

## Final report for Reshaping the Domestic Nexus project

The *Reshaping the Domestic Nexus* project has brought new evidence and understandings of household consumption within the nexus of water-energy-food resources to the attention of key policy partners. From initial design of the proposed project to delivery of final reports, the project has been undertaken in collaboration with:

- Department of Environment, Food and Rural Affairs (Defra)
- Department of Business, Energy and Industrial Strategy (BEIS)
- Food Standards Agency (FSA)
- Waterwise

Overall, across these partners, our work has been received with enthusiasm, generating live pathways to further impact and broader collaborations across policy fields. As detailed below, this has been achieved through our synthesis and communication of existing evidence, which has itself been shaped by the collaborative approach. For example, the priority given to our novel concept of ‘change points’ in our final partner reports, and its centrality to post-project impact, funding and publication ambitions, results from the recognition of its potential by several of our partners.

Key aspects, challenges and rewards of this process are covered in the ‘lessons learned’ section, with specific outputs and currently live pathways to further impact detailed in ‘outputs and next steps’.

### Background – project purpose

The concept of the nexus of water, energy and food (WEF) has increasing traction in research and policy, confronting the interdependencies between these fundamental resources. Most work in this field has focused on the *supply* of these resources. The *Reshaping the Domestic Nexus* project started from concern with how *demand* for these resources and their associated service infrastructures are constituted, with a focus on everyday practices happening in domestic kitchens.

Given the significance of the kitchen as a site of resource consumption, it is unsurprising that specific kitchen practices are a target of policy intervention including initiatives aimed at water and energy efficiency, food safety and waste avoidance. While varied in approach, such interventions draw on only some of the available ways of understanding why people do what they do, and how people’s current practices might be changed.

One alternative approach is grounded in a focus on *practices*. This approach shows that generally people do not consciously ‘consume’ energy and water but rather require the services those resources enable in order to do particular practices – such as cooking or cleaning. From the practice perspective, food consumption occurs as part of practices which are bound up with established rhythms and meanings of household life. In turn, the practices characterising kitchen life are substantially shaped, amongst other things, by the systems that provide energy, food and water, and/or allow the disposal of waste.

This project drew upon our previous ESRC Nexus Network funded workshop series *The Domestic Nexus*. The workshops demonstrated that there is an array of existing knowledge and evidence that can inform understanding WEF service demand as emergent from social practices. The workshops

also revealed the promising affinities and synergies between practice research and the emphasis of nexus thinking on interdependencies and relationships, across scales.

The potential of practice theory informed research to make a difference to policy approaches seeking to effect change in pursuit of sustainability has been increasingly recognised by policy actors, with different parts of government and other stakeholders commissioning reports and engaging with practice oriented research. However, so far practice research has had limited visible impact on how policy interventions are conceptualised and carried out. *Reshaping the Domestic Nexus* worked in partnership with policy actors and other change agents, to understand better the potential and challenges of effectively articulating practice research insights with policy approaches to effecting change.

### Project process

With each partner, we undertook a series of meetings, to identify topics where our expertise and approach could inform their research and evidence requirements. These topics, which became the focus of one of four reports, were:

**Fat, oil and grease** being disposed down the kitchen plughole (contributing to ‘fatbergs’) and how we might reduce it – with Waterwise

**Food waste** from home kitchens and how to tackle it – with DEFRA

**Food safety and food waste** and how householders negotiate the tensions between these sometimes competing imperatives – with FSA

**Energy use in home cooking** and ways to reduce it and to encourage flexibility in when it is used – with BEIS.

We set about producing draft reports on each topic working to synthesise existing evidence about relevant practices. Each report sought to explore the issue identified by our partners from the perspective of the domestic nexus, and how water, energy and food could be implicated in these topics. We then developed our distinctive ‘change points’ approach and tailored this to each topic in the different reports.

