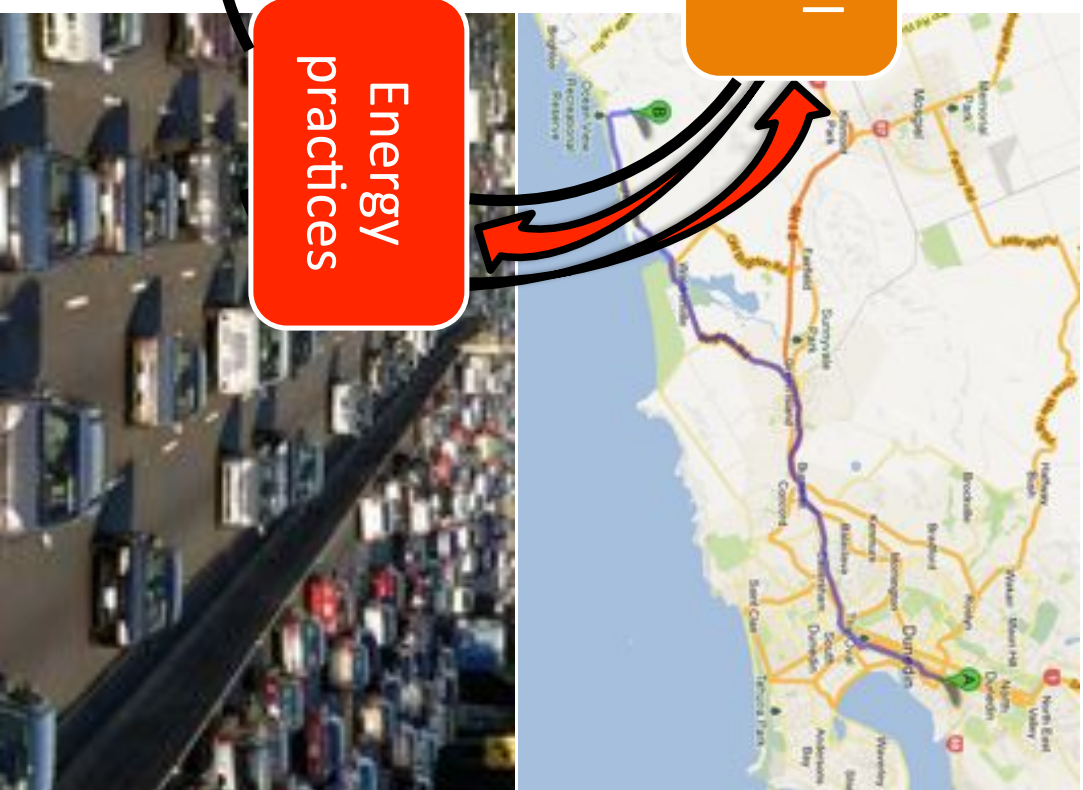


Internal influences?



Material
culture

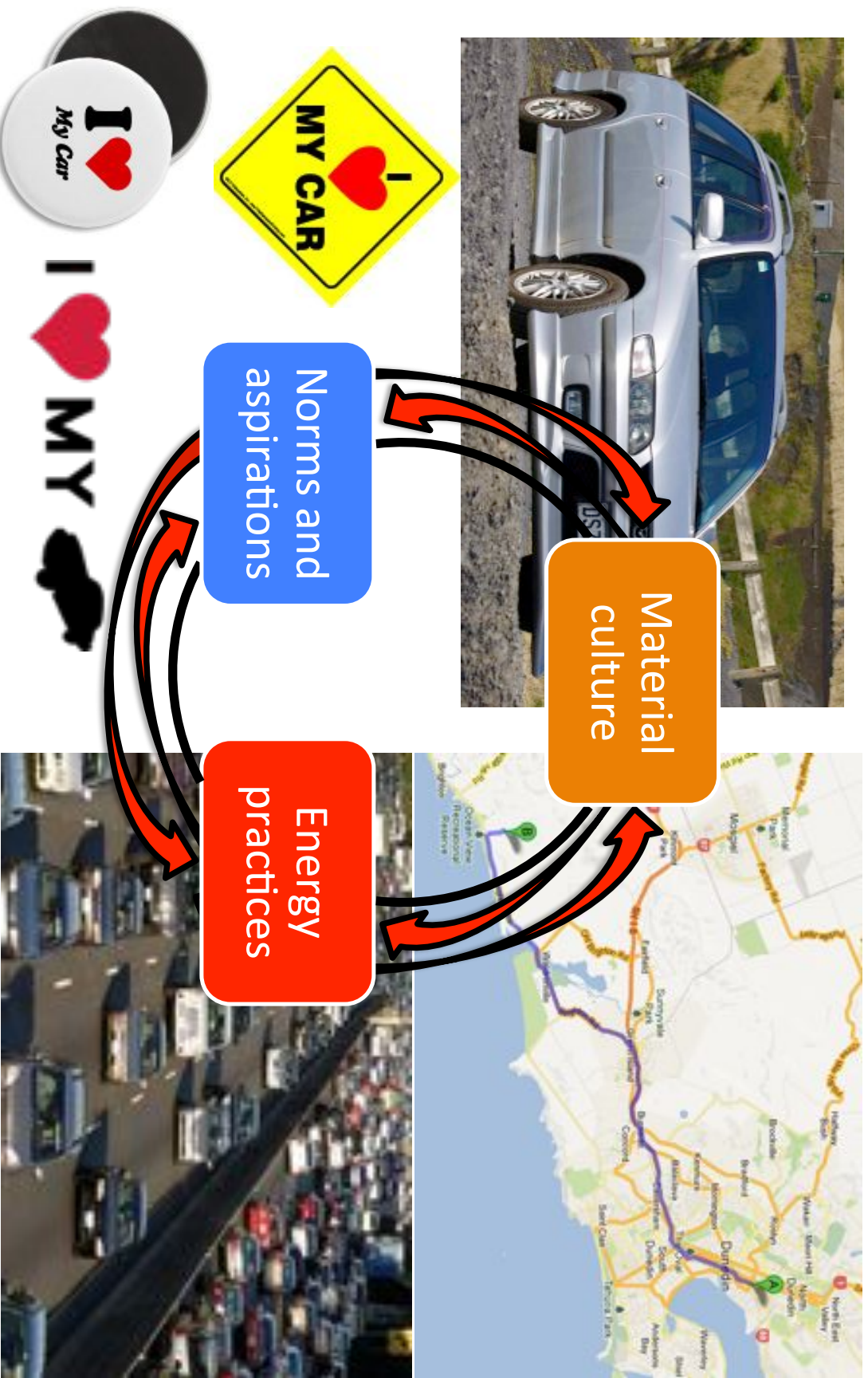
Norms and
aspirations



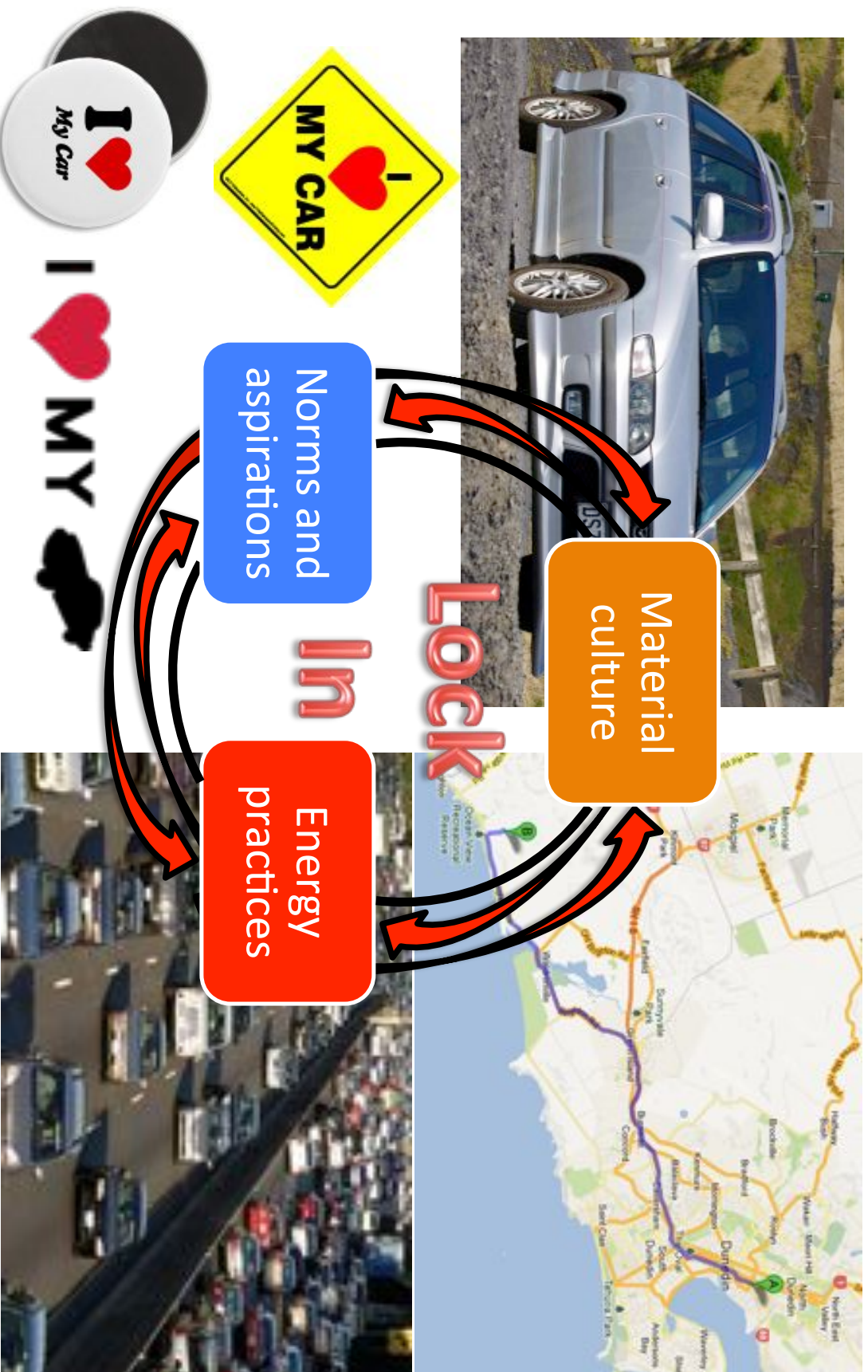
Energy
practices



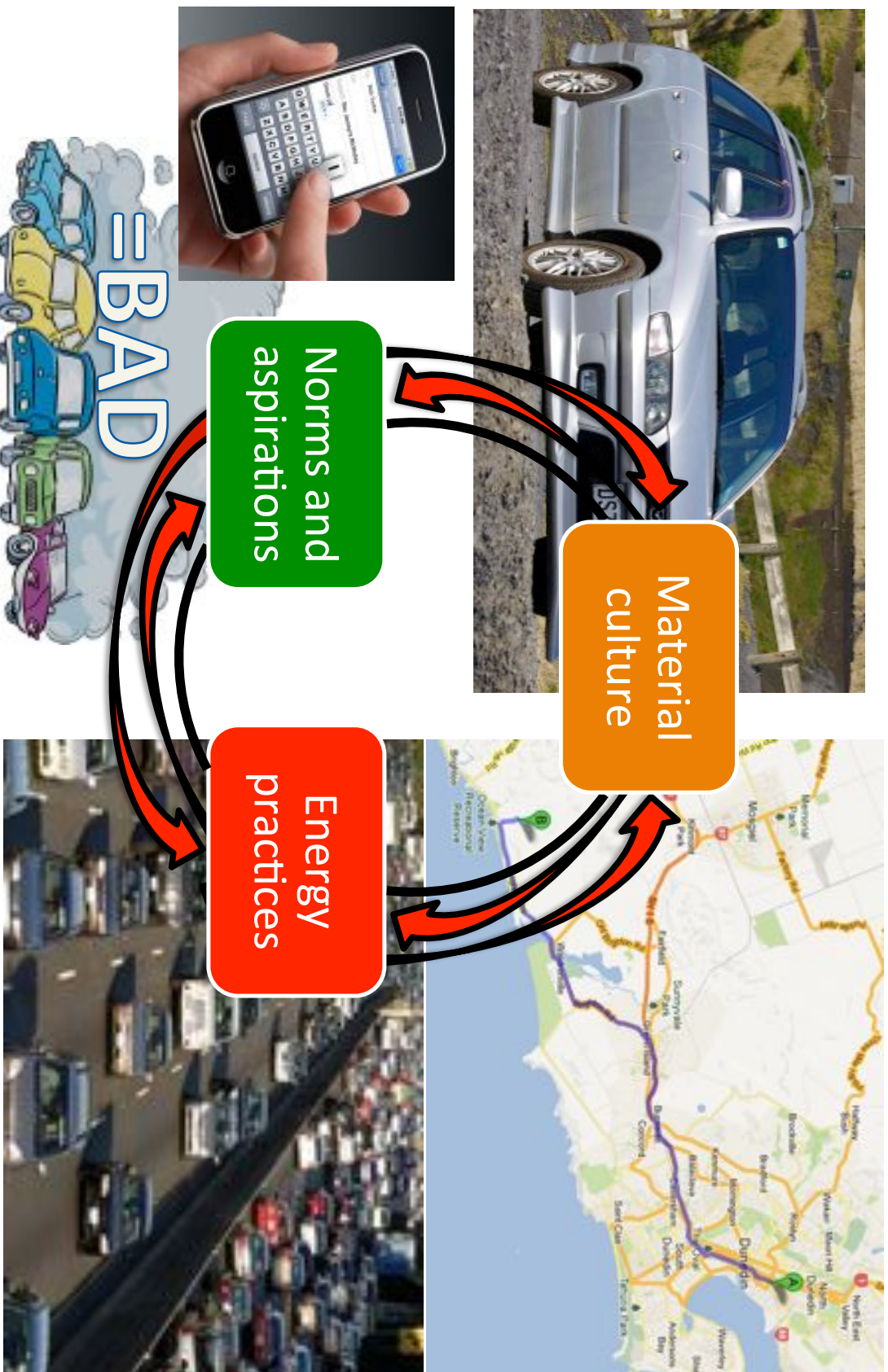
Internal influences?



