

Final report¹ for the *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,

¹ This is an edited version of the project’s final report for the Nexus Network, which was to provide “reflections on the process of collaboration and transdisciplinary investigation, including lessons learned, obstacles encountered and insights generated”

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, but below we address the lessons learned which reflect the purposes and mode of operation of the project itself.

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*.

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 so far 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 and team member and institutional social media accounts.

Publications

The project so far has one article in print in *Transactions of the Institute of British Geographers* (Evans, 2017), with articles under review with *The Geographical Journal* and with *Urban Studies*. A programme of ongoing writing will see further submissions into 2018. The team is also exploring options for a short monograph from the project.

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

The team is pursuing various funding avenues to enable activities which take forward specific requests from several of our project partners to further develop our approach in applying social practices approaches for policy related to resource consumption.

Project team

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