Subsequent meetings discussed draft reports, to further explore partners’ agendas and ways of framing and responding to the issues, and to identify routes to give the approach we are presenting wider engagement and impact. Across this series of engagements with partners we have met and discussed with over 30 policy professionals, principally with research and/or delivery oriented staff of partner organisations, but also a wider range of policy professionals. Key outputs and next steps resulting from this process are outlined below, and are based on the discussions with these professionals of the ‘lessons learnt’ from our approach.

### Lessons learned and insights generated

Through the course of the project, we learned valuable lessons for operationalising both research evidence and conceptual innovations (social practice approaches, nexus thinking) in a real world setting. Inevitably, this included some of the ubiquitous challenges of academic–policy engagement, two of which we cover first. We then go on to address the lessons learned, which reflect the purposes and mode of operation of the project itself.

### Generic issues in academic-policy engagement

First, partner **agendas and priorities shift**. Topics we identified in collaboration with partner organisations in 2016 had a different salience by summer 2017 when we held our feedback meetings on our policy briefings with project partners. Mostly this meant the topical relevance of our reports to live priorities declined. This was most critical for BEIS, where the salience of changing practices around energy use in household kitchens was no longer apparent. For Waterwise, FOG was not a priority issue after a strategic review of their institutional priorities. For FSA too, food waste had reduced in priority over the year. The shifting sands of policy priority can work both ways, though, and for Defra a review of priorities made food waste more, rather than less, central. The positive response we continued to get with partners for whom the significance of topics had faded demonstrated **the wider value of our approach, and partners indicated that these topics could be seen as a way to demonstrate this wider value**.

Second, and often related to changing agendas, we experienced ongoing **turnover of staff in key positions**. In BEIS our principal contact at the outset of the project was replaced, and his replacement replaced, before we submitted our draft report. In Waterwise the CEO, our key contact, left the organisation during the year. Our meetings with Defra each had 3-4 staff in, but the last meeting included no-one from Defra who was present in the first meeting. Like the first challenge this did not distract too strongly from the recognition of the value of the approach in reframing issues around resource consumption for these institutions. In fact in some instances it represented a way to work with a wider array of policy professionals who have the capacity to take our approach on board in different ways. However, it does reflect wider issues of taking research-into-practice within policy settings.

Practical obstacles like this are well documented in accounts of academic-policy collaboration over time, and the learning is similarly well known:

1. Researchers should aim to engage on topics with sufficient institutional investment to give confidence that they will continue to have currency, despite staff turnover.
2. Engagement with partner organisations should aim for multiple points of contact with staff in the organisation. Engagement with staff in different parts of the institution can also help widen the relevance of the approach, and help overcome any legacy issues.
3. In respect of both of the above, ongoing communication with key contacts can help to finesse agendas in respect of changing priorities and to optimise continuity or relationships in the event of staff changes.

These are all specific implications of the overall lesson – that in academic-policy engagement, researchers should anticipate that partner agendas and staff will change. For these reasons, we suggest cultivating relationships with multiple representatives of particular organisations, and to recognise the importance of offering a (new) approach or perspective that has ramifications beyond single issue challenges.

### Project specific learning – opportunities, imperative and challenges for practice based evidence and nexus thinking in governing resource demand.

In terms of our project's premises and ambitions, we gained a range of significant learning. As outlined above, our project sprang from the limited impact of practice approaches on policy. Although we recognised at the outset that there is evidence of increasing interest in practice approaches from some policy actors, our engagements with partners enabled a much more detailed understanding of potential and challenges at stake as we tried to situate these research understandings into framings of 'live' policy issues.

## 1. Receptivity for new approaches and evidence

It is not unusual for practice theory based critiques of policy to condemn the universality of the 'ABC' models of behaviour change (focused on the Attitudes, Behaviours and Choices of individuals), the dominance of which was identified by Shove (2010). However, while this model retains dominance, it was clear from our own engagement with project partners that, in the diverse work force comprising policy institutions, there are some (particularly research staff within government departments) who are already familiar with, and sympathetic to, approaches that emphasise shared social practices and/or the concept of the WEF nexus. As argued by Evans and colleagues (Evans, Welch, & Swaffield, 2017) we found that the 'ABC' model of behaviour change is not hegemonic, with existing points of contact and opportunity for alternative approaches and evidence to gain an audience.