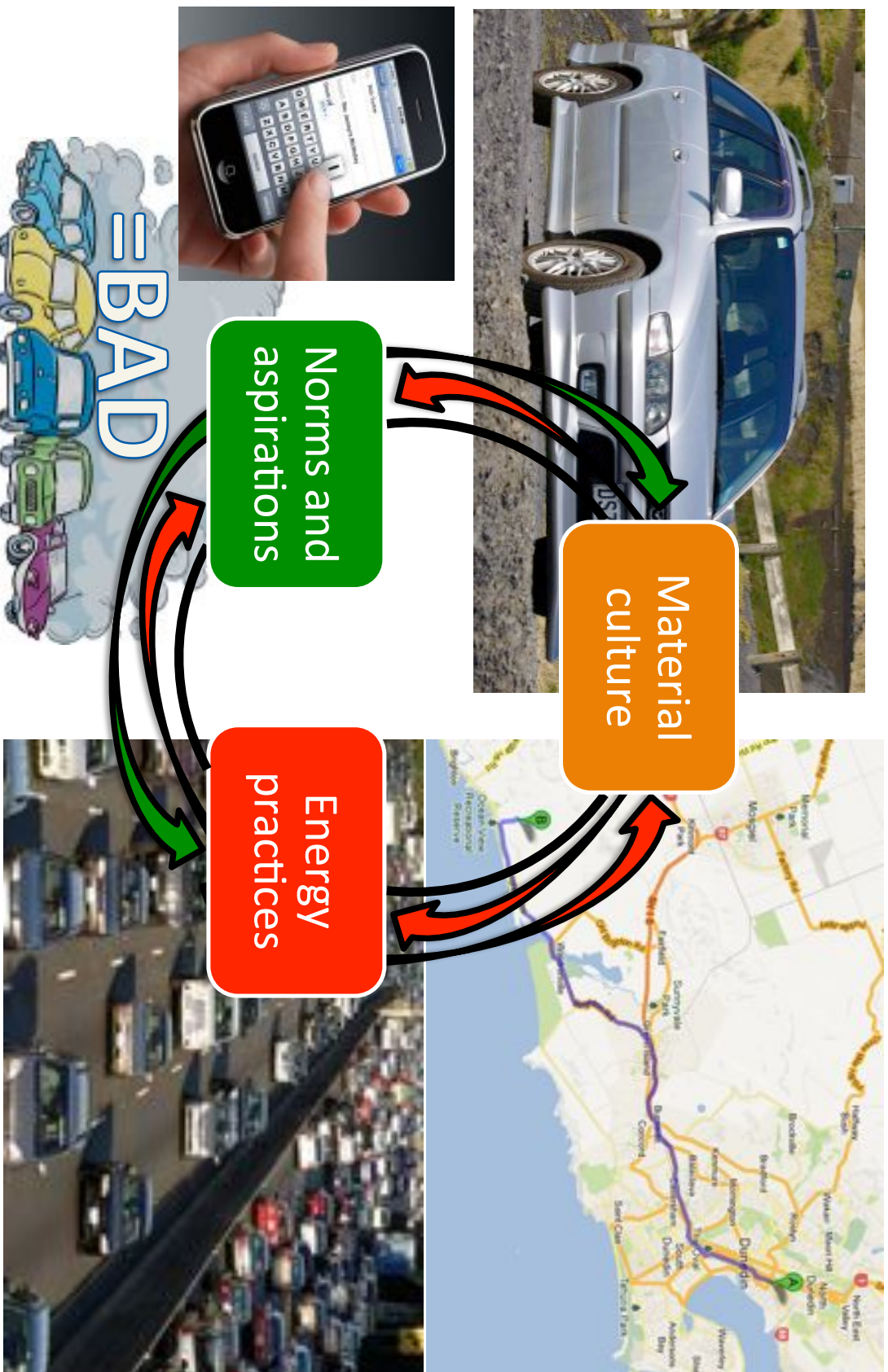
Internal influences locking in



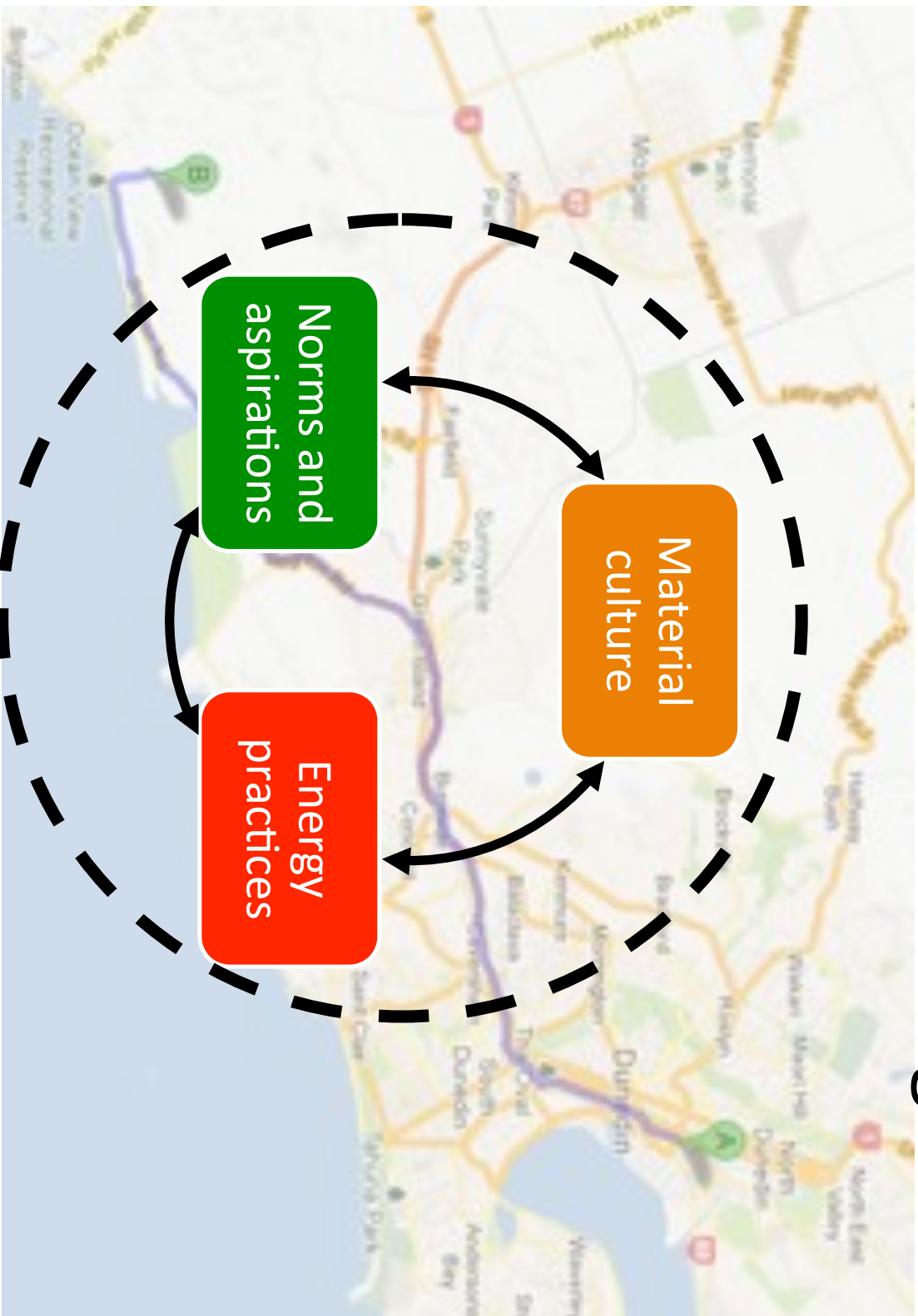
Internal influences for change?



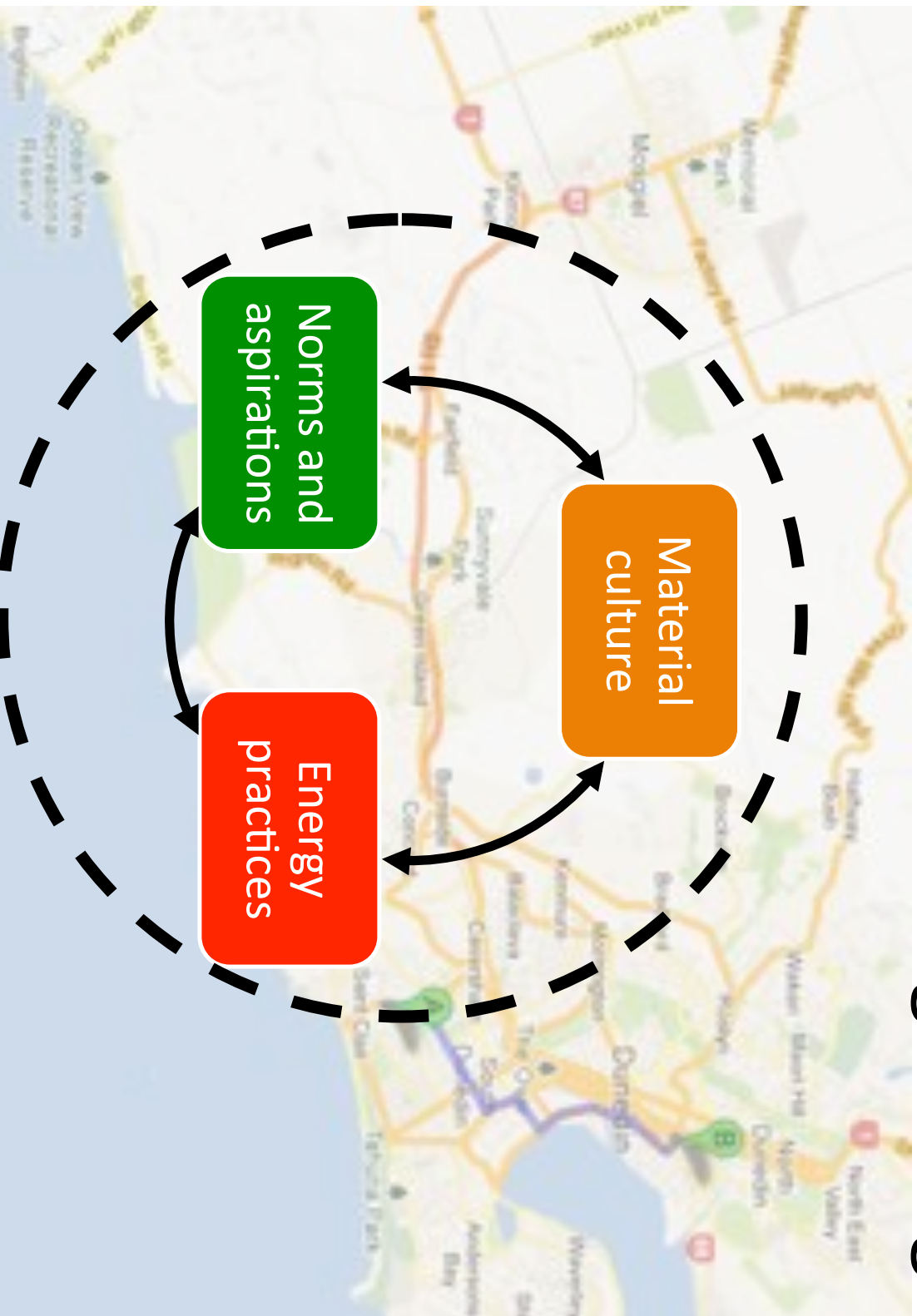
Internal influences for change?



