



EDITORIAL

four social sciences and humanities cross-cutting theme reports



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1. Introduction

The four 'cross-cutting theme reports' in this collection aim to provide accessible overviews of seminal and recent research on four salient energy-related Social Sciences and Humanities (energy-SSH) themes: (1) Energy and gender; (2) Energy and multi-stakeholder interests; (3) Energy justice; and (4) Energy and the active consumer.

The reports form part of the scoping work of the *Social sciences and Humanities for Advancing Policy for European Energy* (SHAPE ENERGY¹) project that is aiming to develop Europe's expertise in using and applying energy-SSH. By 'energy-SSH', we are referring to the wide range of disciplines that either:

- study the social phenomena (e.g. norms, values, perceptions, institutions, practices, etc.) that organise how humans interact with the energy system. These energy-related Social Sciences include Psychology, Sociology, Political Science, Human Geography, etc.; or
- study fundamental issues of equity, fairness, duty, faith, morality, attribution, etc. in the context of the energy system. These energy-related Humanities include Philosophy, Law, Theology, History, etc.

Together, these energy-SSH disciplines have been under-utilised by policymakers, in the European context and beyond, in spite of their considerable potential. Indeed, funding for energy research has placed certain disciplines into more salient positions than others, as is already evident in the disparity between the SSH disciplines that are typically included within SSH-flagged Horizon 2020 energy² projects. Specifically, Economics, Business and Marketing together constitute 55% of the SSH partners, whereas more societal-oriented disciplines constitute much less - for example Sociology makes up just 6% of the partners, and both Human Geography and History make up 0% (DGRI, 2015, p. 15).

To assist in bringing the usefulness of such energy-SSH perspectives to the fore, the core of each report is centred around a review of seminal and recent research relating to each theme, which then provides the basis for each report's recommendations to the European Commission, other EU projects and platforms, and indeed our SHAPE ENERGY project partners.

The aim of this Editorial is to provide background context to the collection and resulting lessons relating to the theme reports individually and as whole. As such, we begin by further detailing the central purpose, orientation and underlying rationale of the reports and their respective themes, before going on to provide headline overviews of each of the reports in turn. We finish with some reflections on interdisciplinarity.

1 For more information on the EU Horizon 2020 Platform *Social Sciences and Humanities for Advancing Policy in European Energy* (SHAPE ENERGY) please see: shapeenergy.eu

2 By Horizon 2020 energy projects, we are referring to those projects funded through the Horizon 2020 Societal Challenge 3 on 'Secure, Clean and Efficient Energy', which has €5,931m allocated to it (excluding nuclear research) over 2014-2020 (European Commission, 2017b). We do, however, also acknowledge that other energy projects may be funded through, for instance, the other non-energy-related Societal Challenges (e.g. no. 4 on 'Smart, Green and Integrated Transport' - European Commission (2017c)).



2. Boundaries, scope and structure of the reports

These reports are intended to provide accessible overviews of four particular themes that either are already, or are set to become, increasingly prevalent within the energy-SSH literature, and furthermore are explicitly stated by the European Commission as priorities for driving forward progress in the organisation of European Energy. The four themes are as follows:

1. *Energy and gender*

Gender is explicitly noted as a priority of the European Commission across many of its funding streams (whether energy-related or not), as is illustrated by its inclusion as one of the six thematic elements in the Commission-endorsed Responsible Research and Innovation approach (European Commission, 2017a). Indeed, guidance exists for reviewers of Horizon 2020 project proposals on how best to assess the gender dimension of proposed project content and also the gender make-up of competing consortia (European Commission, 2014).

2. *Energy and multi-stakeholder interests*

Both Horizon 2020 project consortia and also the remit of prospective funding calls are typically encouraged to include a range of stakeholders (e.g. WILCO, 2013), so as to maximise the exchange of ideas between e.g. academia, governments and industry. In addition to multi-stakeholders interests representing an inclusive means for conducting one's research, the Horizon 2020 (energy) work programmes (European Commission, 2013; 2015a) are also explicitly prioritising it as an object of enquiry - i.e. that stakeholder views are actively investigated, as per encouraging 'social acceptance' of new technologies for example.

3. *Energy justice*

Neither the Strategic Energy Technology Plan (European Commission, 2015b) nor the 2016-17 energy work programme of Horizon 2020 (European Commission, 2015a), for instance, include any explicit consideration of energy justice. However, given the emphasis on technology innovation and roll-out, it can be argued that energy justice should be a core consideration; the implementation (and associated engagement activities) relating to new low carbon energy technologies inevitably have numerous implications for different communities.