## 2. Need for clear articulation of practical application

A consistent request from partners at the outset was for articulation of practical applications implied by social practice and nexus approaches, and their distinctiveness from existing policy measures. Two features of our analysis and its representation in our reports were reported to be especially useful in this regard:

- a. our systematic consideration of multiple successive moments – for which we coined the term '**change points**' – in which WEF resources are put to use, hence highlighting new possible foci for intervention;
- b. our synthesis of evidence from across the domains of water, energy and food, bringing outside perspective to what are often presented as singular resource challenges and somewhat 'siloed' problem framings.

It was however more difficult to fully answer partner calls for clear evidence of the practical efficacy of this new approach. While we were able to offer case studies and examples which demonstrated positive potential of the approach to reframe problem framings and intervention focus, a limitation is that there are no extant initiatives or pilots seeking a full implementation of the approach to inform real world intervention. To varying degrees, partners emphasised the necessity of this sort of clear evidence for our approach to have significant impact on practitioners. We pick up on this gap of evidence in the final section of the report.

## 3. Practices of governing present significant challenges for practice research to have impact

Engaging partners in discussion on how best to communicate practice based research evidence provided critical learning on the practices of governing and their implications for receptivity to evidence in different forms.

Our project has also generated insights that begin to address questions relating to the routine practices of policy making and of governance more broadly, including how policy knowledge and ideas are generated and mobilised. Early partner meetings drew attention, for example, to the conventional understandings that underpin decision-making. This was especially the case with respect to what constitutes evidence-based policy, as codified in official guidance such as the *Magenta Book* (HM Treasury, 2011; cf. Clarence, 2002).

It is important to recognise that policy and industry bodies are characterised by diversity, negotiation and sometimes conflict. This is exemplified by one participant, already invested in alternative social science accounts of resource use and practice change, who saw potential in our briefing report as a credible device around which to enrol support elsewhere in the

organisation. More broadly, civil servants operate within shifting landscapes of political priorities, as discussed above.

Our project enabled some insight into the challenges presented by the practices of governing and the systems that they constitute, but principally in the constraints and challenges they presented to the individuals with whom we engaged. For example, in some policy environments there have been intensive investments in particular framings of policy problems related to 'resource demand' that become woven into everyday practices of policy making (e.g., the water sector). Due to such investments it becomes difficult for individuals to unsettle these dominant approaches with that new approaches that haven't had the same investment, or such a large evidence base (e.g. Hoolohan, 2016). There is cause to argue for more practice based research into situations of governing (Watson, 2016).

#### **4. Limits of capacity for nexus thinking and action**

Further challenges were raised by attempts to foster nexus thinking. Working across sectors and policy domains is often far from straightforward. For example, our analysis points to the importance of coordination between providers of liquid and solid waste management services in dealing with FOG. In much of the UK, however, sewerage is managed at a regional level, while solid waste is a local authority matter, meaning any one water company is likely to function across multiple waste authorities with different collection and treatment regimes. More generally, we observed a risk that, once raised, the potential trade-offs between different resource concerns can dominate discussion, narrowing into an appraisal of which course of action is quantitatively most 'efficient', to the exclusion of other concerns ranging from social and ecological justice to the lived experience of households. More immediately, some of our collaborators indicated fatigue with existing demands for integration across institutional boundaries and lack of capacity to engage with new realms of partnership.

Particularly given the weight of challenges indicated by the issues under the last two points, we have been very pleased with the reception of our reports, particularly with FSA, Defra and Waterwise. Our presentation of research evidence through the development and articulation of our 'change points' approach was directly commended by partners including suggestions that the way we developed the concept has the potential to act as a vehicle for our approach to reach a wider policy audience and to be of relevant to many other policy areas beyond the kitchen. Final reports were delivered to partners close to submission of this report, so their impact is not yet played out.