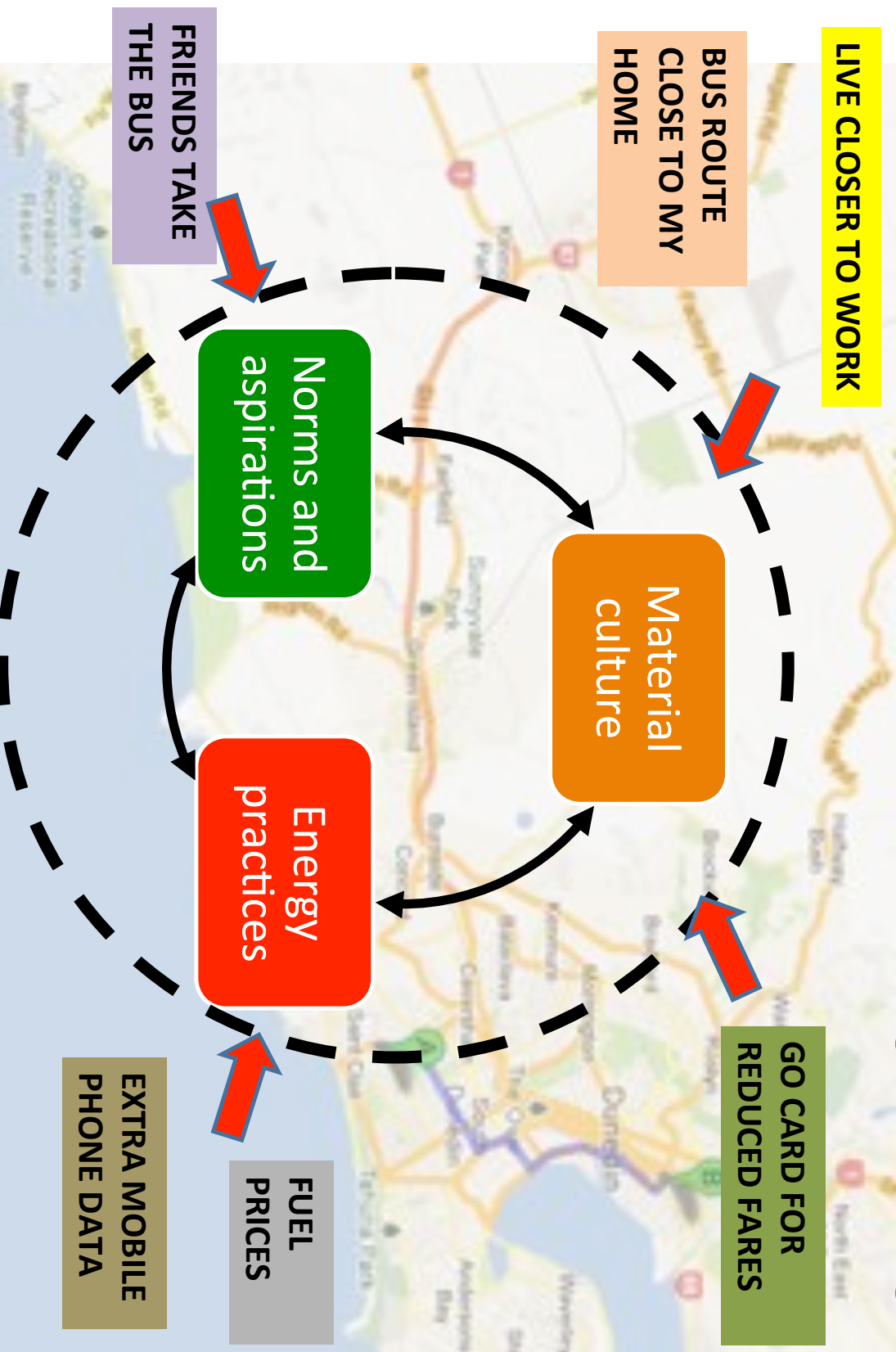
External Influences Locking In



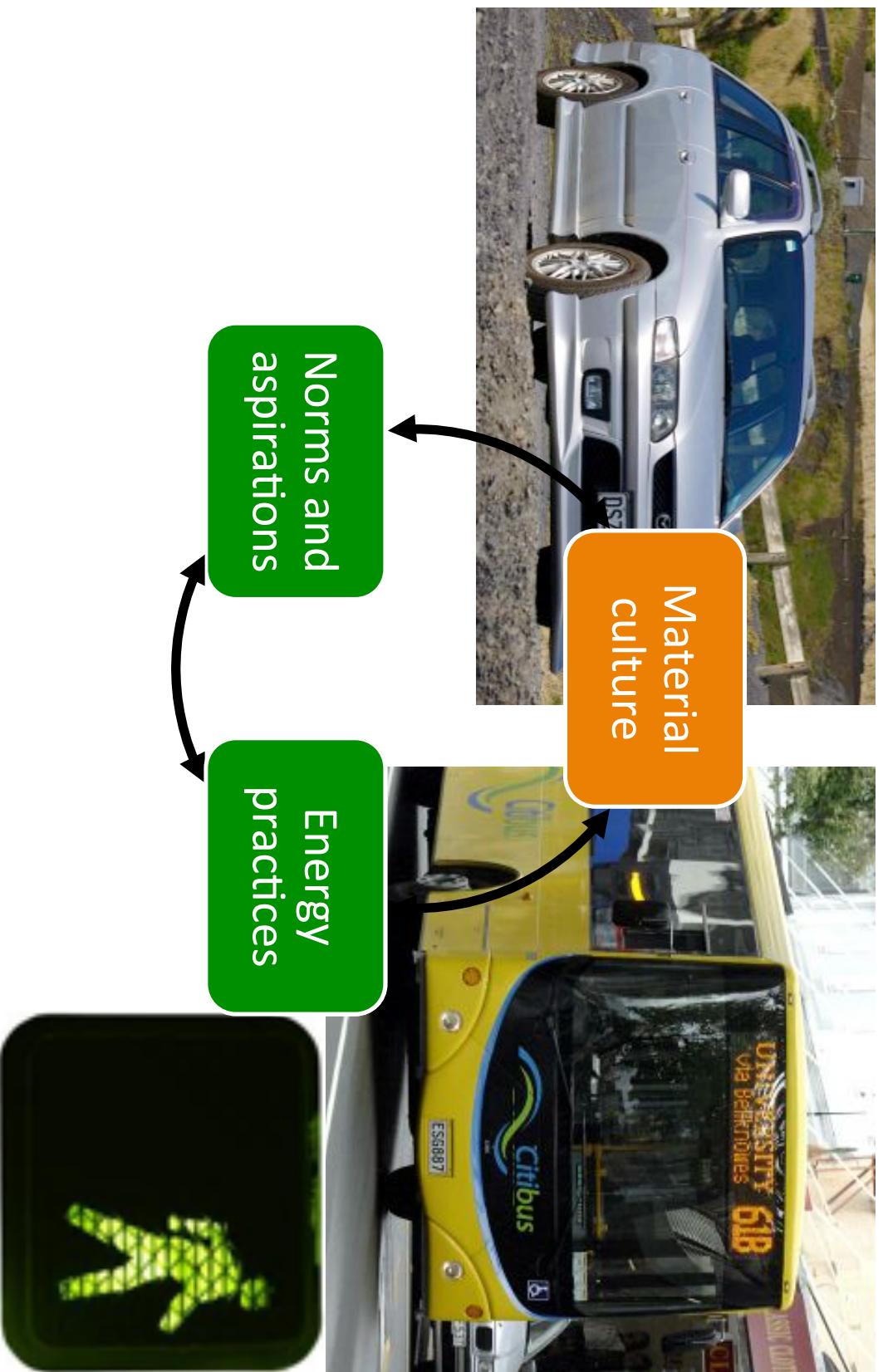
External Influences Enabling Change



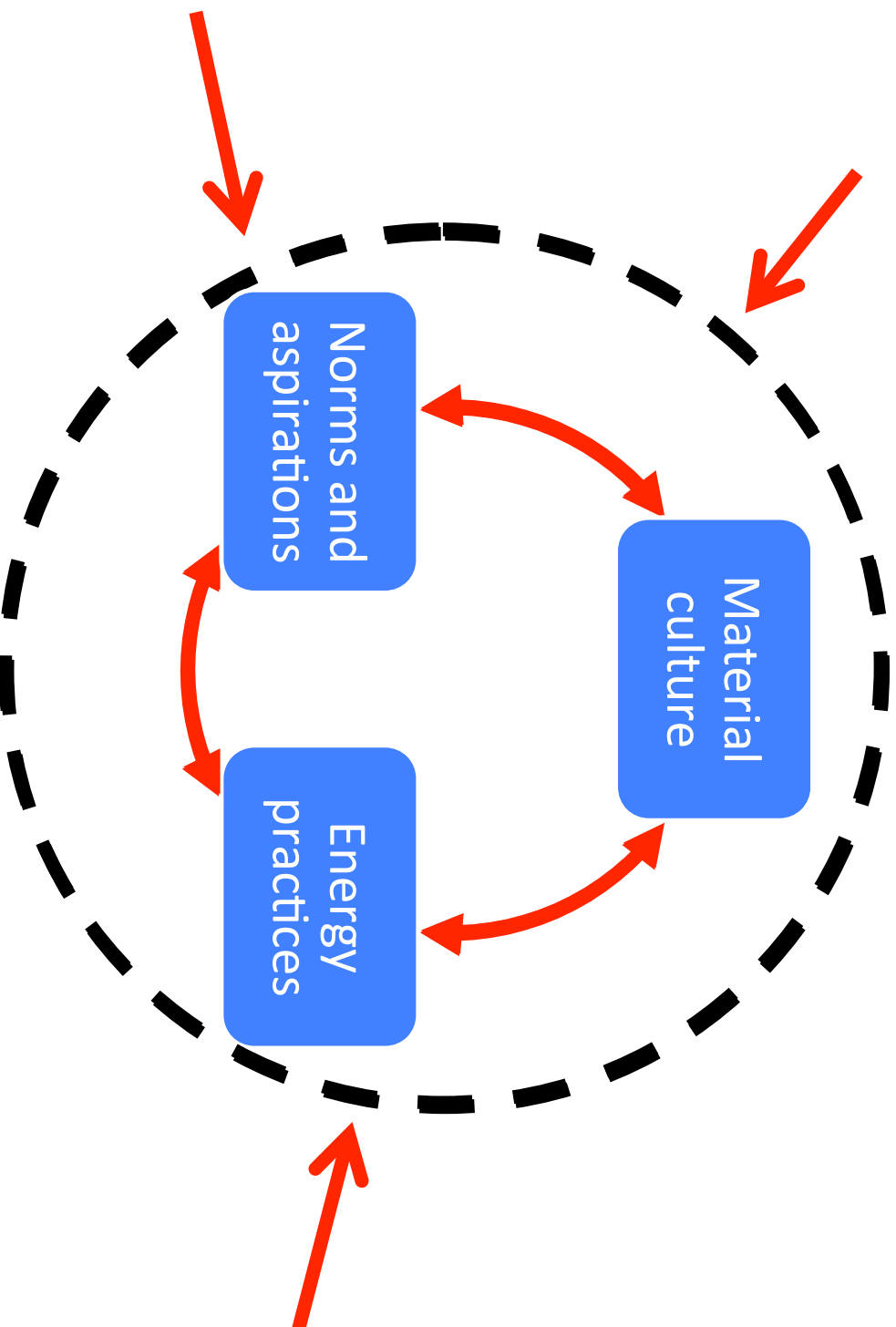
External Influences Enabling Change



A “new” energy culture



Internal and external influences for transitions in “energy culture”



Question!