4. *Energy and the active consumer*

The 'active consumer' has recently been thrust into the European energy policy limelight, through its explicit inclusion and prioritisation in the Strategic Energy Technology Plan (European Commission, 2015b), which has consequently led to it being included in recent Horizon 2020 energy calls (European Commission, 2015a). However, recent analysis has also shown that a narrow (techno-economic) conceptualisation of the consumer persists, with more work being needed to connect the concept of the 'active consumer' to other, perhaps less utilised, energy-SSH perspectives (Foulds and Christensen, 2016).

These themes are relevant to a number of SHAPE ENERGY activities and, more specifically, directly straddle SHAPE ENERGY's four core foci (or 'topics'³): (i) Energy efficiency and using less; (ii) Competitive, secure, low-carbon energy supply; (iii) Energy system optimisation and smart technologies; and (iv) Transport sector decarbonisation. Indeed, if one takes the roll-out of smart technologies as an example, many pertinent questions arise regarding: how those technologies are appropriated by the consumer; engagement of multiple stakeholders involved in the design, manufacture, distribution, maintenance, disposal and use of such technologies; justice implications for new energy grid arrangements; and gender stereotypes in using smart technologies. It is exactly this sort of integrated and systemic thinking that will be critical to the success of the SHAPE ENERGY project and hence why resources are being given at the start of this project to publications such as these.

³ Four annotated bibliographies - one for each of these topics - have recently been published by the SHAPE ENERGY project and can be freely accessed at www.shapeenergy.eu



In co-ordinating the production of these reports, we were keen to prioritise that they were readable, and also included tangible outputs for non-experts. Whilst written by academics, the reports are definitely not intended solely for other academics to read; the target audience is cross-sectoral, as well as cross-disciplinary. It is for these reasons that the reports all have Executive Summary and Recommendations sections, both of which have been limited to one-page in length. These one-pagers can function as standalone resources, in that they will make sense without necessarily having to refer to the main text itself. In sum, these cross-cutting theme reports are overviews that provide an evidence base for tangible recommendations, of relevance to how research projects are designed and conducted - such as the SHAPE ENERGY project itself (including its various internal and external activities) as well as other large interdisciplinary energy projects and platforms - and the European Commission, for example, in terms of future EU funded energy research.

Given that the concluding recommendations are a focal point of these reports, it is important to be clear on how these recommendations are evidenced and ultimately how they 'fit' within the wider reports. In this regard, it is therefore useful to note that they often draw out more implicit aspects of the main text's arguments, in addition to reinforcing key points which were made in the main text of the report. For instance, the 'Energy and gender' report implicitly argues throughout the importance of having a balance of men and women, and this then forms an explicit feature of our recommendations (despite it rarely featuring explicitly in the discussion of recent gender and energy researchers).



3. Introducing the cross-cutting theme reports

In this section, we briefly provide an overview of each theme report, in addition to some of the salient (recommendations-focused) points that transcend them all as a collection. Informed by their topic of interest and author expertise, each report takes a slightly different approach, but together they provide a range of examples of how to interrogate and reflect upon topics which cut across disciplines.

First, Anfinsen and Heidenreich (2017) explore recent cutting-edge research on energy and gender. They chose to structure their report around SHAPE ENERGY's four 'topics' - which, at various points throughout the SHAPE ENERGY project, intersect with the reports' four cross-cutting themes. Their main aim is to demonstrate, across each of these topics, that 'gender' should be positioned as a distinct category for both energy research and, also, the co-ordination of energy research. In doing this, they pull on literatures from across SSH and predominantly concern themselves with the 'western' context (as per the European focus of SHAPE ENERGY). As might perhaps be anticipated, much of their overview reiterates the inequalities faced by women. Anfinsen and Heidenreich (2017) also, importantly, emphasise how gender differences are not natural occurrences (e.g. rooted in biology), they are instead actively constructed and ever-evolving through a variety of socio-cultural practices and processes - a point that was also highlighted by Sari et al. (2017) in their discussion of gender in the context of energy justice.

