Zones of friction, zones of traction: the connected household in climate change and sustainability policy

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Households are increasingly addressed as a focus of environmental policy, with varying degrees of success in achieving more sustainable outcomes at the domestic level. Part of the problem is black boxing, in which the inherent complexity of households tends to be taken for granted. Here we draw on cultural environmental research to put forward a more sophisticated conceptualisation – the connected household approach. The connected household framework uses the themes of governance, materiality and practice to illustrate and explain the ways everyday life, and the internal politics of households, are connected to wider systems of provision and socioeconomic networks. We introduce 'zones of friction' and 'zones of traction' to illustrate different pathways of connection between the spheres. Friction and traction can help decision-makers think through the possibilities and constraints of working at the household scale. The approach is illustrated using the example of water, with a focus on the variable success of water tanks in reducing mains water consumption during the millennium drought.

Keywords: practice; systems of provision; governance; cultural environmental research; water; water tanks

Beyond the black box of the household

How well do we understand households in environmental policy? Households make sense both to the people who live in them, and to government policy-makers, as foundational social units, and as sites through which it is logical to understand the consumption of energy, water and materials that have implications for sustainability issues such as climate change. In affluent urban societies households are an increasing focus of government policy in relation to sustainability issues, and an expanding research literature considers the household as a crucial scale of social organisation for pro-environmental behaviour (Reid et al. 2010; Gibson et al. 2011a, 2013; Lane & Gorman-Murray 2011; Tudor et al. 2011). In Australia we have seen activity at all levels of government, including support for solar panels, home insulation, water tanks, light globes and shower timers. Local councils have established programs such as Sustainable Illawarra's Super Challenge, in which householders were encouraged to become more environmentally sustainable by engaging in activities such as refusing plastic bags, composting, establishing vegetable gardens and catching public transport. The marketing materials used phrases like, 'take the challenge to see just how easy it is to take control

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of your ecological footprint. You'll be surprised at how little time it takes to make a difference … and how good it makes you feel!' (Sustainable Illawarra 2008).

Despite the enthusiasm of many Australian households to contribute to sustainability goals, such policies do not always result in the intended outcomes. Smart meters do not challenge practices that householders consider non-negotiable (Strengers 2011). Water tanks do not save as much water as predicted (Moy 2012). Education programs emphasising that 'it's easy being green' understate the amount of domestic labour involved, and sidestep the question of who does the work (Organo et al. 2012). Residential energy consumption continues to rise, due to a combination of bigger homes containing more appliances and IT equipment, a growing population and a declining number of people per household (Australian Bureau of Statistics 2009). Furthermore, attitudes and practice often do not match. Some of the most avid water savers express vehemently anti-green attitudes (Sofoulis 2005, p. 447), drawing instead on a rhetoric and identity of frugality; and a lot of sustainability work is being done by low-income households who do not necessarily identify as 'green' but who nonetheless consume less (Waitt et al. 2012).

It is a truism that sustainability challenges are complex, but we contend that the conceptualisation of the household in environmental policy has not been complex enough. Many policy approaches treat households as black boxes – freestanding social units operating only at the local, domestic scale. The difficulty of tracking the contribution of Western households to their nations' greenhouse gas emissions provides an illustration of this complexity. In Australia, calculations vary depending on the assumptions made about where responsibility is to be attributed: 13 per cent if only direct energy use within the household is considered, and 56 per cent if the emissions embedded in externally produced goods and services consumed in the household context are included (Australian Bureau of Statistics 2003). As the growing literature on carbon and other ecological footprints makes clear, this variation is partly an issue of data measurement and scale (Wilson & Grant 2009). But we argue here that it also stems from a broader conceptual challenge: how should we think about configurations of people and material things whose social and ecological relations are diverse, shifting and complex?

In this paper we present an alternative framing to the household as a black box. Instead we think of 'connected households', in that households are part of, and a product of, a network of connections. The black box is revealed to contain its own complex politics and practices; households are social assemblages with variable gender, age, class, ethnic and familial structures. The family with children, the student shared household, the extended family or the retired couple will all experience and respond to climate change and sustainability concerns differently, as will home-owners, private and public renters, and unit and house dwellers (Farbotko & Waitt 2011; Klocker et al. 2012). Households are homes in which social relations are the core human concern; in which families bond, people invest emotions and undertake all kinds of identity work beyond the putatively 'environmental' (Blunt & Dowling 2006). The black box is also porous. Home spaces and the people who live in them are inextricably linked into the social, technological and regulatory networks that make up suburbs, cities, regions and nations.