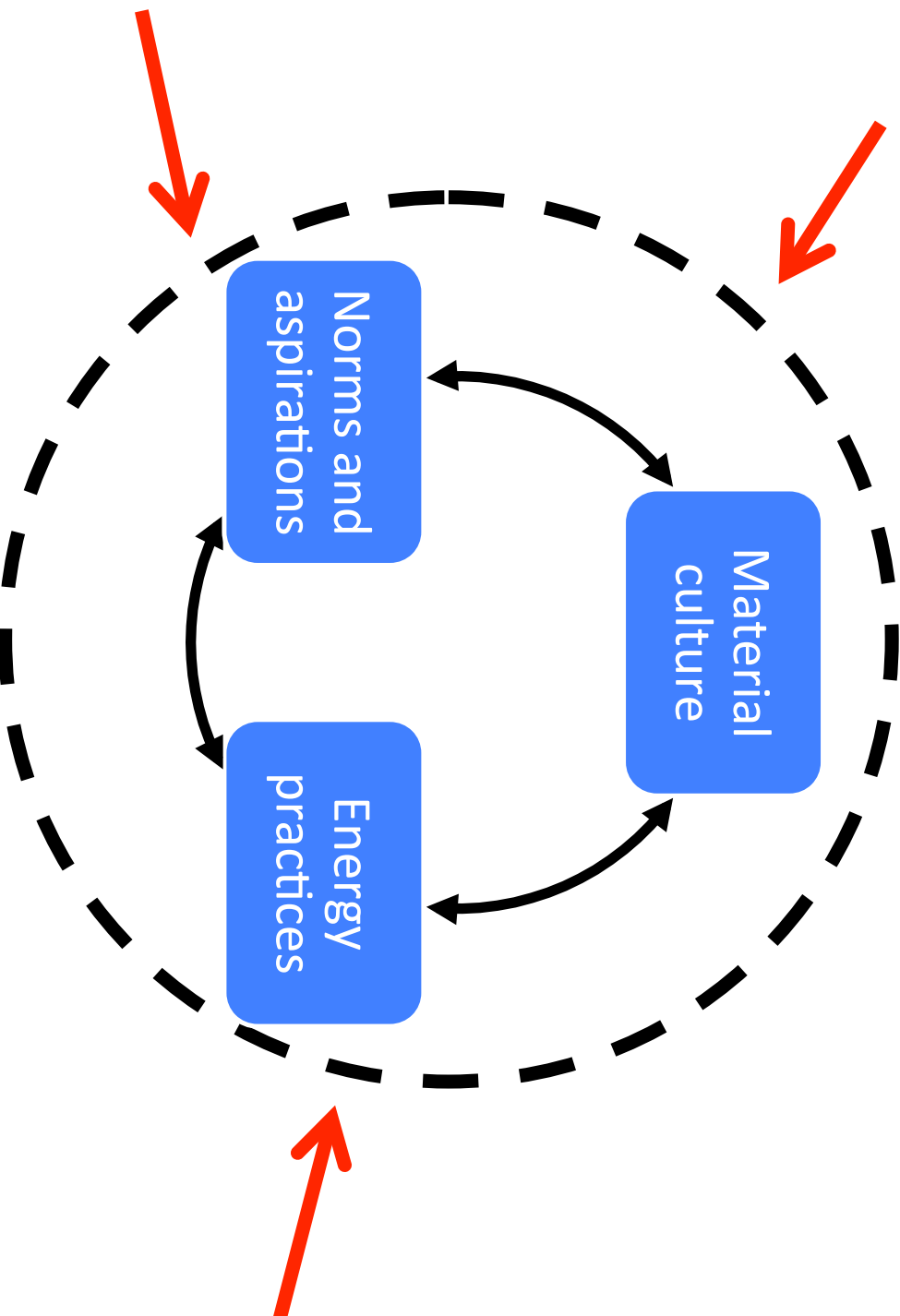
Think about a change you've made to the way you use energy.

*What **internal and external influences** prompted or enabled this?*

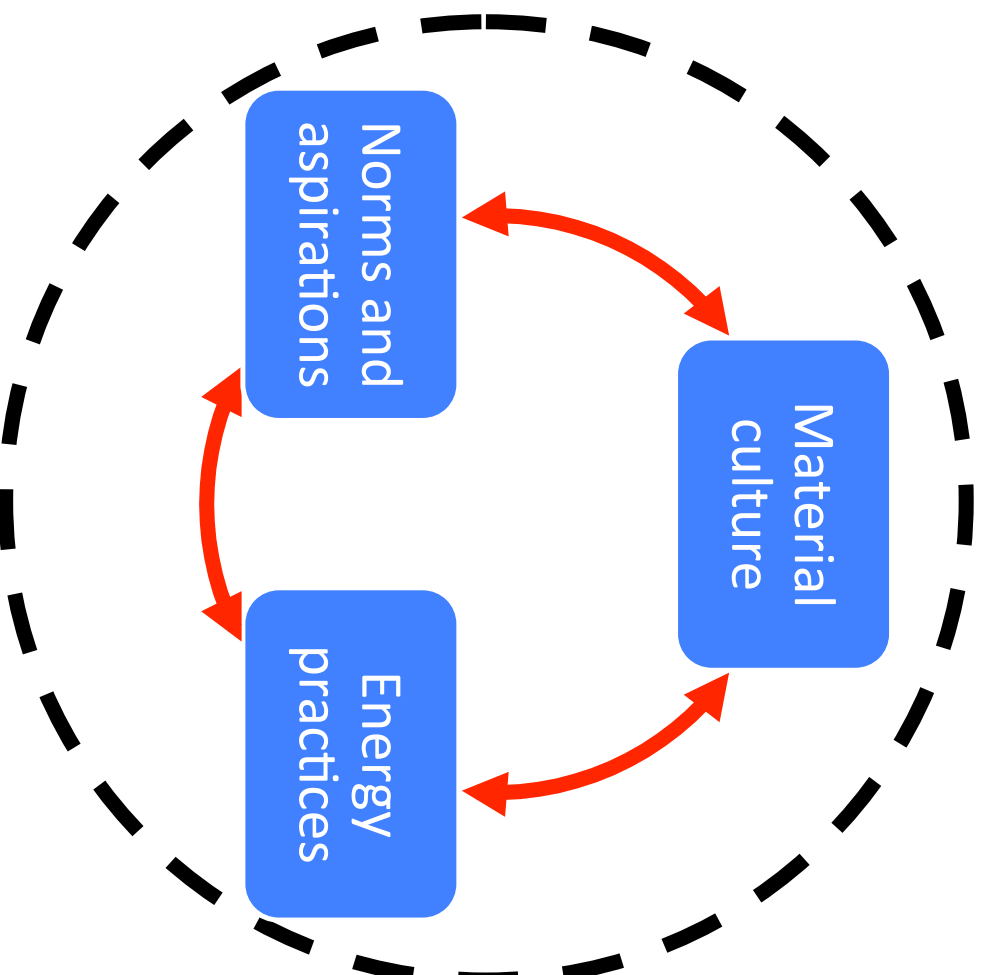
*How did this impact your '**energy culture**'?*



The Energy Cultures frameworks encourages us to ask: *What external influences need to change?*



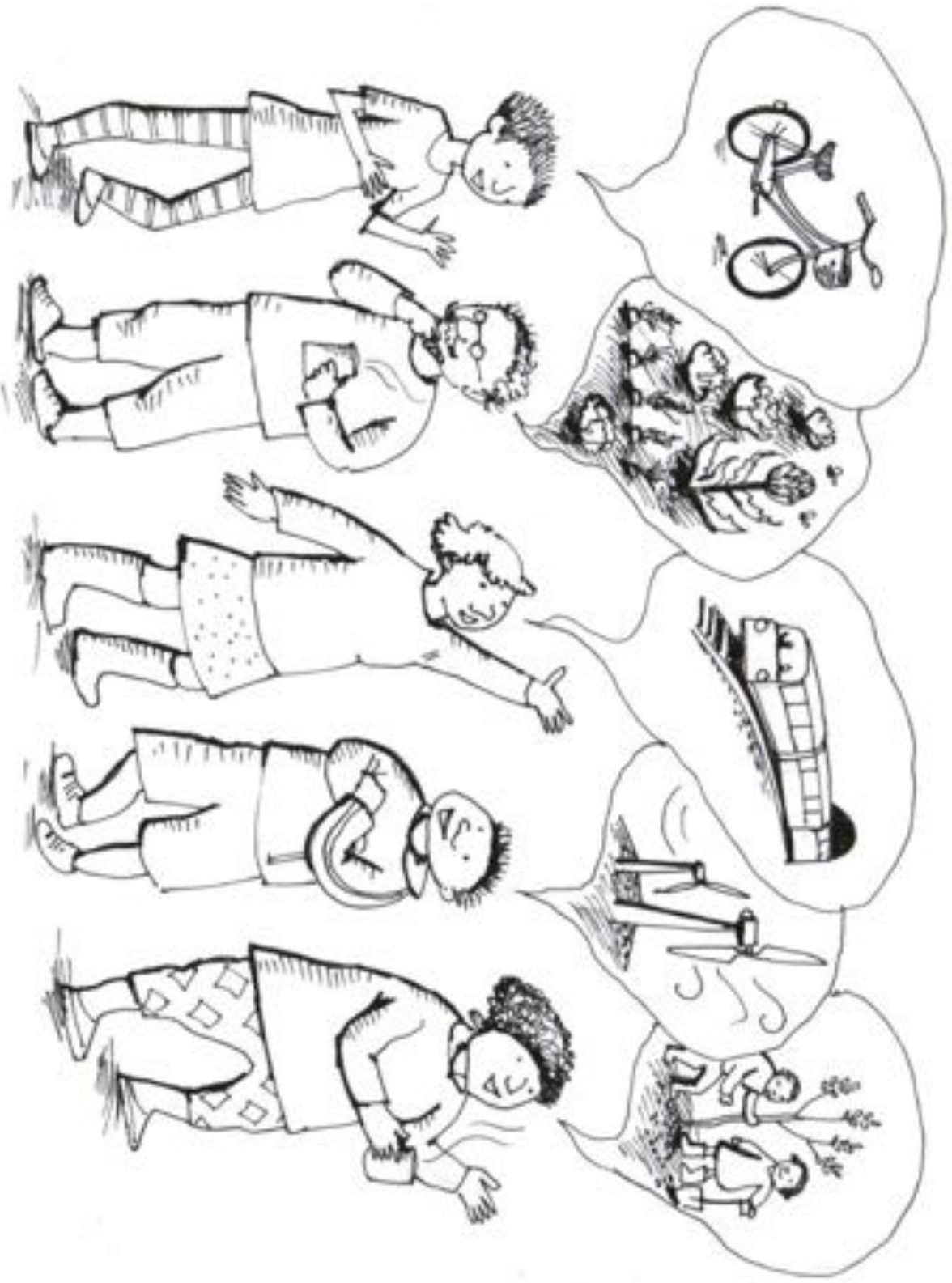
And: *What will be the repercussions?*





An energy cultures perspective on...

THE BLUESKIN STORY



Cartoons by Jenna Packer

Vision: a resilient^{energy} community ^

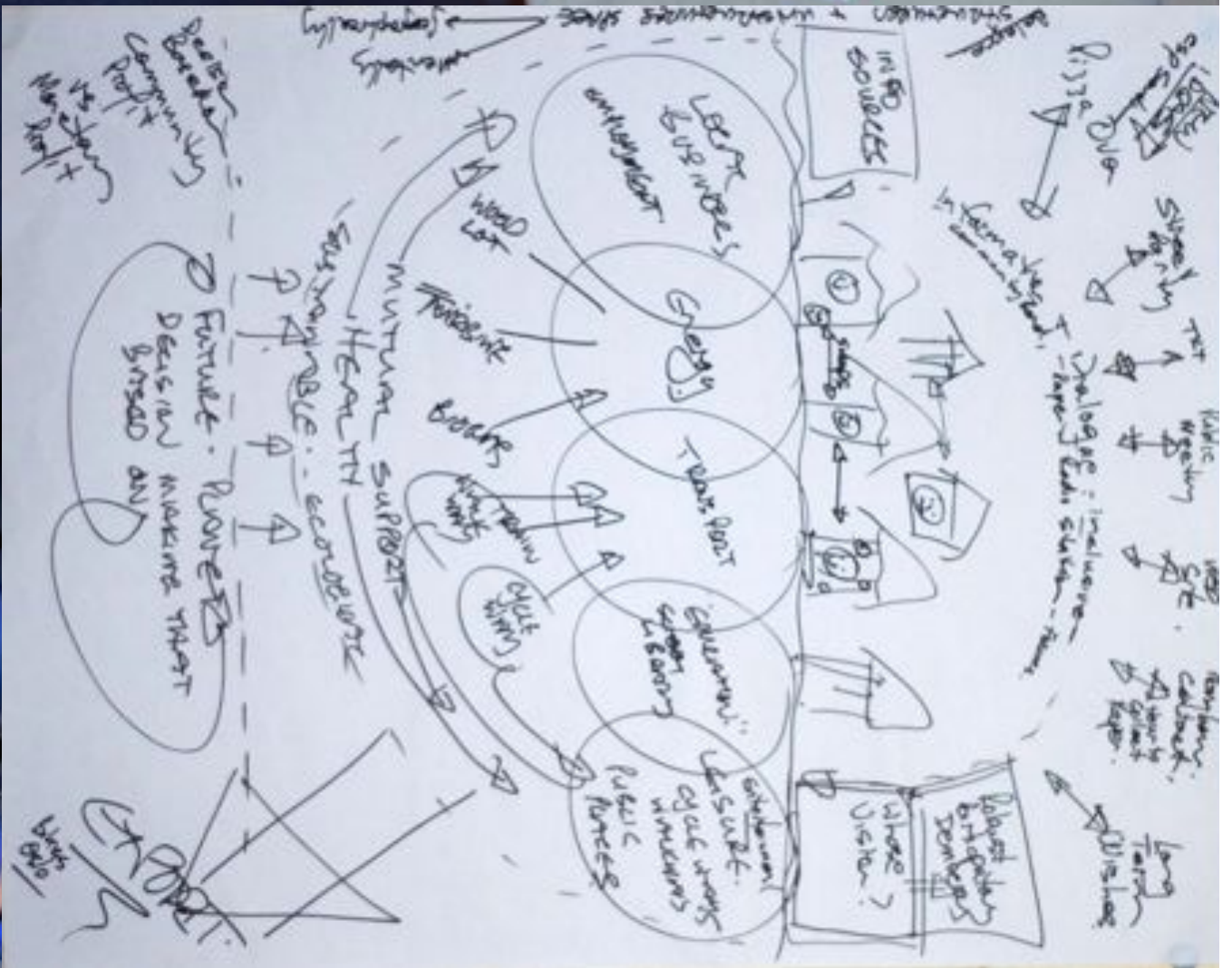
Energy efficient houses
Energy conserving behaviours
Distributed generation
Developing & trialling new technologies