## Outputs and next steps

### Project reports

Within the project, the key outputs are the partner reports:

- *Fats, oils, grease and kitchen practices: implications for policy and intervention*. Policy briefing delivered for Waterwise
- *Food waste, food safety and kitchen practices: implications for policy and intervention*. Policy briefing delivered for FSA
- *Household food waste and kitchen practices: implications for policy and intervention*. Policy briefing delivered for Defra.
- *Energy use, flexibility and domestic food practices: implications for policy and intervention*. Policy briefing delivered for BEIS.

These reports are being published online with a permanent DOI and promoted via the project web site at [nexusathome.wordpress.com/reports](http://nexusathome.wordpress.com/reports) and team member and institutional social media accounts.

### Journal articles

#### Published

Evans, D. (2017) 'Rethinking material cultures of sustainability: Commodity consumption, cultural biographies and following the thing', *Transactions of the Institute of British Geographers Online early*: <http://onlinelibrary.wiley.com/doi/10.1111/tran.12206/abstract>

#### Under review

Foden, M, A Browne, D Evans, L Sharp, M Watson 'The water-energy-food nexus at home: New opportunities for policy interventions in household sustainability' *The Geographical Journal*, submitted August 2017

Watson, M and E Shove 'Infrastructuration: Conceptualising the dynamic co-constitution of urban infrastructures and practices' submitted September 2017 for special issue on the Urban Nexus, of *Urban Studies*

#### Prospective articles

Watson, M, A Browne, D Evans, M Foden, L Sharp 'Change points: new targets for interventions to tackle resource demand at home' for submission February 2018 to *Global Environmental Change*

Evans, D, A Browne, M Foden, L Sharp, M Watson 'What is a kitchen? New perspectives on household sustainability', to be submitted to March 2018 for special issue on 'Everyday Climate Cultures', of *Climatic Change*

Sharp, L, A Browne, D Evans, M Foden, M Watson, C Hoolohan, 'What can practice theory do for water management?', for submission July 2018 to *WIRES Water*.

### Other outputs

We have been approached by Palgrave and we are exploring possibilities for producing a 'Palgrave Pivot' from the project.

Sharp & Browne (alongside University of Manchester colleague Claire Hoolohan) have contributed a section on 'The Social Practices Approach' to the new 'Waterwise Handbook on Behaviour Change and Water Efficiency'. Release date: January 2018.

### Capacity Building

This project has brought together researchers from the Universities of Sheffield and Manchester with distinctive expertise in food, energy and water to consolidate shared theoretical and impact agendas.

Dr Mike Foden, full time researcher on the project, moved on directly from contract end date to a new 34 month research contract on a H2020 funded project, *SafeConsumE*, at University of Keele.

### Future funding and research

Browne, A.L. (PI) and Hoolohan, C. (Co-I/Researcher). '*Change points for the nexus at home: developing policy for water-energy-food consumption in UK homes*'. ESRC University of Manchester Impact Accelerator Account application.

Sharp, L (PI) Evans, D and Watson, M (Co-Is) '*The Change Points Toolkit: reframing policy approaches to resource consumption in UK homes*' KE bid to Sheffield Social Sciences Partnerships, Impact and Knowledge Exchange Knowledge Exchange and Impact Opportunities Scheme.

These activities take forward the specific requests from several of our project partners to develop a 'toolkit' in applying social practices approaches for policy related to resource consumption. Following on from these impact activities we intend to develop a bid for submission early 2018 to the ESRC Responsive Mode, in collaboration with existing partners, to develop action research around pilot interventions designed in line with our 'change points' approach.

### References

- Evans, D., Welch, D., & Swaffield, J. (2017). Constructing and mobilizing "the consumer": Responsibility, consumption and the politics of sustainability. *Environment and Planning A*, 49(6), pp. 1396–1412.
- Hoolohan, C. (2016). Reframing water efficiency: Designing collective approaches that reconfigure the shared and collective aspects of everyday water use.
- Shove, E. (2010). Beyond the ABC: climate change policy and theories of social change. *Environment and Planning A*, 42(6), pp. 1273–1285.
- Watson, M. (2016). *Placing power in practice theory* (A. Hui, E. Shove, & T. Schatzki, Eds.). London: Routledge.