Our framework uses three overlapping themes: governance; materiality; and practice. Governance refers to the systems of provision and regulation of energy, water, infrastructure and other household needs, and the political processes of governing these for sustainability or other ends. Materiality draws attention to the associations between humans, non-humans, technologies, infrastructures and 'things' in everyday life – the

importance of material flows in, through and between households. Practice focuses on the everyday embodied work of household sustainability – who is doing it, what is their experience, and what emotions accompany or inhibit sustainability practices?

We illustrate our argument using examples from a range of cultural environmental research, including our own collaborative research in the Illawarra region, south of Sydney in coastal NSW. Our major project examined the household as a possible scale of sustainability transformations, using surveys with 1465 households (Waitt et al. 2012) and over 200 interviews as part of longitudinal ethnographies (Gibson et al. 2013). The latter uses ethnographic and practice-based methods, providing complementary depth to the broad trends identifiable with quantitative surveys. Themes of focus have included air conditioning and cooling practices (Farbotko & Waitt 2011), driving practices (Waitt & Harada 2012), co-habiting extended families (Klocker et al. 2012), gender (Organo et al. 2012) and rainwater tanks (Moy 2012). In this paper we use the latter as the main example, which we bring into conversation with other cultural research on water, potentially facilitating a 'scaling-up' of in-depth ethnographic approaches.

The complexity and contradictions identified in cultural research often confound and frustrate decision-makers (Gill 2006; Sofoulis 2010). However, we argue that the combination of fine-grained qualitative research and a broader cultural economy approach (Gibson et al. 2011b; Gibson 2012) provides a constructive way forward. Our perspective is that households are not detached units but rather situated in contexts, relationships, 'enrolled networks' and processes of all sorts that guide normative behaviour. Multiple forms of agency are evident in the everyday interactions between people, infrastructure, technology, time and stuff. Relations within this framework exhibit both fixity and fluidity – constraints against and propensities for change – but not in predetermined ways.

Our framework helps identify 'zones of friction' and 'zones of traction' that in turn suggest constructive spaces of policy intervention. What kinds of friction work against changing household practices, and where are the creative possibilities by which traction can be gained towards sustainability? Complexity and diversity can be a potential source of traction; they help imagine alternatives, and identify different adaptive capacities than might otherwise have been considered. More broadly, the framework helps pick a constructive path between two negative extremes: giving up on the household as powerless and ascribing all power to wider economic and political forces versus putting the total sustainability burden on households without any expectations on industry and business.

Governance and regulation

A growing literature on environmental governance has used Foucauldian notions of governmentality[1] and power to better understand how the state positions the sustainable subject and sustainable household, particularly in the context of climate change (Oels 2005; Lövbrand et al. 2009; Okereke et al. 2009). In this understanding, power is not a 'resource' or a 'capacity' possessed by some more than others, but rather is a relationship between actors (Foucault 1982). Dowling (2010, p. 492) has argued that 'the creation and occupation of subject positions through governmentality processes is an important framework through which climate change policies and action are understood'. Climate change programs operate within the neoliberal state, often assuming citizens are mere passive 'consumers' (Slocum 2004); sustainability thus relies on the notion of the 'responsible, carbon-calculating individual' (Dowling 2010, p. 492), constructed in climate change campaigns as the new ideal citizen. Households are 'responsibilised'[2] into action,

obliged to govern their own consumption actions through, for instance, kerbside recycling schemes, or through incentive schemes and education programs to reduce household consumption of energy, water and other resources. Conventional policies in these sectors, for example Australia's Green Loans Program, have focused on influencing consumer choice with regards to energy and water efficiency rating systems and government-sanctioned 'green' technologies, such as insulation, rainwater tanks and solar power.

Other research has highlighted the shortcomings of such utilitarian policy approaches, for example: they wrongly treat people as passive consumers rather than citizens or active subjects (Burgess et al. 2003; Malpass et al. 2007); information campaigns are frequently met with scepticism because of cynicism towards government and clashes of ideology (Hinchliffe, 1996; Eden et al. 2008; Davidson 2010); and attitudes do not map neatly onto behaviour (Hobson 2003; Sofoulis 2005; Lorenzoni et al. 2007; Haq et al 2008). Together, these critiques suggest that consumption practices will not change simply through the provision of better quality information and financial incentives.