BLUESKIN ENERGY PROJECT

Long Beach Purakauuni The Gap Osborne Waitati Evansdale Warrington













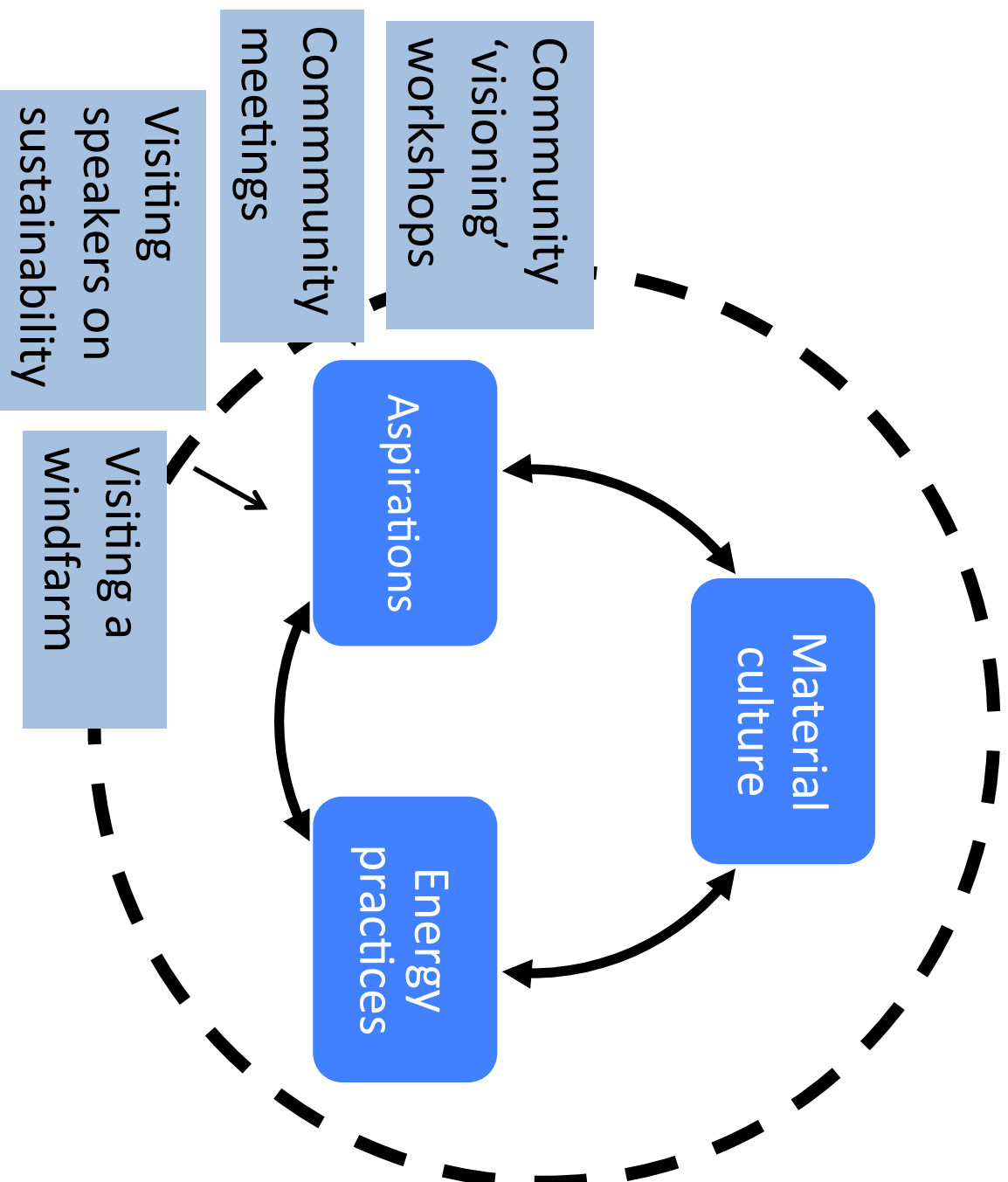
The project is visionary,
the presentation a well
design of these discussion
deed admirable —
highly innovative, quality
of both the idea you are
preparing and the way
it is being presented.
It is a very impressive
and power to your vision
is in!

Very good thing
Congratulations on such an informative
presentation

Thank you for all the hard work
+ commitment

Fantastic concept! The country
needs communities like this to lead
it into broader participation
in our future

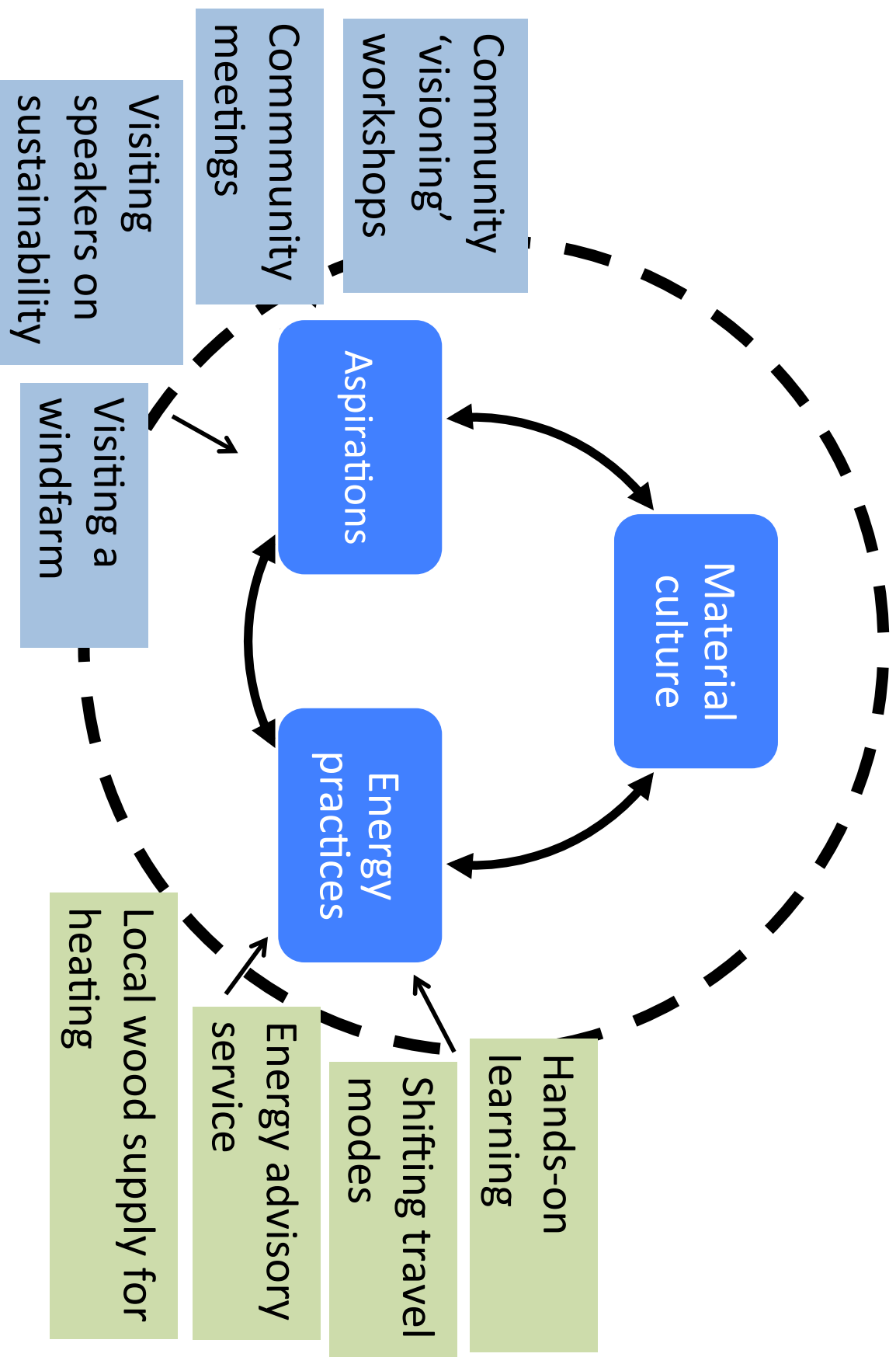
Very impressed & inspired will give thought
to this & get in touch. Like these projects
to be adopted to properly & spread off in
environment & into people?