Second, Büscher and Sumpf (2017) focus on energy and multi-stakeholder interests. Specifically, they do this through presenting and differentiating between three 'analytical dimensions' of energy-SSH work on stakeholders: (1) 'Complexity and control', associated with structural problems of control and how they interact with the overall organisation of the energy system complex; (2) 'Institutional change and learning', associated with how institutional change is linked to both the internalised dynamics of the mainstream and also to the externalised pressures and ruptures posed through e.g. global pressures and innovation respectively; and (3) 'Coping with uncertainty, risk and danger', associated with how stakeholders' ability to act is constrained/enabled by various operational problems. Interestingly, whilst also providing recommendations for research and project foci in this area, Büscher and Sumpf (2017) argue that the energy-SSH expertise (concerning stakeholders, in particular) should be better harnessed in moderating various stakeholder interests - as opposed providing judgement on which interest is supposedly 'best'.

Third, Sari et al. (2017) consider the history of SSH theory on energy justice, following which they develop an account of how energy justice has been (and could be) framed through three different disciplinary perspectives: Economics; Business Studies; and Gender Studies. As such, they detail literature relating to the three proposed tenets of energy justice (e.g. Heffron and McCauley, 2017): procedural justice; distributional justice; and recognition justice. Interestingly, they also suggest that traditional Economics approaches may be ill-equipped to dealing with issues of energy justice, due to the assumption that economic efficiency can be decoupled from equity. As such, they call for economists to seek alternatives, as they argue that Economics still has much to offer the debate. Their following sections, concerning Business Studies and Gender Studies, then step back slightly to consider issues of integration (with energy justice concepts) in more generic terms - this is inevitable given that Business Studies and Gender Studies are themselves fundamentally interdisciplinary in that they straddle a number of approaches, theories, concepts, etc. Finally, Sari et al. (2017) make clear throughout that the omission of energy justice from EU research and innovation policies and associated documentation needs to be urgently rectified.

Fourth, and finally, Fox et al. (2017) focus on SSH approaches to researching energy and the active consumer. Through reviewing a range of literatures, active consumer research is broadly divided into two categories: (1) 'Individualised' approaches, which focus on how decisions are reached by individuals; and (2) 'Relational Societal' approaches, which explore the co-shaping nature of consumption and society. They then discuss how these approaches have evolved in (ontological) opposition to one another, and thus how many argue strongly against integrating the two. Their report ultimately aims to highlight how research on the active consumer can, and does, take radically different points of departure, in addition to reflecting on whether seemingly incommensurable approaches can be feasibly integrated. In their recommendations, Fox et al. (2017) are cautious about how interdisciplinarity is sought (e.g. via EU funding) and also call for



the conceptualisations of energy consumer 'problems' to be both transparently presented (e.g. in STEM⁴-led projects accounting for 'the social' in some way) and also broadened out to recent state-of-the-art - SSH has more to offer than just the traditionally dominant Individualised approaches.

In terms of the recommendations provided across the four reports, there is a contrast in how the 'Energy justice' (Sari et al., 2017) and 'Energy and gender' (Anfinsen and Heidenreich, 2017) reports are positioned, relative to the 'Energy and the active consumer' (Fox et al., 2017) and 'Energy and multi-stakeholder interests' (Büscher and Sumpf, 2017) reports. Fundamentally, the former pair argue that not enough attention has been given to their respective agendas in EU funded research and large-scale energy projects and platforms. In contrast, the latter pair (whilst still acknowledging that more needs to be done) argue that whilst attention has been given to these themes (in part, spurred on by explicit consideration in e.g. EU funding calls), unfortunately significant 'blind spots' persist. As such, these two latter reports urge readers to embrace alternative conceptualisations of the problems at hand, through more widely considering what SSH has to offer.

All four reports highlight the importance of recognising that many different perspectives exist on these problems, both within and beyond energy-SSH. For instance, Büscher and Sumpf (2017) are centrally concerned with how different 'stakes' are prioritised and managed (or not), and Anfinsen and Heidenreich (2017) compare how men and women's perspectives are structurally overlooked and/or enabled. Moreover, both Sari et al. (2017) and Fox et al. (2017) consider how disciplinary perspectives differ on their respective themes. That all four reports share this focus re-affirms the need for discussion about how, and when, disciplinary/cross-sector integration may be possible, and complements the approach upon which SHAPE ENERGY is based. This thereby re-emphasises the rationale behind the various SHAPE ENERGY events planned over 2017-2019 that will allow for these different perspectives to come together at, for example, a local-level through our multi-stakeholder workshops, and at an international-level through our Think Pieces and pan-European conference, to name only a few examples.