The problem with the conception of power as 'resource' is that it is essentially 'negative' in character (Foucault 1980), emphasising repression and simplistic top-down solutions rather than the productive effects of power between actors and across scales of action, effects that might well produce repression as an outcome, but that also create possibilities for resistance. While mindful of concerns about 'responsibilisation', in this paper we also want to mobilise a more creative sense of household power by identifying ways that household capacities – sometimes informal and unheralded – can generate traction along diverse pathways. A more creative sense of household power also challenges the scale at which environmental governance is usually understood. We draw here on recent critiques of the widespread assumption that 'governance of global environmental issues requires global solutions, which are then "cascaded" down through national, and implicitly, subnational arenas of governance' (Bulkeley 2005, p. 879). Rather, work is now considering diverse sources of 'agency beyond the state' (Stripple & Pattberg 2010) including, for example, increased interest in the city or municipality rather than the nation as a site of innovative policy (Bulkeley 2005; Betsill & Bulkeley 2006). In this understanding, the 'local' – which can include the household – does not just feed into pre-existing scales of something bigger in accumulative fashion, but rather can itself be a generative site of creative possibilities.

Materiality and systems of provision

Households are inter alia economic spaces in which people access, use, exchange and value financial and material resources (Gibson 2012). Many household economic activities have sustainability implications – making purchases, reducing or increasing consumption, opting for certain products, sharing resources in family and social networks (Lane et al. 2009). However solid the physical dwelling, it is in one sense nothing more than a membrane through which energy and stuff flows in what Fine and Leopold (1993) called 'systems of provision'. Such systems of provision transgress the production–consumption binary: they are the routes of commodity manufacture, distribution and consumption, the architectures, manufacturing processes, infrastructures, environmental transformations and cultural meanings required for commodities to come to be as they are. For Fine and Leopold (1993, p. 15), commodities 'are socially constructed not only in their meaning but also in the material practices by which they are produced, distributed and ultimately consumed'. Some systems of provision are very fixed, and some are fluid. Where they are fixed, any

changes that a household makes may be limited unless connected to larger scale infrastructural and technological change (Lawrence & McManus 2008). Where they are fluid, households may be able to contest wider patterns of consumer capitalism through bargaining networks and informal sharing with friends, relatives and neighbours.

The material spaces of the household, and the things in them, can be structured by human activity, but also have agency in their own right. Home designs with poor passive solar design ratchet up energy use in heating and cooling, as do appliances with standby functions, and washing machines that default to warm water washes. Families with open-plan living areas both accommodate their ideals and practices around the house and/or alter it to suit: 'banishing children from open-plan areas to maintain their simplicity; embracing children's presence; placing furniture to enclose it; knocking out walls to open it' (Dowling 2008, p. 536). Cars provide a cocoon of comfort for drivers not matched by trains. As one driver recorded in a mobility diary:

> Light drizzle; what a comfort it is to go door to door (almost) by car, low heat on, listening to 2RN. Warm, quiet and comfortable. With the car windows closed, it almost excludes the rest of the world. I'm beginning to think I DO have a love affair with my car (Harry, quoted in Waitt & Harada 2012, p. 12).

The ease or difficulty with which connections between people, things and material spaces can be reconfigured also has sustainability implications. In our research on material resource use in extended family households, sharing of appliances was assisted or hindered by house design – lower floors were turned into granny flats, garages into bulk storage zones, bedrooms became spaces of private recluse, open plan designs enabled communal meals – each in turn contributing to altered per capita energy and water use (Klocker et al. 2012). And yet other commodities, such as televisions and cars, were rarely shared in extended family households – in large part a function of cultural proclivities towards privacy and independence (in the case of televisions), but also a function of underlying infrastructure provision that, in the case of cars, necessitates private vehicle use to meet diverse family needs and complex daily timetabling.