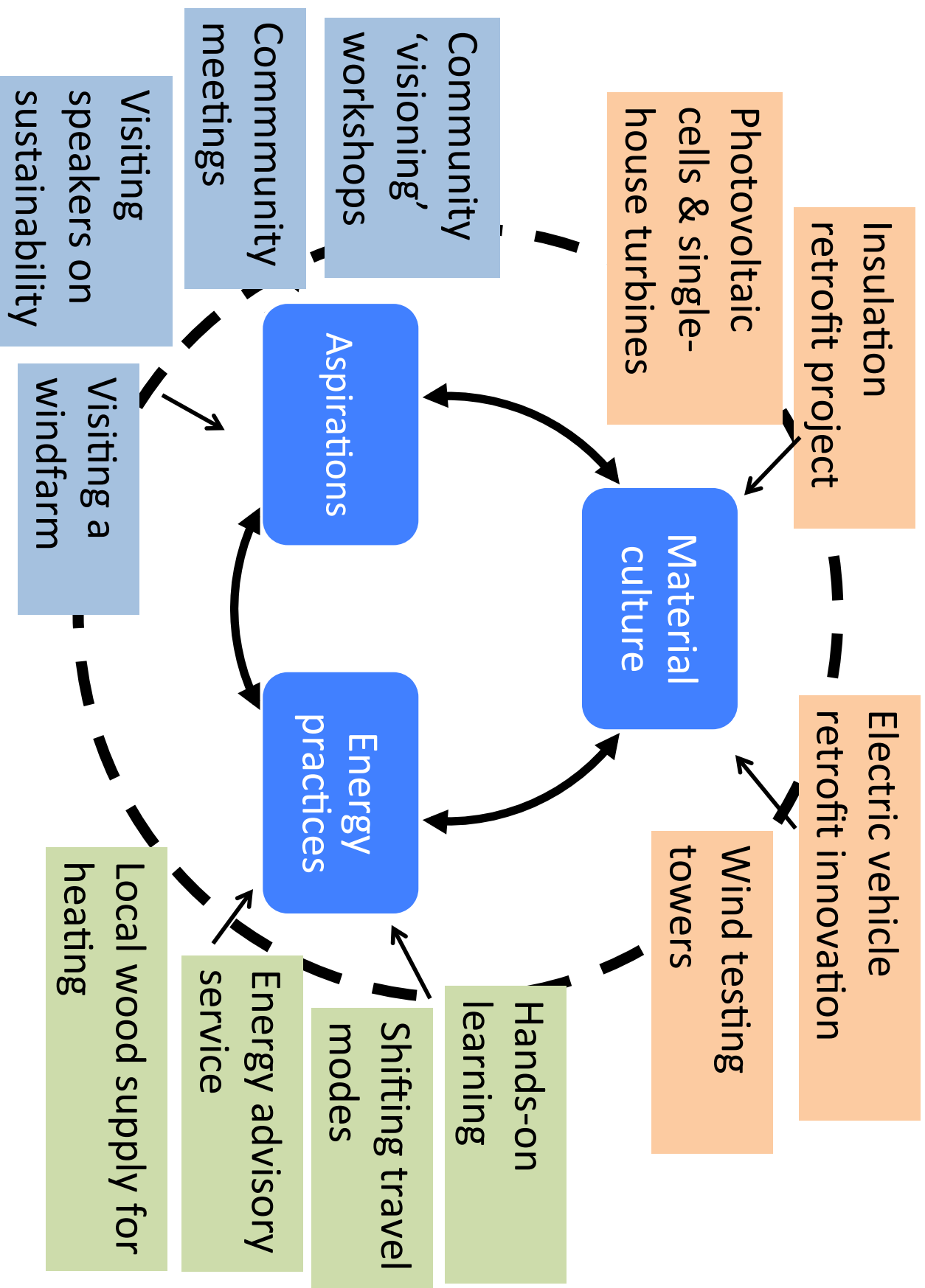




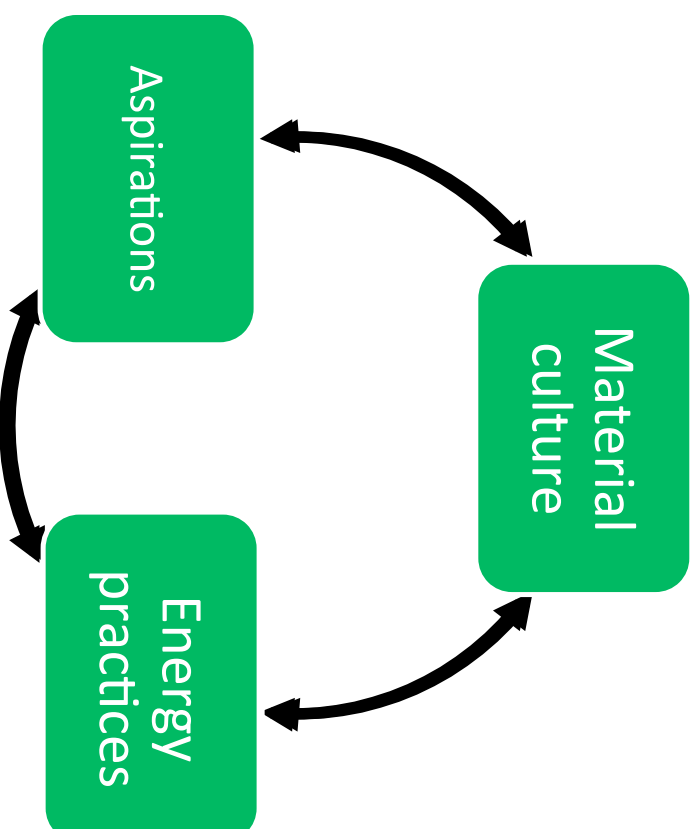








Achieving shifts in Waitati's energy culture

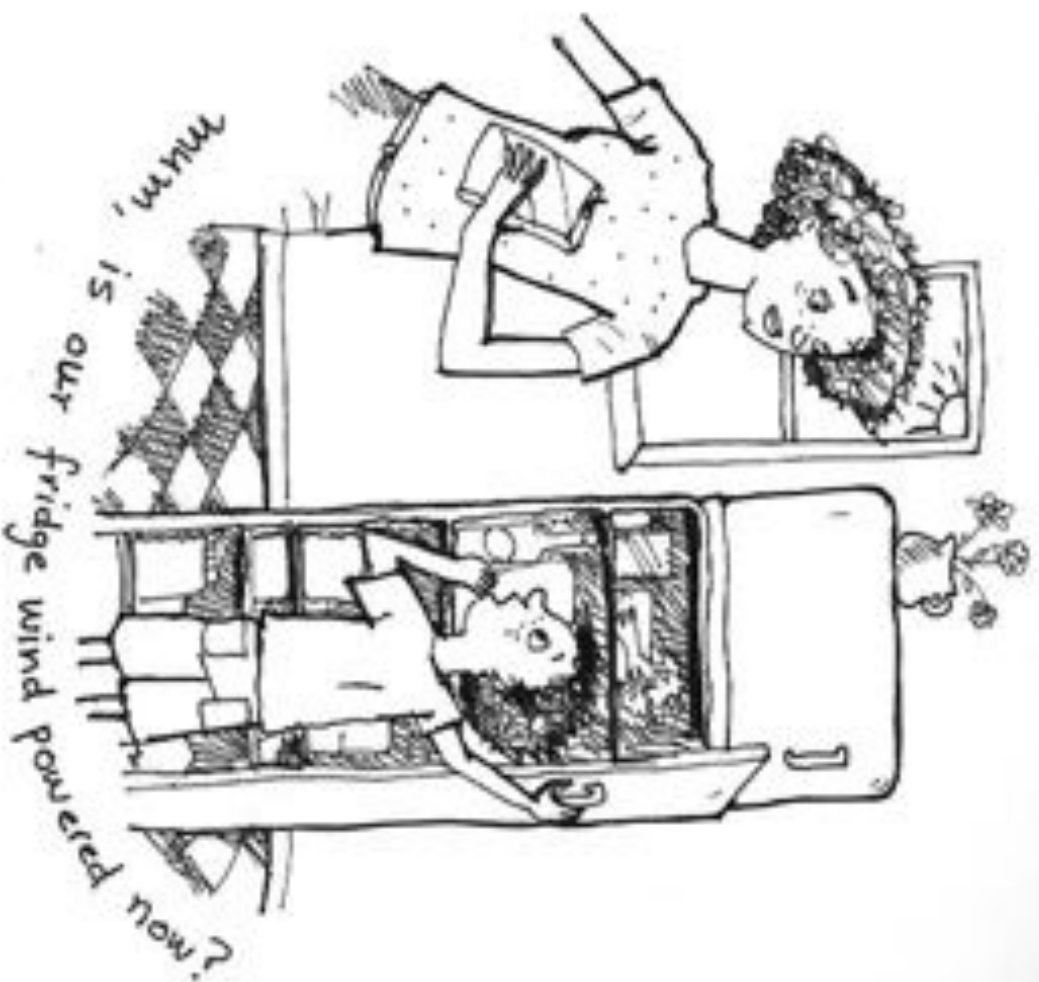


Social norming ... Ripple effect





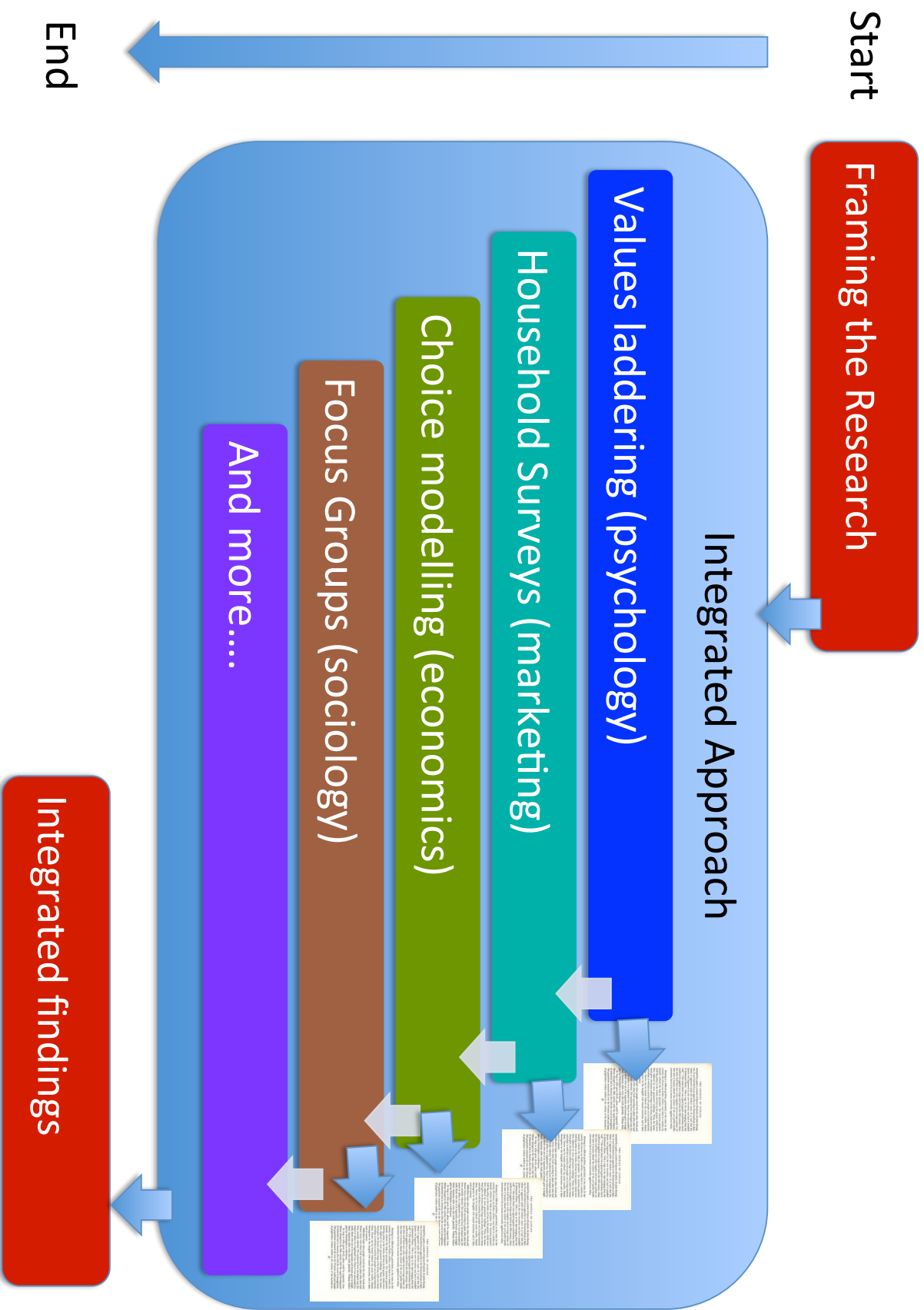
Becoming “prosumers”





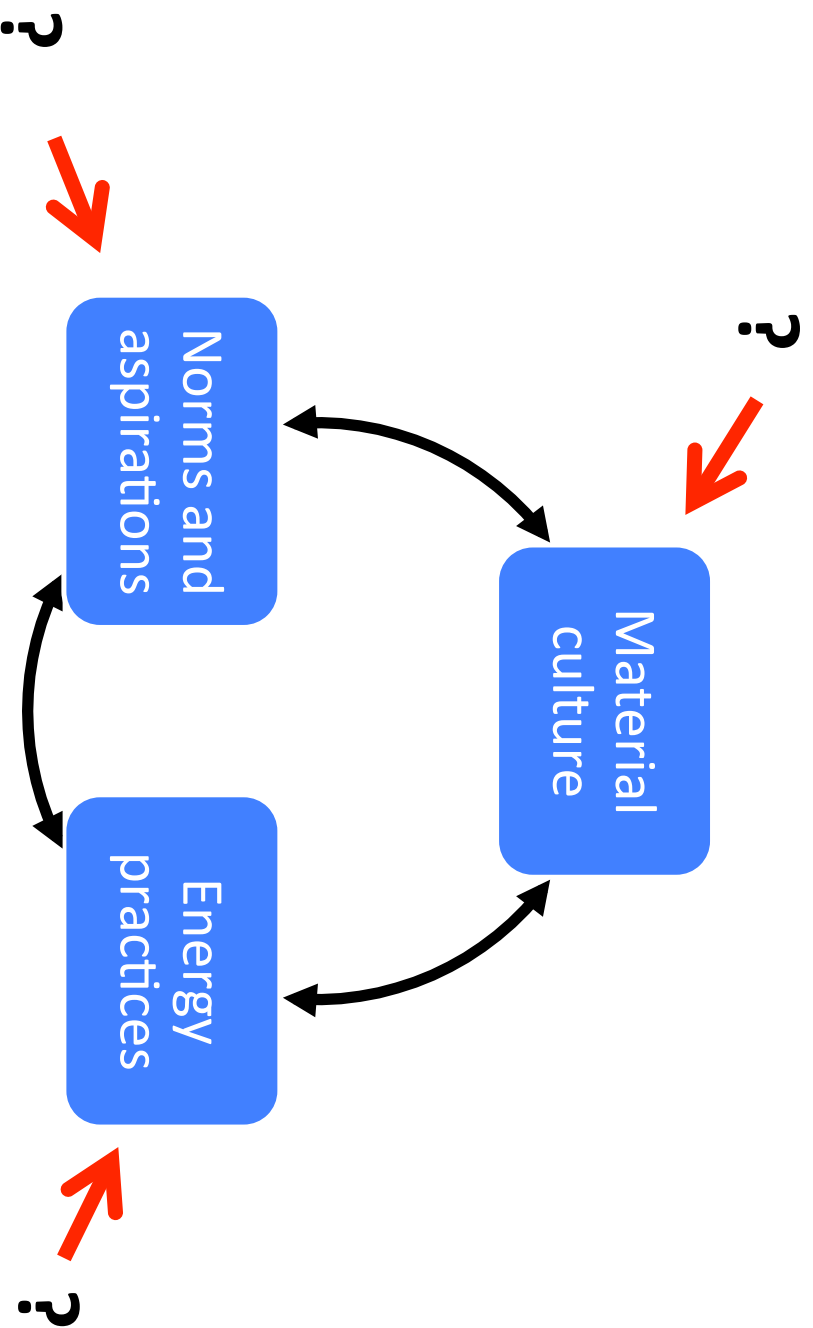
ENERGY CULTURES AS AN ORGANISING PRINCIPLE