4 Science, Technology, Engineering and Mathematics (STEM).



4. Interdisciplinary reflections: experiences, futures and matters of integration

As we have indicated thus far: these reports represent a cross-disciplinary endeavour, as they are intentionally engaging with ideas, conceptualisations, problematisations, etc. from a range of energy-SSH research. Crucially, the reports seek to contrast and compare up-to-date thinking and present them in a critical way. As such, it is worth concluding here with some reflections for how disciplines may (and perhaps should) be crossed in energy studies, especially in the context of our lessons from overseeing the Editorial process and leading on one of the theme reports (specifically: Fox et al., 2017). In discussing these issues, we note that this section of the Editorial marks somewhat of a shift in narrative, whereby we move to a more academic commentary on the disciplinary nuances associated with knowledge generation.

In producing these reports, the weight of disciplinary and indeed interdisciplinary biases was evident early on, particularly when discussing (across the consortium) how and why disciplinary coverage could be sought. To us, this emphasised a need for reflexivity⁵ when dealing with the role of 'the social' (e.g. individuals, communities, institutions, etc.) in energy research. For instance, it became increasingly clear that the authorship team of each theme report benefited from paying attention to the inevitable biases and preconceptions that influence how they (and we) selected one or more particular energy-SSH approaches for consideration. Indeed, apart from one's own disciplines carrying literature and debate backgrounds particular to the themes, there is also the matter of elective scholarly affinities through which already subscribed-to theoretical and methodological styles steer researchers towards likeminded approaches within or across disciplines. This is also apparent in certain 'partnerships' - by which we mean literary borrowing of concepts, ideas, theories, methodologies, etc. - that have occurred across the Social Sciences between, for example, Behavioural Economics and Social Psychology, or between Sociology and Human Geography. Researchers should therefore be conscious of being steered by the corresponding sympathies of cognate disciplinary and research backgrounds, and take measures to broaden sources across disciplines.

Relatedly - and crucially before one begins to seek ways to connect disciplines, such as using the reports' four themes - questions should also be asked of the underlying priorities, rationale and assumptions that support calls for interdisciplinary engagement. Care must be taken to ensure that interdisciplinary partnerships are not drawn up merely to fulfil funding requirements, or in pursuance of a priori ideas which subordinates SSH, by reducing their role to that of serving as an instrumental tool to ensure public acceptance of STEM-defined problems and solutions. Indeed, it has become implicitly and explicitly clear across all the reports that meaningful interdisciplinarity can rarely be achieved by slotting disciplines into imagined disciplinary profiles within a project and by disregarding overlaps/differences (e.g. Burger et al., 2015). Interdisciplinarity is not a simple matter of each partner's roles representing a separate piece of a disciplinary puzzle that can neatly fit together - and this is also our experience within the SHAPE ENERGY project itself. Essentially, ontological disagreements concerning 'what exists' (how society is fundamentally ordered and why, and with what consequences for 'energy') need to be directly embraced and not looked over.

Ideally, whatever the exact terms of reference may be, any interdisciplinary energy research project (which draws on SSH in some way) should enhance the capacity for understanding the dynamic nature of society's relationship with energy. This also involves recognising how not all forms of interdisciplinarity are workable, with some disciplines more naturally aligned with particular themes and ways of conceiving of them than others. For example, energy justice has roots in the Humanities as it implicitly concerns issues of fairness, equity and the like (Sari et al., 2017). This may have had the added effect of restricting disciplinary coverage, in the same way that the prescribed terminology of European Commission priorities (which SHAPE ENERGY seeks to be relevant to) - terms like 'stakeholders' (Büscher and Sumpf, 2017) and 'consumers' (Fox et al., 2017) - can bypass alternative conceptualisations inherent to other disciplinary terminology, such as 'citizens' (Devine-Wright, 2007) and 'practitioners' (Shove et al., 2012) for instance. Whilst literature

⁵ Reflexivity involves looking back on your one's actions/beliefs in depth and in reference to one's own positionality (Bourdieu and Wacquant, 1992).



review boundaries and the appropriateness of search techniques were proactively discussed as a group of authorship teams, there is thus an inevitable risk when undertaking a task such as this that one could be corralled towards narrower disciplinary definitions and accounts.

Therefore, while interdisciplinary exercises that seek integration of some kind and also multidisciplinary overviews that present perspectives alongside one another are both essential components of the energy-SSH evidence base, it is vital to remember that disciplines act as “repositories” (Holmwood, 2011, p. 15) of “*problem portable*” knowledge (Abbott, 2001, p. 135). Essentially, disciplines have a long history of debates around specific themes and (normative) problems that its members can repeatedly draw upon. This collection, it is hoped, goes some way towards exploring and expanding these debates, in the context of four key concepts for the future of European energy.



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