Everyday practice

Most incentive and education programs pay little attention to the ways household energy, water and other resource consumption practices are part of the rituals, rhythms, habits and routines of everyday life (Shove 2003; Gregson et al. 2007). Cultural research helps explain why promoting public awareness of climate change is inadequate in itself to change behaviour, because cultural norms shape household consumption in complex and uneven ways (Lorenzoni et al. 2007). Sustainability campaigns normally fail to appeal to, or appreciate, the emotional meanings attached to material possessions (Allon & Sofoulis 2006; Hobson 2008) or home spaces (Blunt & Dowling 2006). Gregson et al. (2007) troubled many assumptions about what constitute 'normal' pro-sustainability behaviours – recycling, and reducing electricity or fossil fuel consumption – by recognising that these practices are motivated by financial rather than environmental concerns. So too, austerity, hoarding, sharing and charity donations – all cultural practices with implications for reducing consumption – require analysis in specific social settings to ascertain motivations and meanings (Gregson et al. 2007).

Inside the house we encounter norms of cleanliness, for both human bodies and their clothes, that are embedding increasing levels of water consumption in the bathroom and

laundry (Shove 2003; Troy et al. 2005; Allon & Sofoulis 2006). One example is provided by teenagers who may have four changes of clothing and more than one shower a day; as they exercise, attend university, go to their part-time job, and then go out at night (Sofoulis 2005). The particular dirt of each context has to be removed by washing from both bodies and clothes. In one of our studies young adults shared stories of their disgust at sweat, and the measures they take to avoid arriving at work or university sweaty (Waitt 2013). As one young woman said, 'I don't like sweating in front of other people. It's disgusting. Like walking to uni with the beating down sun, and your make-up starts to come off'. Study participants reported a range of strategies to distance themselves from sweat and maintain appropriate bodily boundaries; repeated and frequent washing of clothes, bathing, showering, shaving and application of deodorants. There are clear implications in these examples for water and energy consumption, but there is also spatial differentiation in where sweat and dirt are felt to be appropriate or not. People were much more willing to feel sweaty or dirty at home, where a sense of 'togetherness' may be fostered. In contrast, sweat is often experienced as disgusting in public or work contexts. One interpretation of these findings is that it may be easier to get traction for reduced air conditioning in domestic than in business contexts, the latter a space where cleanliness and deodorising are self-governed more stringently.

Practice, identity and attitudes do not necessarily line up. In our research on extended family households, younger generations identified with sustainability by recycling and affirming their belief in the importance of tackling climate change – they thus claimed stronger 'green' credentials than their parents and grandparents. Yet it was grandparents, with backgrounds of frugality and thrift, who were least likely to consume large amounts of clothing and appliances, and instead kept and stored old 'stuff', maximising its use value (Klocker et al. 2012). In turn, grandparents in extended family households were most likely to distance themselves from 'green' identities and from the climate change issue. Lining up intergenerational attitudes and practices around a pro-environmental agenda will mean overcoming dynamic contradictions within families – many a dinner table debate is to be had.

The concepts of friction and traction help to think about how different elements of governance, materiality and practice interact in the context of the household. We draw on Shove's (2003) use of the ratchet to discuss the role of tools and technologies in the making and remaking of everyday household practices. She illustrates how changing social norms, say in terms of cleanliness and washing clothes, may counteract efficiency improvements within systems of provision. In many ways friction and traction are two sides of the same coin, but we use them here to trace less and more sustainable pathways respectively. So zones of friction may involve pathways of resistance to more sustainable outcomes, or contradictory practices which entrench less sustainable outcomes. We use zones of traction to refer to pathways towards more sustainable outcomes. Traction can result from the deroutinisation of previous practices. The term 'traction' also helps identify useful points of intervention – policies, key players, levers, intermediaries or translators, both human and not.

Friction and traction: the example of rainwater tanks

We illustrate our framework in more detail by turning to the example of water. During the so-called millennium drought (2002–2009), government policies to ensure continued water supply combined a number of strategies – increasingly severe restrictions on use

outside the house, education and media campaigns about how to save water inside and outside, mandating of water saving devices in new buildings and their subsidy in retrofits, and various proposals for large-scale recycling, desalination and new dams (Troy 2008; National Water Commission 2012). Outdoor water use by households is relatively public, amenable to surveillance by both government officials and neighbours, and an obvious first step in terms of restrictions. Inside the house there were many less visible, self-governing behaviours that made significant contributions to reducing consumption; householders became 'responsibilised' with varying degrees of willingness.

After a number of decades of prohibition in urban areas, water tanks were rehabilitated during this period (Moy 2012). They were heavily promoted and subsidised by governments, and enthusiastically adopted by householders. Moy compared the mains water consumption of over 7000 Illawarra households who installed a tank during the drought (for two years before and two years after installation, to smooth out seasonal differences) with that of total household mains water use under a regime of water restrictions. Both populations showed about the same amount of reduction – 10.26 per cent for tank households and 10.8 per cent for the wider community.