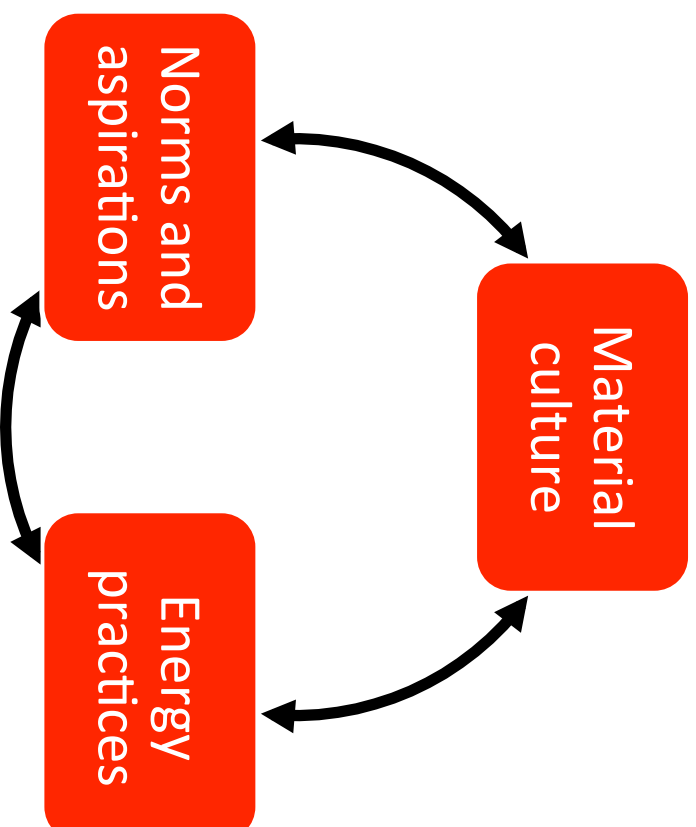
How influential are values on EE behaviour?

Social psychology – ‘laddering’



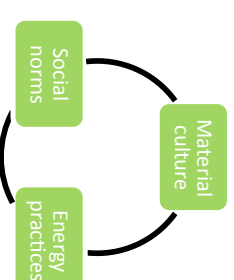
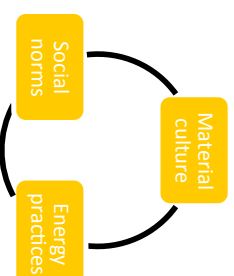
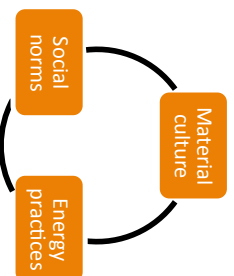
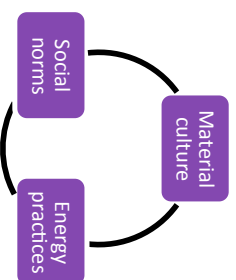
Characteristics of NZ households?

Social science - National survey



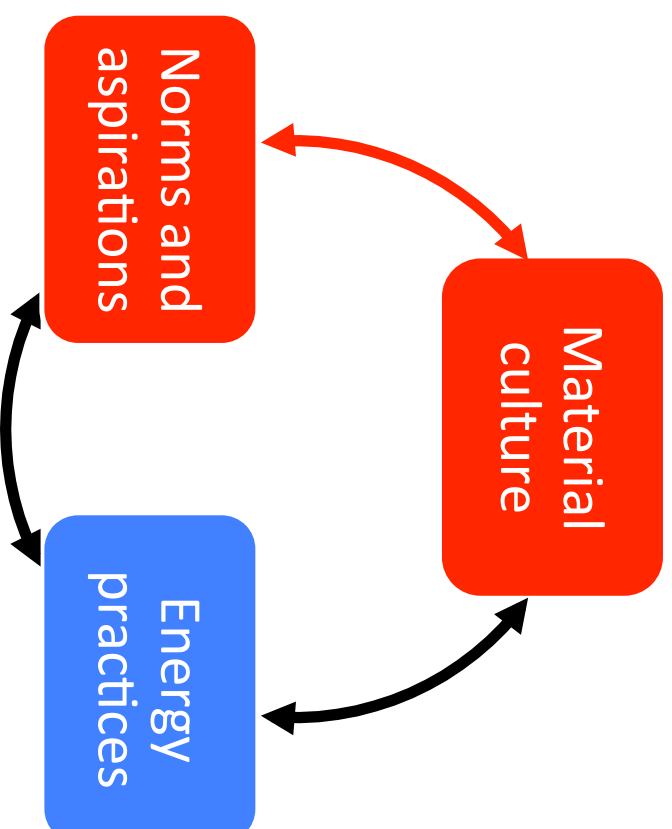
Distinctive clusters of energy cultures?

Social science - statistical analysis



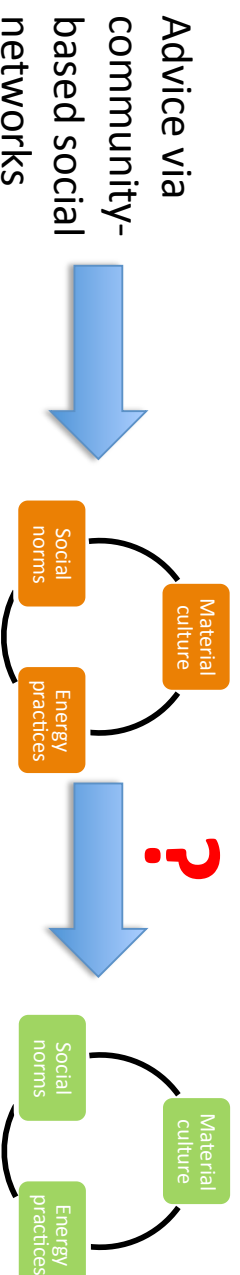
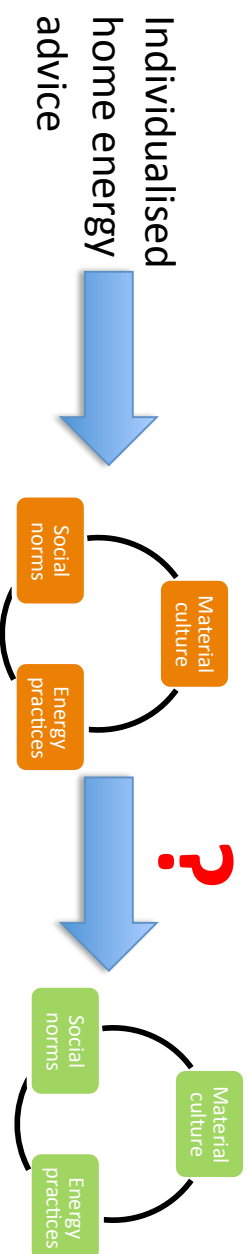
Consumer preference for heating & hot water technologies?

Economics - Choice modelling



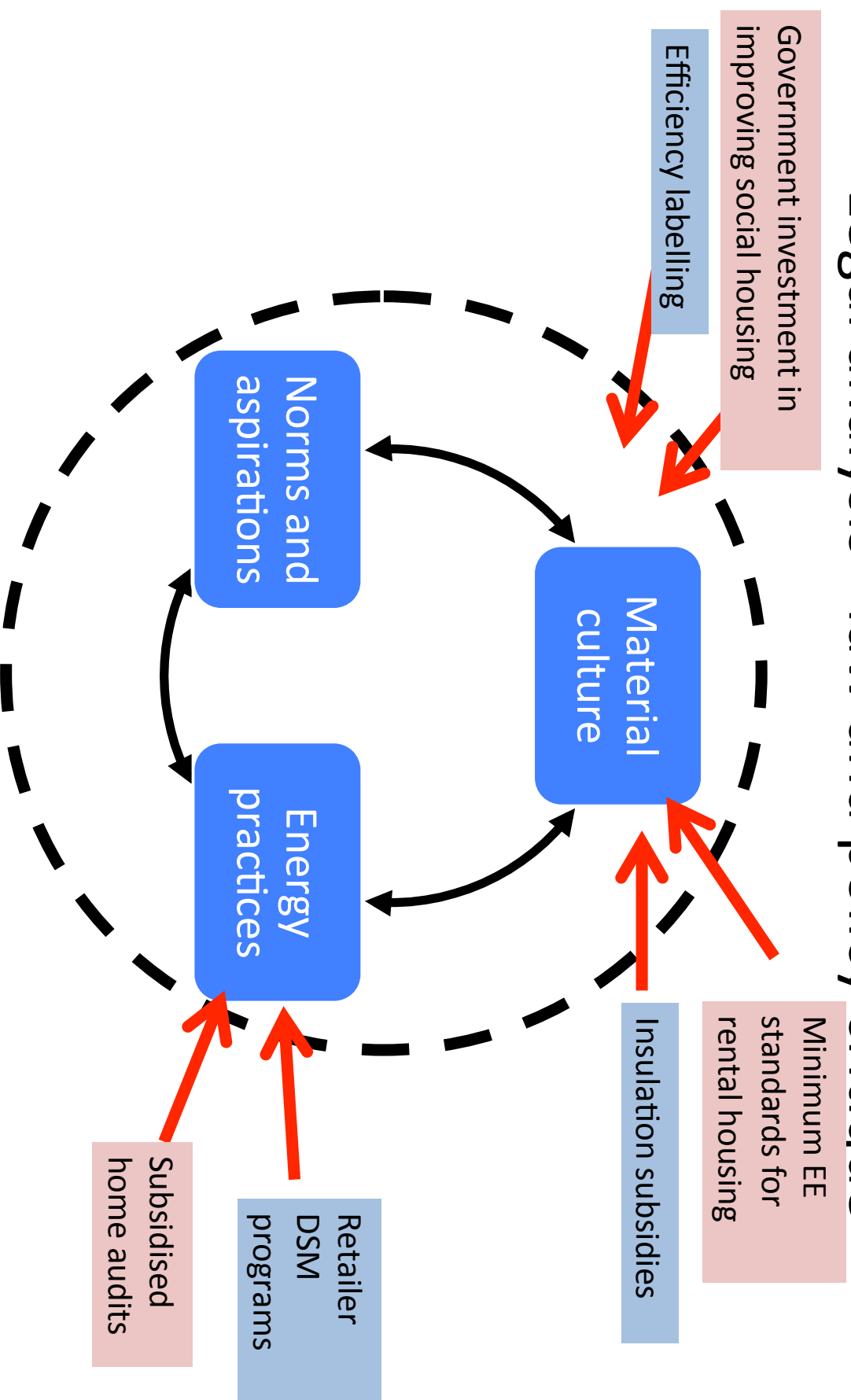
Comparing interventions for energy change

Social science: survey, interventions, re-survey, interviews

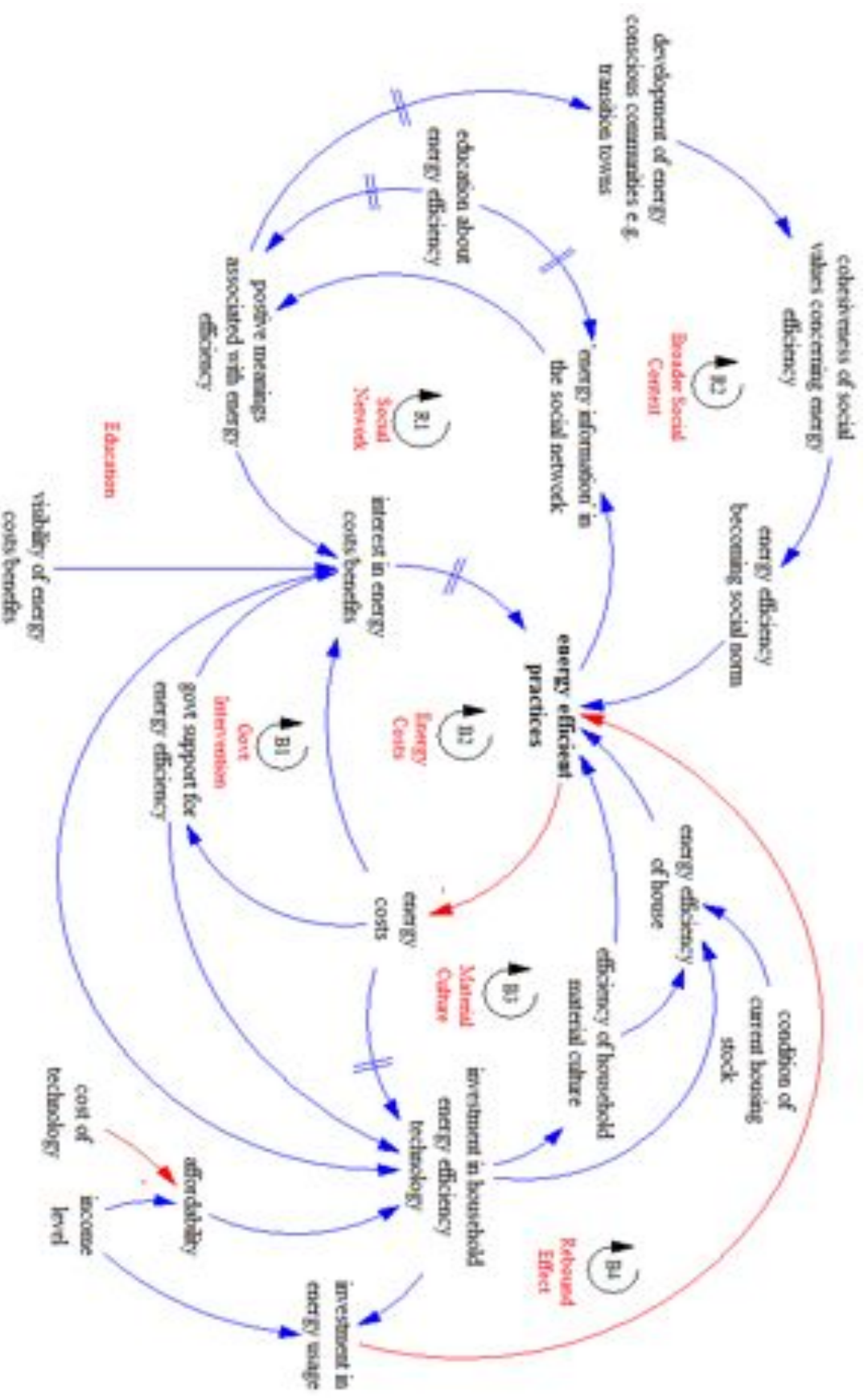


Regulatory framework for energy efficiency?

Legal analysis - law and policy critique



Integrating across findings System Dynamics modelling



Integrating across findings

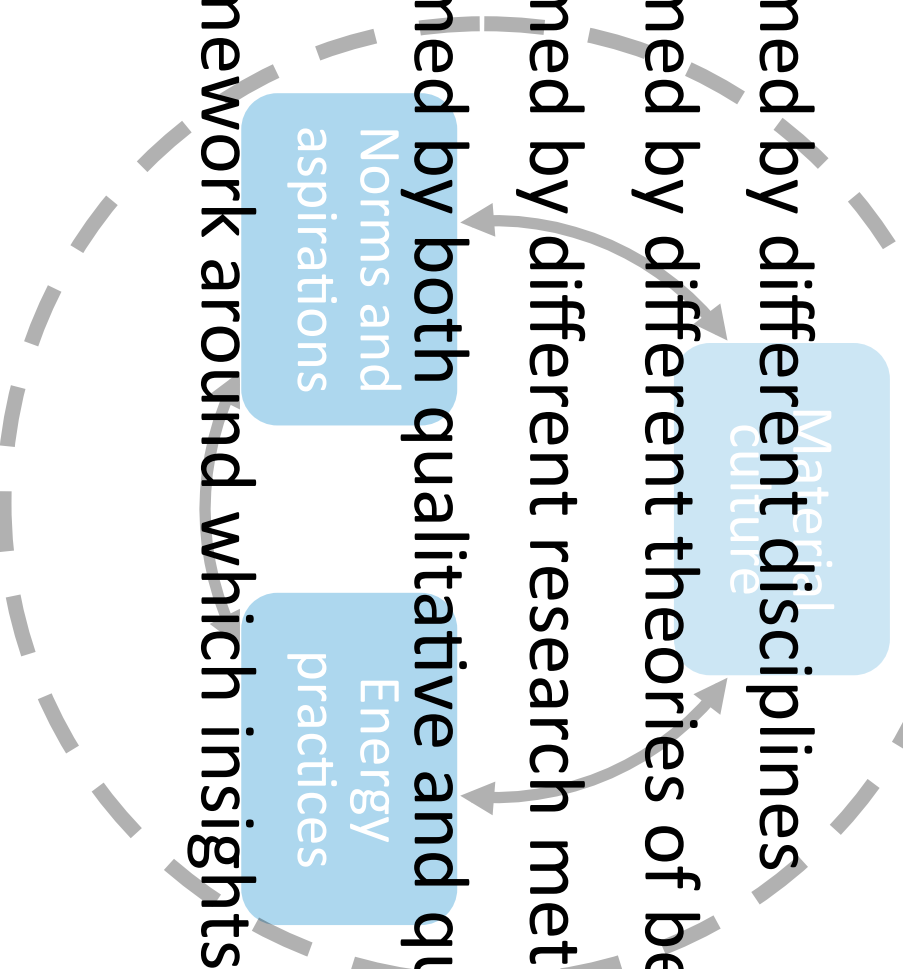
Policy implications of all streams



Energy Cultures as an integrating

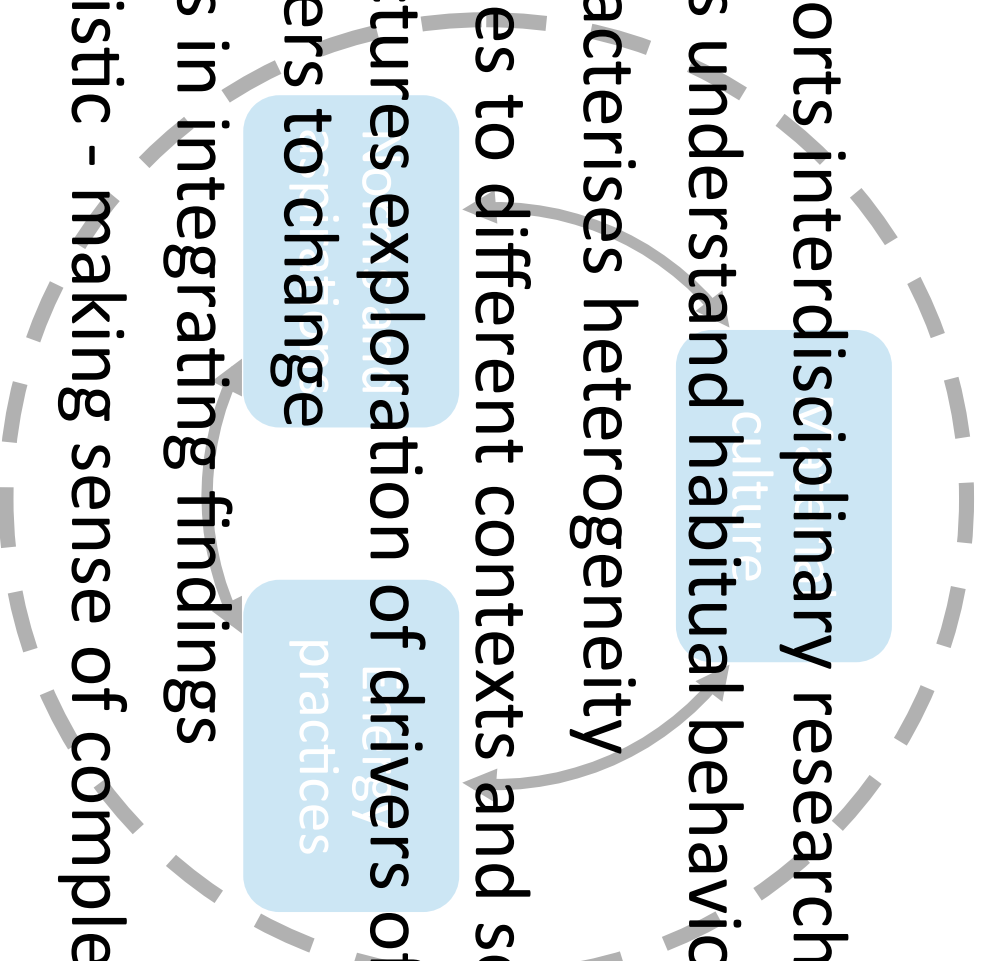
framework

- Informed by different disciplines
- Informed by different theories of behaviour
- Informed by different research methodologies
- Informed by both qualitative and quantitative data
- A framework around which insights are built up



Adaptability of the Framework

1. Supports interdisciplinary research
2. Helps understand habitual behaviour
3. Characterises heterogeneity
4. Applies to different contexts and scales
5. Structures exploration of drivers of and barriers to change
6. Helps in integrating findings
7. Heuristic - making sense of complexity

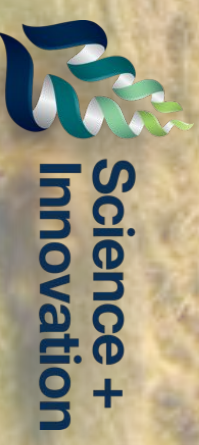


Sustainability transitions through collaborative research

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Dr Sara Walton sara.walton@otago.ac.nz

Dr Rebecca Ford rebecca.ford@otago.ac.nz



Publications to date

- Barton, B., Blackwell, S., Carrington, G., Ford, R., Lawson, R., Stephenson, J., Thorsnes, P., Williams, J. (2013) Energy Cultures: Implications for Policymakers. Research Report, Centre for Sustainability, University of Otago, Dunedin, New Zealand. ISBN: 978-0-473-23717-2
- Barton, B. (2012) The Denominator Problem: Energy Demand in a Sustainable Energy Policy. *Policy Quarterly* 9(1): 3-8.
- Barton, B. (2012). Energy Efficiency and Rental Accommodation: Dealing with Split Incentives. Hamilton, NZ: University of Waikato Centre for Environmental, Resources and Energy Law, unpublished paper.
- Eusterfeldhaus, M., & Barton, B. (2012) Energy Efficiency: A Comparative Analysis of the New Zealand Legal Framework. *Journal of Energy and Natural Resources Law* 29:4 431-470.
- Grieve. C., Lawson, R. & Henry, J. (2012). Understanding the non-adoption of energy efficient hot water heating systems in New Zealand. *Energy Policy*, 48, 369-373.
- Lawson, R., Miroso, M., Gnoth, D., & Hunter, A. (2010, December) Personal Values and Energy Efficiency. Presented at the annual conference of the Australia and New Zealand Academy of Marketing, Christchurch, available <http://anzmac2010.org>.
- Lawson, R. & Williams, J., (2012, December). Understanding Energy Cultures. Presented at the annual conference of the Australia and New Zealand Academy of Marketing, Adelaide.
- Lawson, R. & Williams, J. (2012, December). The Nature of Fuel Poverty in New Zealand. Presented at the annual conference of the Australia and New Zealand Academy of Marketing, Adelaide.

Publications cont.

- Mirosa, M., Gnoth, D., Lawson, R. & Stephenson, J. (2010, November). *Characteristics of Household Energy Behaviours* (Centre for the Study of Agriculture, Food and the Environment, University of Otago, unpublished report for EECA).
- Mirosa, M., Gnoth, D., Lawson, R., & Stephenson, J., (2011, June) Rationalising Energy-Related Behaviour in the Home: Insights from a Value-Laddering Approach. European Council for an Energy-Efficient Economy Summer Study, France, pp 2109-2119.
- Mirosa, M., Lawson, R., & Gnoth, D. (2011) Linking Personal Values to Energy-Efficient Behaviors in the Home. *Environment and Behaviour* (27) 1-21;
- Stephenson, J., Barton, B., Carrington, G., Gnoth, D., Lawson, R., & Thorsnes, P. (2010). Energy Cultures: A framework for understanding energy behaviours. *Energy Policy*, 38, 6120–6129.
- Stephenson, J., Lawson, R., Carrington, G., Barton, B., Thorsnes, P., & Miranda, M. (2010). The Practice of Interdisciplinarity. *International Journal of Interdisciplinary Social Sciences*, 5:7, 271-282.
- Stephenson, J. & Carswell, P. (2012, September 20-21). *Energy Cultures and Social Networks – influences on household energy behaviour*. Paper presented at the Energy Efficiency and Behaviour Conference, Helsinki, Finland.
- Thorsnes, P. (2011, June) Household preferences for energy-efficient space and water heating systems. International Association for Energy Economics (IAEE) International Conference, Stockholm, Sweden.
- van den Dungen, S., & Carrington, G. (2011). Minimum Energy Performance Standards: How does New Zealand Compare with Other Countries? CSAFE, University of Otago.