This was a puzzling finding as the policy view is that domestic tanks are a logical way to reduce the consumption of mains water, even when only fitted with outdoor connections, as most are. Sydney Water (the supply agency) assumed 28 per cent of mains water to be used outdoors. Interviews with a subsample of these households identified two distinct sets of practices, summarised by Moy as 'water saving' and 'water using'. The former cohered around practices of frugality, and were adopted by a number of people who had grown up in the country. Water users were vocal in the importance of autonomy and freedom from government restrictions in their reasons to install a tank. They differentiated between 'my water' in the tank, and government water that came through the mains (see also Gardiner 2010). Comparing the practices of tank and non-tank households in our survey results (Waitt et al. 2012), Moy showed that tank households were not statistically more likely than others to undertake water saving practices inside the house – turn off the tap while cleaning teeth, only wash clothes with a full load, avoid the tap running while washing dishes, reduce the length or number of showers, reduce toilet flushes. (The first three of the above practices were adopted by a majority of all households; the latter two were a minority concern.)

The implications of Moy's work are yet to be fully worked through, and comparative research in other areas will be necessary. But, just as the technologies of 'big water' have been subject to considerable critique in the social sciences (Sofoulis 2005; Troy 2008), it is clear that no technological solution – even a low tech one – provides a straightforward fix. Rainwater tanks do not achieve water savings in and of themselves, but rather become intermediaries, entangled with social practices and bundles of meaning in ways that can both increase and decrease water consumption.

Several zones of friction and traction are identifiable in this example.

One zone of friction lies in the governance regime of subsidised water tanks being used to maintain high levels of water consumption by those who are resistant to being told what to do with 'their' water. Another friction is that outdoor water use is amenable to surveillance and regulation, while indoor use is not. The fact that water tanks have not yet achieved the traction that might have been anticipated is partly to do with the limited numbers of indoor connections. Moy unearthed considerable resistance to bringing tank water inside the home. A number of her interviewees thought tank water was 'dirty', or at least of lesser quality than mains water, and unsuitable for use inside the house (see also

Po et al. 2004).[3] A third example occurs when water tanks provide a badge of green identity in households but are in friction with the continuation of high-consumption practices (Askew & McGuirk 2004, Moy 2012; Waitt et al. 2012). Tanks are promoted as part of green consumerism, and as design features in their own right.

The idea of friction is also useful to understand contexts where desire or attitude does not correlate with outcomes of reduced water consumption. Young adults with 'green' attitudes but complex lives in which body odour is socially anathema, as outlined above, can wash their clothes and bodies much more frequently than other members of society. Generations who have grown up with water abundance and social norms of ever-increasing cleanliness are likely to find it much harder to change in the future. The framework also alerts us to potential zones of friction between water policies and other climate change policies. For example informal heat adaptation practices to reduce air conditioning may involve more clothes washing for sweatier clothes.

More positively, there are also clear pathways of traction in these examples. The apparent success of the 'no-tech' tool of stringent water restrictions shows that strong government action is widely accepted, provided there is enough enforcement to establish trust that the burden of reduced consumption is shared. The 'no-tech' is somewhat illusory, since restrictions require a technological regime of public education and compliance to hold them in place. The pathway of traction around water restrictions also had shocking points of weakness, such as when one very unfortunate man was killed by a neighbour while hosing his garden during water restrictions in Sydney (Sydney Morning Herald 2007).

There is also traction between the experience of water scarcity in early life and lifelong practices of not wasting water. People who have grown up under regimes of water scarcity, for example overseas, or in rural areas, and older people with a well-entrenched ethic of frugality and not wasting, have considerable adaptive capacity when it comes to water. This contrasts with the view that the more socially vulnerable have the least resilience and capacity to change. The importance of ingraining good water habits early in life is clear. What is not so clear is how to address the frictions of the young adult period!

Although it is tempting in policy discussions to ascribe all agency to human actors, we should not underestimate the power of drought itself to make households more reflexive, and deroutinise their practices. Lack of rain and dying plants was all too evident, particularly to gardeners, leading to traction between the systems of water provision inside and outside the house. Studies documented a variety of informal water saving practices during the drought years, encapsulated by the practice of the 'the bucket in the shower' (Head & Muir 2007), whereby soapy shower water was collected for use on the garden. Other grey water was informally captured in the kitchen and laundry for use on gardens. Notable in several studies (Sofoulis 2005; Allon & Sofoulis 2006; Head & Muir 2007) was the intensive labour people were prepared to invest in saving their gardens. This capture of indoor water for use outside helps explain why, contrary to expectations, per capita water consumption around that time in Sydney showed little difference between separate houses with gardens and apartment or unit dwellers (Troy et al. 2005). Apartment dwellers with less exposure to the material provision of their water, and often with no clear connection to their usage patterns due to centralised metering, had little incentive to reduce consumption.

The combination of governance, materiality and practice seen in this example emphasises the ways the household is an important scale of analysis, rather than just

individual behaviour. The household is the unit of water governance with which the state interacts, through its provision of mains supply and its program of tank subsidies. The materiality of that water provision takes a number of different forms and there are different points of intervention. For example, how will the garden of a particular household be watered, the toilets flushed and the clothes washed? Both of these interact with everyday practices within the household. To be sure, these can vary between individuals, and we have presented examples of socially variable practices (cleaning, washing, gardening) that have different outcomes for water consumption. Part of our argument is that it is important to pay attention to conflict, jostling and variability within households as well as between them.

Conclusion

Environmental policies targeted at the household scale tend to take the inherent complexity of the domestic sphere for granted. We have argued that a more sophisticated conceptualisation of the household is needed to maximise the effectiveness of such policies and suggest alternative ones. In this paper we have put forward instead a 'connected household' approach. The connected household framework uses the themes of governance, materiality and practice to illustrate and explain the ways daily life – itself a contested and jostling process within households – is connected to wider systems of provision and socioeconomic networks.

We have introduced zones of friction and zones of traction to illustrate different pathways of connection. We suggest that friction and traction will help decision-makers think through the possibilities and constraints of working at the household scale – why some policy approaches do not work and others do. Identifying friction does not mean it can be simply overcome by education campaigns or the provision of information. Wider cultural economic change may be necessary, taking form in changed relations between home and work, changed regulation, changed cultural norms of cleanliness or changing expectations of seamless mobility.

Where traction is identified, there is considerable policy value in letting people know they are already making a difference. Campaigns could usefully sustain or encourage existing practices rather than necessarily attempting to change behaviours. There is potential traction in places that may not immediately appear to be 'environmental'; walkable cities and suburbs can combat both obesity and climate change, as well as increase the resilience of individuals and communities (Southworth 2005).

Cultural environmental research focusing on the household is relatively new, but already shows the significance of different stages of the life cycle for sustainability practices. Transitions between these stages also suggest productive sites of intervention. Our survey research showed that the most substantial changes in consumption often occur around life cycle changes – having babies, getting married (or divorced), retiring. Existing active cultures of reuse among young parents (for such things as baby clothes and prams), and of 'downsizing' among retiring couples (Breakspear & Hamilton 2004) suggest that the place to look to make reforms may not be in the environmental realm but, for example, by providing tax breaks for new parents, for newlyweds and for the superannuated who make sustainable choices at those points of transition.

Nor do we suggest that policy can do everything – at least in the immediate term. Some cultural changes, such as cultural norms of cleanliness, appear beyond the reach of policy. Yet an example from history reminds us that norms do shift over time, and governments

have an important role to play – the introduction of sewerage systems and public health education about germs in the early twentieth century was extremely successful in shaping cultural norms of cleanliness. We do not mean to say that society should necessarily reverse such changed norms – but rather, that in the long term, further nuances are needed in what is considered 'normal' within the household, if we are to reduce per capita resource use. Policy moves might look like failing to achieve such objectives if held accountable only in the short term. Many cultural norms are contingent on the present state of widespread affluence. Perhaps the biggest source of friction is between the overall goal of economic policy to encourage an ever-higher material standard of living, and policy attempts to encourage households to reduce consumption.

Acknowledgements

Notes

1. Rationalities and techniques used by governments to actively create subjects (the governed) (Mayhew 2009).
2. Responsibilisation involves the state devolving responsibility to households or individuals, who assume this for themselves.
3. There is no suggestion that such indoor water use would be for drinking purposes. No Australian municipality has promoted consumption of tank water where reticulated drinking supplies are available. However, indoor connections can be used to flush toilets and for washing machines.

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